

FIFTEEN YEARS OF SOVIET ARCTIC EXPLORATION

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No country has experienced such a popularity of Arctic Investigations, such an interest showed by the masses, as the Soviet Union. This is vividly manifested by the exceptional sympathy which attended the well known "epic" of the valiant *Cheliuskin* people and their leader O. J. SCHMIDT.

A small institution had been organized, in the form of a special Committee adjoined to the Scientific Technical Department of the Economic Council (January 1919), the purpose of which was the study and economical appropriation of the natural resources in the Far North. However, this work could be done in the region of the upper part of the Pechora R. only.

In 1920, by decision of the Supreme Economic Council the "Northern Scientific Economic Expedition" was organized. Notwithstanding its modest name the "Expedition" was, in fact, an institute for scientific investigations, which in the first year of its existence equipped numerous expeditions for the study of the lands and seas of the Soviet North.

The following year, in 1921, were sent out 23 expeditions for the thorough investigation, predominantly of the western section of the Soviet Arctic. On Cola Peninsula, Pechora R., in Karelia and Novaya Zemlya was started geological work; expeditions on small vessels began the systematical study of the Barents and Kara seas.

It ought to be mentioned that in 1923, on the initiative of the "Expedition", the construction of a Polar Geophysical Observatory in Matochkin Strait was approved by the "Gosplan" (State Planning Committee) and subsequently successfully carried out by the Chief Hydrographical Department.

In 1925, in connection with the expansion of the work carried out in the North the "Northern Scientific Economic Expedition" was renamed "Institute for the Study of the North". The same year was sent out the first important expedition on the s/s *Elding*, which for the first time circumnavigated Novaya Zemlya and made a series of interesting geographical and geological discoveries on the eastern shore of Novaya Zemlya.

Simultaneously another organization, closely related to the Institute, the "Floating Marine Scientific Institute", began the systematical study of the north-westerly portions of the Barents Sea, as well as of Cheshskaya Bay and the Pechora River.

In 1927 was made the first voyage to the shores of Franz-Joseph Land, organized by the "Institute for the Study of the North". Extensive work was carried out by the Hydrographical Department, to assure safe navigation in Arctic waters: the shores of Novaya Zemlya and the Murman coast were charted, the currents in the neck of the White Sea studied and hydrographical work carried out in the mouths of the Ob and the Yenisey Rivers.

Systematical navigation in the Kara Sea was begun in 1920, over 10,000 tons of corn then being transported by 10 steamers from the Ob to Archangel. The Kara operations, at the head of which stood the Siberian Committee of the northern sea route, took on from year to year greater dimensions, while the loading operations demanded considerably less time, due to convenient anchoring berths — the result of special investigations in the Ob and especially in the mouth of the Yenisey R. and the Igar Channel.

The year 1928 was significant for Polar navigation. That year an ice-breaker and ice-cutters were used in connection with the wreck of the Italian dirigible *Italia*. The s/ss *Krassin*, *Malygin* and *Sedov* were sent to the rescue of the parties in distress on the ice. This operation was crowned with success, the expedition on the *Krassin*, under the leadership of R. L. SAMOILOVICH, rescuing 7 participants of the Italian flight and carrying them out of danger.

This voyage demonstrated the immense significance of a powerful icebreaker for Polar navigation. Feverish organization work was in full swing. A Governmental Arctic Committee was created, Chief of which was appointed S. S. KAMENEV.

In 1929 was effected the formal annexation of the Franz-Joseph Land archipelago to the U.S.S.R. and the northernmost geophysical observatory was founded there. O. J. SCHMIDT in command of an expedition on the s/s *Sedov* went to the archipelago and successfully achieved the task assigned to him. A staff of nine men remained at the station, where they carried out hydrological, hydrobiological and geological work.

Next year the Institute for the Study of the North organized another large expedition on the same vessel the object of which was to relieve the wintering party at the Polar Station in Calm Bay (Franz Joseph Land), to reach the shores of Severnaya Zemlya, at that time yet little known and there to erect a new polar station. Four members of that voyage, at the head of which stood G. A. USHAKOV, remained for 2 years on Severnaya Zemlya.

