

MEMORIAL TO INNOKENTY PAVLOVICH TOLMACHOFF (1872-1950)

By HELGI JOHNSON

Innokenty Pavlovich Tolmachoff was born at Irkutsk, Siberia, on April 13, 1872; he died on January 17, 1950, at his home, Sosenty Farm near Cheswick, Pennsylvania, only a few weeks before his seventy-eighth birthday.

It is said that he entered this life in the dark of night in a natal chamber so hot and so lacking in air that candles guttered and scarcely would stay lighted. That he survived the environmental ordeal of his birth was attributed to a special, almost miraculous, intervention of Innokenty (St. Innocent), his patron saint, who had been implored to spare this life to compensate for a mother's grief in the previous death of four infant children.

Tolmachoff's parents were Pavel Ivanovich and Theokista Michailovna, both of pioneer European Russian stock. His grandfather and father, in turn, had served as Russian Imperial Army officers in Irkutsk; their ancestral roots were from the Crimea. His mother's people had come to Siberia voluntarily from Veligi Ustug in northern Russia at the invitation of the Imperial Government to establish a merchandising and trading establishment.

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The Siberian town where his mother lived as a small girl was, by chance, one of the areas to which the politically exiled "Dekabrists" had been sent. There she spent her formative years, in a well-to-do home, nurtured and educated among these freedom-loving, cultured expatriates of the upper classes and of the aristocracy, and there she met and married Pavel Ivanovich Tolmachoff. He lived only a short time, and thus the young Innokenty and a younger brother grew to manhood

chiefly under the guidance and tutelage of the mother.

From early childhood, Tolmachoff was consumed with a searching curiosity which never abated, either while in school, the Gymnasium, the University, or, for that matter, throughout his mature life. A classical education offered by the Irkutsk Gymnasium and prerequisite for entrance to the University was too often neglected by the young student whose early short nature hikes had gradually lengthened by now to expeditions on horseback, boat, and canoe to new and far-off places. That this penchant for exploration was not entirely detrimental to his education may be deduced by the fact that it was during this time that he developed his keen sense of observation and an interest in geology far beyond a hobby level. The home soon became a museum which housed a large collection of fossils, minerals, and rocks in addition to plants, insects, and some of the native Siberian birds and mammals.

After his graduation from Irkutsk in 1893, Tolmachoff was entered in the Natural History Faculty of the University of St. Petersburg where his curriculum included all the natural sciences with some concentration in geology. In addition to his full complement of courses, somehow he found time to attend special courses in other schools, and thus he spent at least one summer of study at the University of Leipzig and a year (1899-1900) at Munich in Germany. His scientific appetites were so varied, however, that he was forced to drive himself relentlessly to keep up with his many interests; and from remarks made in his later years he apparently regretted that he had allowed his studies to diverge from a main objective which he considered detrimental to his specialization in geology. Despite his own low regard for his abilities, he graduated

with distinction from the University in 1897 with a degree equivalent to the Ph.D.

The school years, overcrowded with classroom and laboratory routine, did not prevent him from participating in the social activities then current on Russian University campuses. He joined and was an active member of several student societies, many of them forbidden because they were considered politically dangerous to the Czarist regime. Perhaps the early association with exiled revolutionaries who had visited the Tolmachoff home in Siberia led him to sympathize with the more vocal fellow students having similar ideals. At any rate, he never became seriously involved in violent uprisings or in carrying propaganda into the factories which was the fashion of the day. Nevertheless, he admitted that he had participated in some of the demonstrations and had distributed and even had helped to print some of the literature advocating social reforms. Such participation led to two arrests and subsequent surveillance by the secret police, but the influence of his family and powerful friends prevented dismissal from the university and a life of exile which befell several of his student friends. On the other hand, it is altogether likely that his sensitive nature was deeply affected by this brush with the law and that it stimulated a stronger feeling of patriotism for his native land beyond the Urals.

