

The Russian Geographical Society and the Polar Studies in the Second Half of the 19th Century

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Abstract. Acknowledgement of the necessity to study the northern regions of the Russian Empire in government circles was preceded by a long period of individual enthusiasts and industrialists' activities. They knew about the natural resources of the North. Local industrialists had understood almost before scientists polar regions economic importance. They tried to convey the idea of the necessity for scientific research in the North to the general public. The authors mainly relying on the published sources analyze the Russian Geographical Society (RGS) role in the polar research history. The article examines RGS members' attitude to the idea of organizing polar expeditions, its contacts with foreign polar travellers, determines the main results of the expeditions organized by RGS. Those studies led the authors to a conclusion that in the second half of the 19th century, RGS to some extent obtained the role of the platform hosting a discussion prospects for polar research. The Society has rarely dealt with the organization of polar research itself. Articles on problems connected to the observations results in the polar regions appeared on its periodicals pages. Travellers' reports were heard at RGS meetings. Various achievements in North studies were discussed. At the same time, RGS participation in the work of the First International Polar Year (1882-1883), the publication of a large number of papers on the polar travels history, the discussion of A. Nordenskiöld and F. Nansen's expeditions results helped to draw attention to the issue of exploring the Arctic not only by scientists but also by state officials

1. Introduction

Perception of the natural conditions to the Arctic Ocean and its surroundings throughout the 19th century were quite primitive. Back to the 1860-s, it was unknown whether the whole ocean was covered with solid ice or the pole might be accessed by ships. The German cartographer A. Peterman's hypothesis about Greenland peninsula stretching to the Bering Strait prevailed until the end of the century. Simultaneously the Russian society didn't possess any common opinion regarding demand for polar research. The Russians didn't realize importance for it. Mainly entrepreneurs considered such studies necessary and sought to draw attention to the problem.

2. Main Body

In 1845, RGS was created and the first expedition, organized by it was sent to the Northern Urals. Although by the beginning of the 19th century the Ural Mountains were the most famous mountain range in Russia, it was still unclear where exactly the "Ural Ridge" ends in the North and in the South.



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The Ural Expedition was organized by RGS following Academician, Director of the Pulkovo Observatory V.Y. Struve's initiative. The expedition was headed by St. Petersburg University Professor E.K. Hoffman, a participant of the expedition was an astronomer, Kazan University Professor M.A. Kovalevsky.

Summer 1847, 1848 and 1850 astronomical, geological, botanical and zoological observations, geodetic surveys and heights measurements were conducted in the Urals. During the expedition, the Ural Mountains highest peak named Konstantinov Stone (in honor of the RGS Chairman) was discovered. The direction of the Northern Urals and the ratio between the North Urals and the Pai-Khoi Ridge were revealed. The Ural expedition results were published in two volumes "The Northern Urals and the Pai-Khoy Coast Range" (St. Petersburg, 1854, 1856). They were highly appreciated by contemporaries. The expedition members were awarded by the Academy of Sciences and RGS.

Unfortunately, for a long time afterwards RGS didn't organize similar expeditions to the polar regions. The study of the North was done only by the enthusiasts. One of them, a merchant and philanthropist Mikhail Konstantinovich Sidorov (1823-1887), is known to be a pioneer and polar expeditions organizer. Being assure of the possibility to develop the Northeastern Sea Route, he tried to prove that the Kara Sea route was passable. To his own expense he sent ships to ascertain its ice conditions. [1]. Sidorov not only travelled but collected minerals samples from the North, sent them to exhibitions both in Russia and other countries. He also spoke about the importance of polar research in different societies. Realizing private initiative possibilities limits in such a difficult matter as the exploration of the North, Sidorov tried to include RGS in those studies.

In 1864, Sidorov offered RGS money to reward the braveman who decided to travel by sea to the Ob or Yenisei Rivers mouth. But the proposal was not supported. The RGS Vice-Chairman F.P. Litke believed that due to the difficult ice conditions in the Kara Sea, Russian sailors would not be able to sail in their vessels. Kruzenstern's failure to reach the Ob River mouth in 1862, strengthened Litke in his opinion.

However, Sidorov did not lose the hope to interest RGS in the problem of exploration the Arctic Ocean. In 1869, after discussing the polar expedition plans with the Swedish traveller A. Nordenshteld, Sidorov requested RGS "whether it recognizes to be useful to take advantage Professor Nordensköld's offer and services and individually or collectively with Sweden or Norway send to the expedition having been mentioned the Professor"[2]. The RGS Council reacted to Sidorov's idea without enthusiasm, replying that RGS had insufficient funds to organize an expedition to the Arctic Ocean.

