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LEONID BREITFUSS AND HIS CONTACTS WITH NORWEGIAN POLAR EXPLORERS

Abstract. *Leonid Breitfuss (1863-1950) - the scientist, the investigator of the Arctic regions of the European part of Russia. Norwegian and Russian governments decorated him with high awards for his valuable contribution to the science according studying of the Arctic regions, for saving some Russian polar expeditions. He was widely known by polar scientists in many countries. L. Breitfuss had published 213 scientific works.*

L. Breitfuss was born in the German family in Petersburg, lived in the capital of Russia since XVIII century. In the youth he took part in one of revolutionary organizations and was exiled to Germany, where he lived from 1890- to 1897. In Berlin he studied biology and hydrography. In Russia he took part in the work of the Committee for helping the pomors, was a leader of Murman expedition. Since 1901 to 1912 according the task of the International Conference of studying North and Baltic seas he send scientific facts to the Research Centre in Copenhagen. L. Breitfuss had composed the map of depths and streams in Barents sea. In 1914 he took part in organization of Polar Commission. His big polar library is in Petersburg now. Since 1912 L. Breitfuss worked in Hydrographical Marine Department. L. Breitfuss and Yu. Schokal'sky were the members of International Commission of studying of North-European seawater. He took part in saving the three Russian polar expeditions and there for he visited Norway to find a good polar ship to find the expeditions. In this country he had many friends- polar explorers (Fr. Nansen, R. Amundsen, Yo. Hjort and other) who helped him. In 1919 L. Breitfuss emigrated to Germany. There he was one of the organizers of society "Aeroarctic", (leader was Fr. Nansen), composed the map for flying of German airship "Count Tseppelin", collected a library of polar investigations history. L. Breitfuss died 20. July 1950, 86 years old.

Keywords: *Leonid Breitfuss, Arctic, Norwegian polar explorers, Norway, Breitfuss Cape, Historical Geography.*

In the late XIX- early XX centuries, scientists from many countries showed interest in the remote areas of the globe - the Arctic and Antarctic, wanting to conquer the North and South Poles, or explore the polar regions.

Russian scientists took an active part in polar expeditions. The country had specialists of different nationalities, including Germans. Let us get acquainted with the fate of Leonid Breitfuss, a German who lived most of his life in Russia, in St. Petersburg. He devoted himself to a comprehensive study of the Northern regions of the European part of Russia. The Russian government noticed his contribution to the study of

the Northern outskirts of Russia, awarding the State Councilor, the gentleman Leonid Breitfuss with the order of St. Anna of the 3rd degree for the leadership in Murmansk expedition, with the order of St. Vladimir of the 4-th degree for the organization and management of the rescue campaigns in Murmansk, with the medal of the Imperial Russian Geographical Society named after F. Litke for his scientific contributions to the study of the Northern water areas of Russia; the government of Norway acknowledged him with the II class order of St. Olaf for organizing the rescue of several expeditions. The name of this researcher was given to the Wet Cape on the Severnaya Zemlya and Breitfuss Cape in the South-East of the Hoover island in the archipelago of Franz Joseph Land [1, p. 1,2].

Until 1920, L. Breitfuss lived and worked in Russia, and then moved to Germany, lived there until he got 86 years and died, revered by researchers of the Arctic regions of almost all European countries. He was personally acquainted with most of the outstanding polar scientists, including F. Nansen, R. Amundsen, F. Malgren, U. Nobile, and O. Nordenskiöld, U. von Drygalsky, G. Sedov, N. Zubov, V. Vise, E. Shekelton and many others [2, P. 20]. His activities were scientific and practical, 117 out of his 213 works were published in Russia before 1919. The books were devoted to the main directions of scientific work — systematics and faunal studies of calcareous sponges of the European seas, and the hydrography of the Northern waters. In addition, his works of a purely geographical nature were published [3].

Leonid Breitfuss came from a German family on his father's side. In 1732, his great-grandfather, together with other fellow-Protestants, was forced to leave Salzburg and settled in Rastenburg; in the late eighteenth century, the grandfather, Daniel Gottlieb, moved with his two brothers to St. Petersburg, where he started a family, worked as a jeweler. The researcher's father Ludwig Breitfuss (1826-1893), a Russian industrialist, was married to a girl of Swedish origin from Estonia — Emma Soldenschloh (1845-1921). Ludwig Breitfuss had 6 children — 4 sons and 2 daughters: they lived permanently in St. Petersburg, keeping the Lutheran religion and German citizenship. The eldest son, Leonid Breitfuss, was born on November 19 / December 1, 1864 [2, p. 6]. According to his passport of 1901, he was a dark brown-haired man with blue eyes, handsome and tall [4].