The expedition of 1930 made a series of interesting discoveries. A new island — Wiese Land was discovered, — the existence of which had been conjectured before yet the expedition started on its voyage, — and some extremely important scientific work was carried out.

The scale of the exploration and scientific investigation work grew larger and larger and the "Institute for the Study of the North" was reorganized into the "All Union Arctic Institute" which became a purely scientific institution, not only for the study of the North, but also as the leading organ of the activity of other organizations performing similar work. O. J. SCHMIDT was appointed Director of this Institute.

A session of the Scientific Council of the Arctic Institute, held in March 1931, worked out a comprehensive programme of work. The investigation of the North-East of the Soviet Union was begun on a large scale. All proposed work was carried out according to plan; investigations were started in the North-West, as well as in the North-East of the Arctic section of the U.S.S.R.

Moreover the soviet polar workers played a leading rôle in the international expedition on the airship *Graf Zeppelin* organized in 1931 by the International Society for the Study of the Arctic. At the head of the scientific part of this expedition stood R. L. SAMOILOVICH. In the course of 105 hours the airship covered a route of 11,000 km. over the Soviet Arctic. As is well known, multiple scientific investigations were made on the airship, in particular an aerial survey of Franz-Joseph Land, Novaya Zemlya and Severnaya Zemlya.

The year 1932 played an exceptional part in the exploration of the polar regions of the U.S.S.R. By decision of the Government an expedition on the ice-breaking cargo steamer *Sibiriakov* was sent out by the Arctic Institute from Archangel to Vladivostok, over the northern sea route. As is well known, all former attempts to pass this route ended in fiasco, or were accompanied by winterings and so were unable to solve the problem of the exploitation of this route. The splendid voyage of the *Sibiriakov*, under the direction of O. J. SCHMIDT, made in one navigation-season, the accomplishing of which was the dream of the navigators for many centuries, put the foundation of a new powerful organization — the G.U.S.M.P. (Chief Administration of the Northern Sea Route), which, by a decision of the communist party and the Government was entrusted with the honourable mission of opening a new route from the White Sea to Bering Strait, to fit it out and assure the safe navigation along the same.

The same year saw a strong development of polar station building in our Far North. On the ice-breaking steamer *Russanov*, under the leadership of R. L. SAMOILOVICH, was made a voyage to Severnaya Zemlya and Cape Cheliuskin, where the northernmost polar station was established and the wintering party of Severnaya Zemlya relieved.

G. A. USHAKOV and his fellow polar-workers, N. N. URVANTSEV, geologist, KHODOV, wireless operator and ZHURAVLEV, hunter, had carried out an extremely important work in the then entirely unknown archipelago. G. A. USHAKOV and N. N. URVANTSEV made 5 journeys with dogsleds and a series of auxiliary journeys on skis and on foot. In the course of 151 days they covered 8000 km., 2200 of which with survey work, about 40,000 sq.km. being topographically surveyed. A topographical survey of Severnaya Zemlya was made based on numerous astronomical points: magnetical, geological, meteorological, zoological, botanical, ice observations and hunting and fishing observations were taken. New islands: the "Bolshevik", "October Revolution", "Komsomolets", "Pioneer" and a series of bays, straits and capes were discovered.

Simultaneously with the remarkable voyage of the s/s *Sibiriakov* there worked in Chukchee-Anadyr Land some other expeditions, amongst which an airplane expedition of the Arctic Institute. The purpose of this expedition was to carry on the study of the national Chukchee district, begun in 1931.

Besides that, extensive work was performed on Franz-Joseph Land, Novaya Zemlya, in the mouth of the Lena River and in other regions.

After the organization of the G.U.S.M.P. the conquest of the northern sea route and of the adjacent regions became the chief objective and leading idea of the work in the Far North. None other than STALIN with exceptional clear-sightedness looked into this problem and came to the conclusion that this new vast enterprise must be adequately organized.