Sidorov was not confused by the other refusal, and in March 1870 he made a report at the RGS meeting about his journey to the Pechory River mouth. Also he discussed the Norwegian voyages, which testified the Kara Sea possibility in late summer and stressed the polar expeditions importance. Having recalled the "happily initiated" the Arctic Ocean studies by Russians in Anna Ioannovna reign (referring to V. Bering's Great Northern Expedition), Sidorov asked the attendees: "Might RGS be the Siberia future main conductor by the discovery of its output directly in the sea. Might RGS provide the state benefit that the cheapest and most profitable sea route will bring [...]. Will RGO accept the petition [...] to strengthen us in our own North Sea?" [3]. Sidorov suggested that RGS should organize and send two expeditions for the Pechora and Ob Bays exploration. He believed that such expeditions would also help to study the "the New Earth continent concealing, perhaps, the untold mineral wealth". Summarizing the meeting results the Physical Geography Department Chairman P.P. Semenov noted that RGS did not possess the means to equip an expedition to the Arctic Ocean but it could draw the expedition draft.

At his suggestion, RGO set up a commission to elaborate the future expedition program. The report on the program was made by the Commission Participant P.A. Kropotkin, who took into account the different Commission members views. He included the Arctic Ocean research history, information on natural conditions and an extensive research program to the survey. Kropotkin successfully combined scarce information about the ocean flora and fauna and hypotheses about the currents and hypothetical lands distribution with new ideas about the polar region climatic conditions. The report was published

in 1871 in "Izvestia RGS" journal [4] and later as a separate edition. It became the first paper in Russian geographical literature regarding the scope of the problems that the polar regions researchers had to address.

The RGS Chairman Grand Duke Konstantin Nikolaevich approved the report content and entrusted the Marine Ministry to find ways and means for carrying out the expedition. However, the idea did not meet much anticipation in the Ministry. Admiral F.M. Novosil'tsev perceived the northern expedition as Grand Duke's "sudden fantasy" (He headed not only RGS but also the Maritime Ministry) "extremely unpleasant and troublesome for the naval agency, which is though difficult to reject, at least at first" [5]. The Commission of the Naval Ministry found different reasons for avoiding the expedition organizing task. In early 1872, Konstantin Nikolayevich sent a letter to the Minister of Finance M.K. Reutern, in which he stressed that in Russian government shouldn't rely solely on private funds for studying the polar regions, like it was done in other countries, and asked whether the State Treasury to allocate 20,000 rubles for the expedition organization. The Minister of Finance replied: "Being aware of the scientific benefits of that enterprise, I can't, however, ignore that many useful and urgent initiatives are being implemented slowly or even completely postponed for lack of financing. That's why to my deepest regret, I can't agree to provide such a significant amount for the polar seas expedition "[6].

Successful foreign travellers polar expeditions in the 1870s forced the Russian society to pay more attention to the Northern challenge. Thus in 1869-1871 several Norwegian industrialists in their ships skirted Novaya Zemlya from the North and didn't find a lot of ice in the Kara Sea. They learned that at the end of summer the sea could be crossed without any difficulties. The information was very inspiring for those enthusiasts who believed that it was possible to reach the Ob and the Yenisei estuaries by sea.

In 1872-1874 K. Weiprecht and J. Payer's Austro-Hungarian expedition took place. It was financed by a large landowner G. Wilczek. The expedition ship had to go round the New Earth from the North and then reach the Bering Strait. However, it was blocked in ice to the northern side of Novaya Zemlya, drifted for a long time, and finally, in October 1873, approached the unknown land, which travellers called Franz Josef Land in honor of the Austrian Emperor.

The Austrian expedition caused a peculiar reaction of RGS. It was deplored that Franz Josef Land discovery was not due to the share of the Russian expedition. Meanwhile, Payer and Weiprecht's trip served as a pretext for Weiprecht's proposal to organize an international polar expedition.

That idea was actively supported by RGS, as well as by Academician G.I. Wild. In 1880, he headed the International Polar Commission that played an important role in organizing the Polar Year which took place in 1882-1883. In 1880, RGS organized a Commission to establish polar stations in Russia, which was headed by a physicist, RGS Member R.E. Lenz. The commission organized two stations - at the Lena mouth (on the Sagastyr Island) under the N.D. Yurgens's supervision and on Novaya Zemlya in the Malye Karmakuly village under the K.P. Andreev's supervision. The stations of all the rest countries stopped observations in 1883, while on Sagastyr Island the observations continued in 1884 [8]. The meteorological, magnetic and astronomical observations results were published in the "Proceedings of the International Polar Year" and were heavily used by scientists.

