ANNA MIKHAYLOVNA ASTAKHOVA, the Soviet folklorist, died in Leningrad on 30 April 1971, aged 85. For long a school teacher (1908-34), she found time also for extensive folklore studies. She travelled much in the White Sea and Pechora regions, and material collected on these travels appeared in the two massive volumes of *Byliny severa* [Epic poems of the north], published in 1938 and 1951. She published many other works also, both collections of folklore and original contributions, and remained at work at the Institute of Russian Literature [Institut Russkoy Literatury] until the age of 80.

VENIAMIN GRIGOR'YEVICH BOGOROV, the Soviet oceanographer, died on 16 April 1971, aged 67. He was a Corresponding Member of the Academy of Sciences of the USSR, and one of the founders of its Institute of Oceanology [Institut Okeanologii] and one of its staff for a long period. His early field work as a marine biologist was done in Soviet Arctic waters, where he took part in a number of expeditions aboard *Persey, Litke*, and *Sadko* between 1924 and 1935. After the war he was the first holder of a Chair in the Geography of Polar Lands at Moscow University, a post he occupied for twenty years. He was the author of some 200 scientific works, and held nineteen patents for inventions of oceanographic equipment. He was awarded the Order of Lenin and other medals.

BORIS L'VOVICH DZERDZEYEVSKIY, a leading Soviet meteorologist, died on 25 April 1971, aged 72. He was concerned with the science of meteorology all his life, as observer, research worker, administrator, and teacher. In the 1930's he turned his attention particularly to the Arctic and became the head of the weather service of the Chief Administration of the Northern Sea Route [Glavsevmorput']. In this capacity he was in charge of the meteorological side of the expedition, which established Papanin and his three companions on the ice at the North Pole in 1937. His study of air circulation over the Arctic, published in the scientific results of that expedition in 1941-45, showed the incorrectness of the idea of an Arctic anticyclone and was followed later by two volumes on the still wider theme Circulation mechanisms in the atmosphere of the northern hemisphere in the 20th century [Tsirkulvatsionnyye mekhanizmy v atmosfere severnogo polushariya v XX stoletii] (Moscow, 1968 and 1970). He was a member of the second Soviet Antarctic expedition (1956-57) and joint author of Klimat Antarktiki [The climate of the Antarctic] (Moscow, 1959).

ERNEST F. JESSEN, the Alaskan pioneer newspaperman, died on 26 March 1971 at the age of 80. He went north from his home in Seattle in 1905 and tried his hand at a wide variety of occupations—mining in Nome, King Crab fishing in Cordova, a delivery service in Fairbanks, working on Yukon River

steamboats and the Copper River and Northwestern Railroad—before learning his trade on the Cordova Daily Times, the Anchorage Daily Times, the Seward Gateway which he bought and edited, and the Fairbanks Daily News-Miner. In 1942 he founded Jessens Weekly, which he continued to publish despite destruction of the plant and presses by fire in 1948 and by flood in 1967.

ERNST TEODOROVICH KRENKEL', the Soviet Arctic explorer and radio specialist, died in Moscow on 8 December 1971, aged 68. His Arctic career started in 1924, when he worked at the polar station at Matochkin Shar. Thereafter he did duty in many parts of the Soviet Arctic and on many expeditions. Notable among the latter were the Arctic flight of Graf Zeppelin (1931), the voyage of Sibiryakov through the Northern Sea Route (1932). the vovage and subsequent wreck of Chelyuskin in the same waters (1934-35), and the first of the great series of drifting stations on the ice of the Arctic Ocean (1937-38). It was as the radio operator on this last occasion that he became an internationally known figure; his three companions then were I. D. Papanin, Ye. K. Fedorov, and P. P. Shirshov. His active field work ended with this expedition, but he continued to work in departments concerned with the north. In recent years he had been head of the Research Institute for Hydrological and Meteorological Instrument Construction [Nauchno-Issledovatel'skiy Institut Gidrometeorologicheskogo Priborostrovenival, attached to the Weather Service of the USSR [Gidrometsluzhba SSSR], of which his companion Fedorov had become director. He had also been for many years head of the Federation of Radio Sport of the USSR [Federatsiya Radiosporta SSSR], and chairman of the Philatelic Society of the USSR [Filatelisticheskove Obshchestvo SSSR].

ERNEST deKOVEN LEFFINGWELL, probably the oldest of living Arctic explorers at the time of his death, died on 27 January 1971 in Carmel, California, aged 96. He was born in 1875 in Knoxville, Illinois. He studied geology, physics, and mathematics at Trinity College, Connecticut, and at the University of Chicago. In Chicago, stimulated by hearing Nansen lecture, he applied to join the Baldwin-Ziegler Polar Expedition, 1901-02, and was appointed head of the expedition's scientific staff. During the troubles of this markedly unsuccessful expedition, which wintered in Zemlya Frantsa Iosifa and failed in its attempt to reach the North Pole, he made a firm friend of Ejnar Mikkelsen (who died 1 May 1971, aged 91), and they began to form plans for a polar expedition of their own.