For a period of two years after graduation, he served as Assistant Professor of Geology at the University of Juriew where he worked in an atmosphere of serenity in contrast to the turbulence of undergraduate life. Here a scientific career began in earnest. In 1899 he was recalled to St. Petersburg and appointed curator of the Geological Museum of the Russian Academy of Science, high acclaim indeed for so young a man. During his tenure there, which continued until the outbreak of the first World War, he was called upon to combine the work of an explorer with the many and exacting details of curatorial work. Many of his expeditions were the first to penetrate virtually unknown regions of the Asiatic continent, and the most notable, perhaps, were those in which he traversed for the first time the arctic shores of Siberia from west to east and back again. Here his courage, endurance,

and resourcefulness were called on constantly, not only to see the expedition through, but also to safeguard the lives of his companions, many of whom proved less competent to cope with the severe winter conditions of the arctic environment and the distinctly antagonistic native Asiatic tribes of the far north. These expeditions were of immense value in extending geological knowledge as well as leading to a fuller understanding of the geography and biology of Siberia and the economy and ethnology of the little-known north Siberian Chuchi.

The onset of a World War in 1914 found Tolmachoff on a geological expedition to Turkestan. Wishing to serve his country in a more decisive way, he abandoned geological work and returned to St. Petersburg where he tried to join the armed forces. His age and the lack of previous military experience excluded him from participation in actual hand-to-hand combat, but, determined to contribute his energies, he was instrumental in organizing and later in heading a committee of Academicians who established and maintained a field hospital on the grounds of the Academy. Not content with such an accomplishment, he then organized and procured equipment for a Siberian Unit of the Russian Red Cross; this venture proved so successful that in 1915 he was sent with it to Galicia to direct all of the Red Cross activities of that sector. Here he kept pace with troop movement until the Russian Armies retreated in defeat. Although he now found himself behind his own lines and in enemy territory, his Red Cross uniform and reputation in caring for the sick and wounded of both sides gave him complete freedom of movement, and he returned to Russia and to St. Petersburg where on his arrival he was greeted with much acclaim and many decorations.

This bitter lesson of defeat turned his attention once more to lessons learned on his expeditions and to the importance of logistics, for he had surmised correctly that the military debacle which he had recently witnessed had resulted from a lack of adequate amounts of arms, ammunition, food, clothing, and medical supplies. These facts he made known to high army sources, and we find that his next assign-

ment, which lasted nearly a year, had to do with supplying and routing material to the fighting fronts. Not all of his attention was devoted to army tasks, for during this time he also resumed his scientific interests and became the director of a new Geographical Institute.

The final collapse of the Russian Armies and of the Imperial Government in 1917 in the revolution that followed helped rather than hindered a decision to become divorced from national and political life. While blood ran in the streets and internecine warfare raged under his very windows, we find Tolmachoff calmly at his desk writing a memoir on *Le Faune du Calcaire du Carbonifere du Bassin Houliere de Kouznetsk** to the unending wonder and envy of his coworkers of the Institute.

This decision to devote full time to science proved a wise one since it was almost certainly instrumental in sparing his life during the October Revolution and the chaos of communism which overwhelmed all semblance of the old order in Russia. A frugal way of life and long hours devoted to a work that was little understood beyond the fact that it was abstract and not concerned with revolution and social upheavals won the admiration of the new proletariat; informers who swarmed through the academy transmitted this information to the Soviet authorities. Then, too, Tolmachoff had had a history which included open expressions of free thought and subsequent arrests by the Czar's secret police, and both now constituted a badge of honor not to be overlooked or slighted. Neither his successes as an Asiatic explorer nor his experiences as a welfare worker were underestimated in terms of potential usefulness to the new party, and, therefore, it was almost inevitable that he should be called upon to shoulder responsibilities, not only to give advice on the resources and racial problems of the far north, but also to be concerned with the very survival of his scientific colleagues and some three million repatriated Russian prisoners of war. Thus, late in 1917, he is once more in Siberia building, at Omsk, a great rehabilitation center which included a food-processing plant and bakery. Although this project was successfully spon-

sored and executed by the Soviet authorities thanks primarily to the shrewdness and administrative ability of Tolmachoff, the local people had no stomach for the "New Regime"; thus, early in 1918, after some considerable skirmishing and the involvement of various troop units, the Soviets were overthrown, and Siberia declared itself an independent republic.