In 1885 N.D. Yurgens was awarded by RGS with Konstantinovskaya Medal for his services in the polar station at the Lena mouth. In the review for his works, R.E. Lentz stressed "The international polar station establishment seems to be undoubtedly one of the most outstanding tasks which the Imperial Russian Geographical Society enterprises for the benefit of Geography" [9]. Lentz also noted: "The scientific world owes the Society success in this matter" [10].

M.K. Sidorov's insistent aspiration to draw attention to the northeastern sea route developing didn't remain without consequences. In 1875-1876, thanks to Sidorov, A. Nordenskiöld was able to reach the Yenisei mouth by sea. The trips success inspired Nordenskiöld. He organized a new expedition with the Swedish King support. That expedition on the ship Vega took place almost along the entire Eurasia coast during one navigation. The main expedition result was the Taimyr Peninsula coastline refinement and many other various observations.

So, the north-eastern pass was first traversed due to favorable ice conditions. In 1893 the Taimyr Peninsula was safely rounded by F. Nansen. But the problem of navigation in the Arctic Ocean remained unchanged under adverse conditions. February 18, 1897 during the RGS Council meeting P.P. Semenov said that Vice-Admiral S.O. Makarov "expressed to many of the Society Members his thoughts on the navigation method in the polar seas with the steam icebreakers assistance." It was finally decided to convene an emergent RGS meeting and to propose Makarov "to explain the essence more clearly" [11].

The meeting was held at the Marble Palace on March 30, 1897. In addition to RGS Members and Ministers, the President of St. Petersburg Academy of Sciences, Grand Duke Konstantin Konstantinovich and Grand Duke Alexander Mikhailovich, heading the Naval Ministry were present. At the beginning of the meeting, Makarov's colleague the hydrograph F.F. Wrangel performed a report on the Russian polar research history. Then Makarov told about his observations results during the voyage "on the Arctic Sea" that summer. According to Makarov: "It isn't the question to build an icebreakers or not to do it, but it's the question to build them now or wait even longer" [12].

Minister of Finance S.Y. Witte supported Makarov's idea. The icebreaker Ermak was built in Newcastle (England). In 1899, when the Ermak arrived in Kronstadt, RGS sent a congratulatory telegram for its crew. But during the voyage along the Arctic Ocean to Spitzbergen, the ship's screw broke, and to fix it, it was necessary to return to Newcastle. In 1901 Makarov organized a new expedition to Novaya Zemlya.

The expedition gathered a lot of materials about the archipelago natural conditions. But the icebreaker could not overcome the ice near the Novaya Zemlya northern shore. The Ermak Arctic Ocean voyages failures resulted in a scientific community critical attitude to the icebreakers idea. The Academy of Sciences was dissatisfied with Makarov's project, since in 1899 the icebreaker could not help to take to Spitsbergen a part of the academic expedition. A skeptical attitude to the icebreaker use was also voiced in the Academic Commission on the Russian Polar Expedition Organization by E.V. Toll, (organized by the Academy of Sciences). In 1901, in a letter to S.Y. Witte, after the polar research importance discussing, P.P. Semenov firmly stated that the Ermak didn't suit for the polar voyages and, consequently, for polar studies [13].

In 1904, reporting to RGS on the tragic Makarov's death during the Russian-Japanese War, the Chairman of the Department of Physical Geography, geologist F.N. Chernyshev noted that the Ermak creation "at first seemed to be a paradox" and after the first not quite successful navigation experience provoked "criticism of the very icebreaker idea" but finally turned out to be a world discovery. Chernyshev, having himself participate in the 1901 expedition to Novaya Zemlya, organized by Makarov, believed that the Ermak was the most suitable vessel for fighting polar ice. Maritime department only after the Makarov's death realized the importance of using icebreakers for the Northern Sea Route development.

3. Conclusion

Thus, in the second half of the 19th century, the Russian Geographical Society was rarely involved in the polar research organization, partly because the polar research problem in Russia was not yet relevant, partly because of insufficient funding of RGS activities. Also there were few enthusiasts ready to complete such a difficult task. But RGS serials often published articles devoted to the polar regions observations results. Both Russian and foreign travellers' reports were promulgated at RGS meetings. Various achievements in the North study were discussed. RGS, to some extent, acquired the discussion platform role, within which polar research prospects discussion was taking place. RGS participation in research during the International Polar Year, the discussion of Nordenskiold and Nansen's expeditions results, a large number of publications on the polar regions study history and on modern polar travels attracted for a greater extent both scientists and government officials attention to the resolving the Arctic problem.

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