In 1905, Leffingwell's father, a wealthy fruit grower, advanced him \$5 000 towards an expedition, and Mikkelsen succeeded in raising another \$5 000 in England and the United States. After many tribulations, mainly financial, the Anglo-American Expedition, as they called themselves, sailed in *Duchess of Bedford* in May 1906 from Vancouver towards Banks Island, but they were blocked by ice near Flaxman Island, off the north coast of Alaska. The ship became unseaworthy, and they built a cabin on the island. In spring, Leffingwell, Mikkelsen, and Storker Storkerson spent a month

travelling north on the sea ice in search of the land mass then believed by many to exist in Beaufort Sea. They established the edge of the continental shelf, but found no land. In later years, Stefansson's over-ice journeys and Storkerson's ice drift in 1918 effectively disproved the existence of such a land mass.

Mikkelsen returned south in 1907, but Leffingwell stayed on Flaxman Island to carry out a scientific survey of the region. In autumn 1908, he went south to obtain more equipment and a vessel and was back in the summer of 1909 for a further three years. With one assistant, he triangulated about 240 km of Alaska's north coast for a map scaled at 1: 125 000 and. behind the coast, mapped at 1: 250 000 the main geographical features of an area about 80 by 130 km. In 1912, he again went south and returned in summer 1913 for a final year. In 1914, the US Geological Survey gave him desk space in Washington DC to write his report, The Canning River region, northern Alaska, a comprehensive description of the geography and, especially, the geology of the part of Alaska he had made his home and had studied, without professional assistance and at his own expense, for six years,

After his return from the Arctic, he retired to a ranch in southern California, where he lived 20 years, then moved to Carmel, where he spent the rest of his life. In 1959, he gave his Arctic papers, including diaries and correspondence, to the Stefansson Collection, Dartmouth College Library. So far, no one has worked on this mine of information.

Leffingwell's few publications (1908, 1915, 1919, [1948], 1951) and his modest retirement throughout an extraordinarily long life have denied him the place he deserves in the history of Arctic exploration. His account of the Canning River region was the first detailed geological description of any part of the North American Arctic. The contraction theory of ice-wedge polygons that he advanced in 1915 is still generally accepted (Lachenbruch, 1962, p 4). His and Mikkelsen's employment of Vilhjalmur Stefansson as anthropologist in 1906 brought to the Arctic one of the keenest intelligences of their time. And, as testimony to the mutual understanding and affection between Leffingwell and the Eskimos with whom he lived and worked, his last name became and remains a common first name among them.

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KENNETH STUART SANDFORD, Reader Emeritus in Geology, University of Oxford, and Emeritus Fellow of University College, Oxford, died on 18 November 1971. He was born in 1899 and went up to Oxford in 1919, aged 19. He was still working there at his death, 52 years later.

Sandford visited the Arctic only once, when he was glaciologist and geologist with the Oxford University Arctic Expedition in 1924, leader F. G. Binney. The expedition explored new areas of Nordaustlandet and made pioneer use of a seaplane. Sandford himself had an arduous time as a member of one of the sledging parties, which had to contend with the worst conditions of summer melt. On return he wrote an important paper on the geology of Nordaustlandet and other papers on the island's geography, glaciology, and climate.

For the next six years, Sandford was deeply involved in a major investigation of late Cenozoic deposits in the Nile River valley and neighbouring areas, but his interest in Svalbard and in Arctic geology stayed with him the rest of his life. He was a founder-member of the Oxford University Exploration Club and, by his advice and continuing presence, influenced the plans of many of the club's expeditions. He was accustomed to compiling the field observations and rock collections of expeditions that had gone to Svalbard, none of whose members were professional geologists. On the basis of these compilations, he prepared a number of further papers on the geology of the region. As late as 1964, he was instrumental in applying the latest techniques of radiometric dating to the problem of the age of the oldest crystalline rocks of Nordaustlandet. The results were not clear cut, and the question is still an open one.

Sandford was spirited and sometimes blunt in the defence of his research interests and those of his students, but his overriding devotion to and delight in the solution of geological problems always overcame any sense of personal animus. He served on committees and councils of his university and of many other institutions, including the Royal Geographical Society, the Geological Society, and the International Glaciological Society.