Ludwig Breitfuss' sons studied in Petrischule, in their early years they took part in gatherings of Torchinsky's revolutionary group "Fellowship of St. Petersburg workmen". In 1888, after Torchinsky was arrested, Leonid Breitfuss headed this organization for some time, for which he was arrested too and after a short imprisonment in "Kresty (Crosses)"-prison, was sent to Germany as a German citizen. As a young man, he showed interest in natural sciences, while in Germany, he attended lectures in zoology and biology at the University of Berlin and the

Polytechnic College, as well as traveled to various biological marine stations in Germany. His exile lasted from 1890 to 1897 [2, p. 7].

During this period, a tragedy broke out in Northern waters of Russia — in the autumn of 1894, during a storm, 25 Pomeranian vessels were lost. This event elicited a response from the citizens of Russia, including the scientific community. In 1898, the Northern Commission was founded at the Committee to assist Pomerania, it composed of Russian scientists who had had research experience in Northern regions. One of the tasks of the Commission was to conduct scientific fishery research. At the beginning, this Commission's activity was headed by a young scientist-biologist Nikolay Knipovich who, having worked for one year in this position, refused the management role. To the great joy of Leonid Breitfuss, who had returned from Germany by the time, he was invited to lead a scientific expedition. A hostile relationship between L. Breitfuss and N. Knipovich lasted for many years. The activity of the Murmansk expedition under the leadership of L. Breitfuss was aimed at the development and implementation of plans on improving the processes of fishery in the Northern waters of Russia. The result of the expedition was recognized by the international community, and this is a great merit of Leonid Breitfuss, Doctor of Natural Sciences. On the instructions of the international conference on the study of the Northern and Baltic seas, since 1901, L. Breitfuss' expedition ships regularly collected data on hydrology, zoology, meteorology in these areas and sent information to the Research Center in Copenhagen. It is necessary to underline the diversity of the expedition's research work, as evidenced by the first detailed map of the depths and currents of the Barents Sea. For the first time after years 1822-1832, the data of the depths along the coast of the Kola coast were clarified, and L. Breitfuss, on the instructions of The Chief Hydrographic Office, prepared a note on the boundaries of the territorial waters of European Russia in the Arctic Ocean. Both expedition and scientific work of Murmansk campaign lasted for 10 years [5, p. 294].

In 1909, L. Breitfuss began to process the richest scientific material. In 1912, having adopted the Russian citizenship, he began working in the Hydrographic Department of the Russian Navy, and in 1913, the Ministry of the Sea appointed an honorary officer of the Management Department, General-Lieutenant Y. Shokalskiy and the head of the Hydrometeorology Department State Councilor L. Breitfuss to take part in the International Commission for the study of Northern European waters in Copenhagen [6, p. 10].

In the early twentieth century, both foreign and Russian polar explorers made plans to conquer the North Pole and the Central part of the Arctic Ocean. In 1912-1913, almost simultaneously, three Russian expeditions headed by G. Sedov, V. Rusanov and G. Brusilov went to the Arctic Ocean. There was no news from them for a long time. In 1914, the

government decided to organize a rescue expedition on a Norwegian ship. The hydrographic office instructed L. Breitfuss to find a vessel for this expedition in Norway. He was fluent in German and had extensive contacts with Norwegian polar explorers.

G. Sedov had work experience in the North as a member of several expeditions of Hydrographic Management Office. Over the years, he had been developing a plan for his own expedition, which was not approved by the special Commission of the Hydrographic Management Office. L. Breitfuss was a member of this Commission [7, p. 510]. State didn't subsidize the expedition, the money was collected by private investors, such as a publisher A. Suvorin, singers F. Shalyapin, L. Sobinov, A. Nezhdanova, who did not skimp on resources, as the implementation of the campaign in the North was of a patriotic character, but still there was not enough money, the preparation was conducted in haste, there was no radio operator on board of the old schooner "St. Foka". The hastily assembled team came out of Arkhangelsk in August 1912.

In the same years, two Russian polar explorers G. Brusilov and V. Rusanov, leading two expeditions, went to sea with their plans to explore the Arctic Ocean, having no radio operator on any of the ships [5, P. 186].