In 1933 was organized a new through-voyage along the northern sea route with O. J. SCHMIDT as leader. This voyage was made in view of the entire country. The workers of the U.S.S.R. watched with keen attention the advance of the expedition eastwards and the drift of the vessel in the ice. On February 13, 1934, the *Cheliuskin* was crushed by the ice.

After the expedition on the *Cheliuskin* the functions of the G.U.S.M.P. were on the initiative of STALIN still more enlarged. The economic activity of the G.U.S.M.P. was intensified to a considerable degree. The trusts entering into the composition of the G.U.S.M.P. were materially strengthened, and such large concerns as Arcticugol, the polymetallic ore mines on Vaigatch Peninsula, the hunting of sea mammals and the reindeer husbandry of the entire North were transferred to the G.U.S.M.P. as also all ice-breakers of the Union, wherever stationed.

The immense territory of the North of our Union limited in the south by the 62 parallel became the field of activity of the G.U.S.M.P.

The year of 1934 saw the number of polar stations, airplanes, snowmobiles, aeroleighs, ice-breakers, sea-going and river vessels augmented, but the scientific-investigation work too was largely developed and the Arctic Institute, as the central scientific organ of the G.U.S.M.P. was considerably enlarged and strengthened: 85 vessels ploughed the polar seas without a loss or mishap and successfully fought the floating ice; scores of airplanes rendered valuable service for the conquest of our Far North; hundreds of scientific workers carried out investigations in many, previously inaccessible regions of the Soviet Arctic.

This same year was achieved the exceptionally successful voyage of the ice-breaking steamer *Lütke* under the leadership of D. S. DUPLITSKY, who passed the northern sea route from east to west, i. e. from Vladivostok to Murmansk in one navigation-season, covering the entire route in 85 days. The same success fell to the lot of the vessels who for the first time carried cargoes destined for Yakutia at the mouth of the Lena R.

Concluding this brief survey of the scientific-investigation work in the Soviet section of the Arctic the achievements may be summed up as follows:

The Northern Sea Route has been opened and a through-voyage made, thus solving a most important problem. A series of new islands has been discovered in the Kara Sea. The hydrological regimen of the Polar Seas has been subjected to a thorough study. The central part of the Northern Sea Route has been investigated and in particular studied in a geological respect; the vast archipelago of Severnaya Zemlya and its islands "Bolshevik", "Komsomolets", "October Revolution" and "Pioneer" have been charted.

Systematical scientific work has been started in the eastern portion of the Northern Sea Route.

Along the entire northern coast of the Union and on the islands have been established polar stations of the G.U.S.M.P., 39 in all.

Aviation work the whole year round has been assured. Prospecting work for fuel is being carried out in different regions of the Northern Sea Route.

In the mouth of the Khatanga R. and in Nordvic Bay has been revealed liquid oil.

The deposits of coal in the Kolyma basin have been investigated. The systematical study of the Chukchee national district has been started, deposits of polymetallic ore have been revealed there.

Extensive work has been executed, on Novaya Zemlya, where polymetals and asbestos have been found.

In the western region of the Soviet Arctic have been inspected: the trawling fishery in the Barents Sea, the hunting of the polar fox and of sea-mammals and the fishery in the Murman, where a preserving factory has been organized.

By a series of expeditions of the Arctic Institute in conjunction with the Academy of Sciences in the period 1920-1929 were investigated the Khibin deposits, where apatites in quantities of world wide significance have been revealed.

A new district of raw material for the Karelia ceramic and abrasian industry has been discovered.

Deposits of coal have been found in the basin of the Pechora R., polymetallic ore has been discovered in Vaigatch; the mines are being exploited.

New means of transportation have been introduced into the Arctic, viz. airsleighs and snow-mobiles; for the first time have been used airplanes, not only for transport, but also for scientific-investigation purposes.

Those, in short, are the results of fifteen years of activity of the U.S.S.R. in the Arctic regions.