Now, if ever, was the time ripe for Tolmachoff's participation in a political life, for here was complete freedom from Bolshevik ties. His advice was eagerly sought by friends and sympathetic colleagues in attaining an autonomous structure for the vast Trans-Uralian areas he knew so well. Problems dealing with evaluation and promotion of natural resources, establishing the boundary lines between European and Asiatic Russia, the promotion of a northern sea route to Western Europe, and even the opportunity of founding a free newspaper were tasks he was asked to undertake and which he relished. There is, therefore, little doubt that he could have attained high office had he wished, but such was not his ultimate goal. Instead, in 1918, he had accepted an appointment as Professor of Geology and Mineralogy at the Agricultural Institute at Omsk. That he was never able to serve in that capacity must be attributed to continuing pressures from the newly constituted free government and the powerful co-operatives who were anxious to find an effective northern sea route to a free world market. At any rate, an ill-fated expedition to the Ob River which he headed for this purpose, thwarted and harassed in turn by Communist and White Russian troops, ended in complete frustration and near disaster. After two years in the Arctic he found his way to England and thence to Vladivostok and here he was finally reunited with his family and at least temporarily beyond the reach of Communists. Once more from 1920 to 1922 he took a professional post, first as Professor of Geology and Paleontology of the Polytechnic Institute and Acting Director of the Far Eastern Geological Committee, and later as Dean of the Institute and Director of the Committee. Unfortunately, these two years proved to be only a period of

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respite since the clash of arms sounded once again.

The late Professor Charles Schuchert had begun quiet negotiation to enable Tolmachoff to enter the United States and to obtain a position upon his arrival. Such plans were realized in 1922, and in September of that year he assumed his duties as Curator of Paleontology at the Carnegie Museum, Pittsburgh, Pennsylvania; he held this position until retirement in 1945. Simultaneously he became associated with the faculty of the University of Pittsburgh and he served as both Professor of Paleontology and special Lecturer in Geography for most of the time that he lived in Pittsburgh. After his retirement in 1945, he took temporary appointments as visiting Professor of Paleontology at Texas Technological College, Lubbock, Texas, and at Rutgers University, New Brunswick, New Jersey. In both instances he served with distinction and added to an already great host of friends.

Professor Tolmachoff was a man of medium stature and of solid though slender build. Physically he could endure great hardships when called upon to do so and he prided himself on his ability to do any task well, and especially on his stoicism and hair-trigger response in the face of danger. Despite this lifelong adherence to rigidly self-imposed mental and physical disciplines, he maintained a feeling of deep humility toward his fellow man.

He was thrice married and the father of seven children. The two eldest, Paul and Alexander, remained in Russia and have long since been lost sight of; Helen and Boris live in New York, while his widow, Marie McLaughlin Tolmachoff and three youngest children, Sonya, Sandra, and Innokenty, Jr., remain at Sosenty Farm.

MEMBERSHIP IN SCIENTIFIC AND TECHNICAL SOCIETIES

Society of the Naturalists, St. Petersburg, Russia
Mineralogical Society of St. Petersburg, Russia
Russian Geographical Society, St. Petersburg, Russia
Krasnoyarsk Branch of the Russian Geographical Society, Krasnoyarsk, Siberia
Far Eastern Branch of the Russian Geographical Society, Vladivostock, Siberia

Troitskosavsk-Kyakhta Branch of the Russian Geographical Society, Kyakhta, Siberia
Society for the Investigation of the Caucasian Coast of the Black Sea, St. Petersburg, Russia
Russian Paleontological Society, St. Petersburg, Russia
Society for the Investigation and Improvement of Siberia, St. Petersburg, Russia
Geologiska Forenningen, Stockholm, Sweden
Schweizerische Geologische Gesellschaft, Switzerland
American Institute of Mining and Metallurgical Engineers, New York, N. Y.
American Paleontological Society, New York, N. Y.
American Association of Petroleum Geologists, Tulsa, Okla.
International Society for the Exploration of the Arctic Regions by means of Aircraft, Berlin, Germany
American Association for the Advancement of Science, Washington, D. C.
Geological Society of America, New York, N. Y.
Pennsylvania Academy of Science, Harrisburg, Pa.
Seismological Society of America, Berkeley, Calif.
American Geographical Society, New York, N. Y.
American Geophysical Union, Washington, D. C.
Society of the Sigma Xi

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