Peter Friend

SIR GEOFFREY SUMMERS, Bt, CBE, died on 17 January 1972, aged 80. His youthful interest in polar exploration had its fulfilment in his joining the Merton College (Oxford) Arctic Expedition to Spitsbergen in 1923. He had been at Gonville and Caius College, Cambridge, but later joined, as I did, a group of friends from Merton College, which included the expedition's leader, George (later Sir George) Binney, Andrew C. (Sandy) Irvir.e, Geoffrey Milling, and A. T. Wilder. As a trained engineer and general handyman, Summers was a great asset to the expedition, and his easy, friendly temperament exactly suited our very democratic and largely undergraduate party. Officially, he was known as ship's carpenter, as well as engineer, of our sloop, *Terningen*. Although he did not again visit the Arctic, except northern Norway, he retained an intense interest in polar matters and he was a keen member of the Arctic Club, attending its annual dinners whenever he could.

Another enthusiasm of his was mountaineering and, perhaps particularly, rock-climbing; it was in this field of common interest that I was fortunate often to be his companion, whether in north Wales, Isle of Skye, or Arctic Norway. During one very delightful expedition in 1923, after return from Spitsbergen, Summers, Irvine, Milling, and I visited the splendid mountains of Finnmark and climbed Jaeggevarre (1915 m), in part under memorable conditions of prolonged autumn alpenglow. We also had many climbs together over the years in Snowdonia, which was easily accessible from his home at Cornist Hall, and later in Dyserth, Flintshire. The European Alps, too, had claimed him, and he climbed briefly in the Canadian Rockies and the Andes; he was a member of the Alpine Club.

Geoffrey was a man of many parts: a fine pianist as well as a practising engineer with and, for many years, a director of the family firm, John Summers and Sons Ltd, steel manufacturers. He served in the Royal Engineers during the first Great War. As *The Times* related in his obituary on 18 January 1972, he did very important public work, for which he was given a baronetcy in 1952. This work included chairmanship of the Flintshire County Council, membership of the Development Corporation for Wales, and the offices of High Sheriff and Deputy Lieutenant of Flintshire. Mention there was, unfortunately, omitted of his work during many years as chairman of the Steel Sheet Trade Wages Board, a difficult and conciliatory post for which his administrative ability and genial character singularly fitted him.

N. E. Odell

FELICE TROJANI, one of the last survivors of Umberto Nobile's expedition in the airship Italia, which reached the North Pole in 1928 but later crashed, died on 3 November 1971 at Rho, near Milan. He was born in Rome in 1897. Trojani, an aeronautical engineer, had previously collaborated with Nobile in the organization of the Amundsen-Ellsworth-Nobile North Polar Flight, 1926, in the airship Norge. After Italia's crash on 25 May 1928, he was one of the party that stayed with Nobile through 48 days until they were rescued by the Soviet icebreaker Krassin. On return, Trojani went to live for some years in the Soviet Union, where he assisted in the construction of airships for the Soviet air force. After World War II, he moved from Italy to Brazil, returning to his native country in 1963. He published a voluminous (808 pages) autobiographical work, La coda di Minosse [Minos's tail] (Milano, Mursia, 1964), in which he recounts the history of the Italia expedition. He wrote also R. E. Amundsen, l'eroe dei ghiacci polari [R. E. Amundsen, hero of the polar ice] (Milano, Mursia, 1971). His widow, Marta Yuglaris, and his son retain many records of his polar experience, including newspaper clippings and an extensive correspondence with polar explorers, historians, and aeronautical technicians.

Silvio Zavatti

GLAFIRA MAKAR'YEVNA VASILEVICH died on 21 April 1971 in Leningrad, aged 76. She was the leading authority on the Siberian Evenki (Tungus) people, and a senior scientific associate of the Siberian section of the Institute of Ethnography of the Soviet Academy of Sciences [Institut Etnografii Akademii Nauk SSSR). A pupil and colleague of two great Russian ethnographers, V. G. Bogoraz and L. Ya. Shternberg, she published over 200 works, including a grammar and a dictionary of the Evenki language, a great many textbooks for use in Evenki schools, works on folklore, on material culture, on shamanism, and a major work on Evenki ethnogenesis, which was at press when she died. Dr Vasilevich carried out eleven field trips in the far-flung lands of the Evenki, the first in 1925 and the last in 1969, sharing the daily life of the Evenki and migrating with them through the taiga, sometimes on reindeer-back. In the course of a long obituary notice (Sovetskava Etnografiya, 1971, No 5, p 184-86), Ch. M. Taksami writes that "it is not surprising that Evenki in various corners of Siberia knew Glafira Makar'yevna, loved and respected her, constantly wrote to her, asked her advice, thanked her for help, and when in Leningrad hastened to visit her and share with her their successes".