St. Petersburg sent dispatches to Bergen, to the famous Norwegian oceanographer, Y. Hjort (9), to Lyusaker, (a suburb of Christiania (Oslo)), to F. Nansen, to the small Northern towns of Norway — Tromsø, Vardø, where the consular representatives of Russia were located [8, p. 23-25, 32]. They immediately received response dispatches with a variety of proposals. Y. Hjort and F. Nansen replied urgently: they advised to buy a well-proven rescue ship "Gerda" in Sandefjord city [8, p. 51-52]. From 14 offered ships the Russian naval authorities chose the vessels recommended by the Norwegian polar explorers. On 13 February 1914 Navy Ministry urgently seconded L. Breitfuss to Norway to procure a suitable vessel. On February 18, a telegram came from Lyusaker to St. Petersburg, the Hydrographic Office: "Visited Nansen. Consul tomorrow. Going Sandefjord to inspect the vessel". L. Breitfuss had previously been F. Nansen's guest.

In the spring of 1914, L. Breitfuss carried out active work on selection of vessels to search for the expeditions. He wrote from Christiania to the Hydrographic Office: "Having arrived on February 17 in Christiania, I was studying the issue of the most appropriate equipment of the expedition in search of Lieutenant Sedov, Brusilov and Rusanov, for which I immediately connected prof. Nansen, captain Sverdrup, a member of the now being equipped expedition to the North Pole headed by Roal Amundsen, a physicist Birkeland, the secretary of this expedition Leon Amundsen (R. Amundsen's brother — T. Sh.), Dr. Yort and others". While in Norway, L. Breitfuss did not forget about professional interests. In one of the telegrams, he said: "I will go to Bergen this evening for a meeting with Dr. Y. Hjort and to learn the modern news, with the production of

hydrographic studies in the marine laboratory" [8, p. 258]. As it can be seen from the letter of L. Breitfuss, meeting with a famous polar explorer, an ally of F. Nansen, Otto Sverdrup, and purchasing the second ship "Eclipse" there, also for the salvation of Russian expeditions, L. Breitfuss offered the Navy Department to invite the polar explorer O. Sverdrup as the captain of this vessel [8, p. 107].

Not without some hesitation, the Department representatives agreed. In correspondence with the Hydrographic office, L. Breitfuss described the Norwegian polar explorer as follows: Captain Sverdrup is a very respectable and serious - looking man of about 50 years. He has, apparently, very good health [8, p. 197]. At the same time, L. Breitfuss met R. Amundsen, who, planning a trip to the North Pole, expressed a desire to receive from Russia a set of maps of the shores of Siberia, indicating the recently discovered lands [8, p. 291reverse]. Yet, R. Amundsen's expedition was delayed, so he decided to transfer the previously collected supplies to "Eclipse" vessel, which was being sent to the Kara Sea [9, P. 237 reverse].

In 1915, L. Breitfuss came to Norway again to organize the rescue of two Russian icebreakers "Taimyr" and "Vaigach", which were blocked by the ice of the Kara Sea while moving from Vladivostok to Arkhangelsk. O. Sverdrup took an active part in the rescue of these ships.

In 1918, L. Breitfuss restored the work of the biological station on the Kola Peninsula. At this time, the Russian ship "Solovey Budimirovich" with 85 passengers – emigrants from Russia, got into dire ice conditions, and if L. Breitfuss had not organized the rescue of this vessel by the icebreaker "Svyatogor"(now "Krasin"), under O. Sverdrup's leadership, the fate of the people could have been tragic.

It should be noted that in 1914 the Polar Commission was established at the Russian Academy of Sciences in St. Petersburg. The main task of this Commission was to coordinate the work of Arctic research in Russia. The Commission consisted of outstanding polar explorers of the country; the head of the Commission was Grand Duke Konstantin Konstantinovich. L. Breitfuss was one of the founders of the Polar Commission. The attraction of this Commission was an extensive library of Polar subjects, and now the library of the Polar Commission, stored in the fund of the Academy of Sciences library, includes 300 books from L. Breitfuss' library with notes of the owner, as well as several donated books. Earlier in the article it was stated that in 1919 L. Breitfuss emigrated to Germany, to Berlin, taking his archive with him.

In Petrograd, in Tserkovnaya street (Blokhnin street now) he left his big polar library. In November 1918, shortly before leaving, he received a certificate of protection from the Library Department of the Commissariat of Public Education stating that his personal library was managed and protected by this institution [10, l. 4]. In mid-January 1919, L. Breitfuss'

library was delivered "to the Polar Commission premises of the Academy of Sciences" [12, l. 5].

What kind of gift books from the Norwegian polar explorers are now decorating shelves with the Polar Commission books?

First, the book is in French. The title page reads: "An Pole Sud. Expedition du Fram. 1910-1912. Librairie Hachette et Cie: Paris, 1913". On the flyleaf of this book we can read "Dr. Breitfuss fra Roal Amundsen. 8.7.14" (To Dr. Breitfuss from Roal Amundsen.8.7.14). Next to the specified book by R. Amundsen, the library of the Polar Commission keeps the book by F. Nansen "Fritj of Nansen. The Oceanography of the North Polar Basin. Christiania: Printed by A. W. Brogger,1902, autographed by "Leonid Breitfuss. In besondere Verehrung ergebenst übereicht. Fritjof Nansen.Lysaker.1902" (Awarded to Leonid Breitfuss, with my great respect. Lyusaker.1902). Then, on the shelf of the Commission, there is a book by Johan Hjort "Report on Norwegian Fishery and Marine Investigations. V. I. Ed. by J. Hjort. Kristiania: Oscar Andersens Bogtrykkeri, 1900" autographed without a date: "Dr. Breitfuss. Von seinem Freund. Johan Hjort" (To Dr. L. Breitfuss. From his friend, Johan Hjort) [11, p. 184, 187, 189].

The motives of L. Breitfuss' emigration to Germany are unknown. In Germany, he had to change his citizenship again. Once in Germany, L. Breitfuss, whose age was approaching 60 years, changed the focus of his activities. In the 1920s, he was one of the organizers of "Aeroarctic" society whose task was to study the Polar Regions with the help of an airship. The President of this society was F. Nansen. In 1928, in Leningrad, L. Breitfuss met Russian colleagues, supporters of the study of Polar Regions from the air. In 1931, L. Breitfuss together with German scientists made a map for the flight of the German airship "Count Zeppelin". In the 1930s, he published a number of monographs on the history of polar research.

Working in the Zoological Museum of the Berlin University, he was engaged in the systematization of the world scientific polar literature and all polar research at all times. Unfortunately, his work, which included 66,000 titles of books, compiled in alphabetical and systematic catalogues, ready to publish maps made during the air raids in 1943 burned in a bomb shelter [11, p. 19]. It was an irreparable loss.

After the war, working at the German Hydrographic Institute in Hamburg, L Breitfuss still managed to publish a part of his work saved during the war — thatw as about the Antarctic continent. Despite this failure, he continued to work in the libraries of Prague, Vienna and other European cities. L. Breitfuss repeatedly visited the Scott Polar Institute in Cambridge, where he was always met with great respect and offered to move to England with his new library and archive. But L. Breitfuss remained in Germany and died July 20, 1950 [12, p. 216].

Very little is known about L. Breitfuss' personal life. All his life he was a bachelor, and throughout his stay in Germany until the end of 1944, he lived with his sister, an economy was a responsible housekeeper. Little is known about the fate of his brothers and sisters. One of the brothers, Eduard Breitfuss, after 1917 worked as the Director of an orphanage in Leningrad, then in the 1930s - in the editorial and publishing department of the Institute of the Arctic in Leningrad, where he, together with the Director of the Institute, R. Samoylovich, in 1937 were arrested and shared the fate of many of his compatriots. Another brother of his worked as a fireman in Leningrad before the war [2, p. 35]. His sisters lived a life in Leningrad-Petersburg; his niece, a dentist, lives in the city now.

Here is a short description of a polar scientist's life. His research talent discovered in his younger years served the development of the Russian North, and at the end of his bright life, his broad knowledge of the history of the Arctic development gave a wide range of specialists –polar explorers the opportunity to learn the predecessors' work.

Having lived more than 20 years in Germany, in his declining years, his thoughts often returned to Russia, and not by chance in his last, 213th work "Erzwingen aber verspätete Aufschlüsse über die Umstimmigkeiten in der Murmansk-Expedition. Hamburg, 1949" (Forced, but belated explanation of disputes in the Murmansk expedition), published in limited quantities, he analyzed the events of almost fifty years ago.

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