

but little, although the writer attended his course on oceanography which usually led to discussions based on his hard-gained experiences of the drift of the Weddell Sea ice.

His contribution to glaciology and research lay rather in the organization and leadership, from 1923 to 1937, of the series of summer expeditions to the Arctic, through which many young University men were introduced to Polar research. In Jan Mayen, east and west Greenland, Baffin Island, and Ellesmere Island, his parties made active contributions over a wide field, and gained invaluable experience. It gave him special pleasure that Sir Vivian Fuchs was a member of his own college, whom he himself introduced to the Arctic in 1929. The writer recalls very vividly the calm way in which, aided by his old tam o'shanter, he took all the vicissitudes that a force 10 gale off the Faroes, a spell in tight pack ice, an unexpected blizzard, a coal strike and two strandings can produce for a 64-ton sealer. The equally calm way in which, in later life, he navigated between the many personal rivalries that are wont to arise among able scientists eager to advance contending interests, was very evident. That the crossing of Antarctica, unsuccessfully essayed by the Shackleton party of which he had been a member, was eventually achieved by Fuchs, gave him the utmost pleasure. His talent for shrewd advice, his loyalty with a touch of that conservatism and caution that has done so much for Scotland, and the friendly relations he maintained with many senior glaciologists in other countries, will be widely remembered.

GORDON MANLEY

#### EDWARD THIEL—1928–1962

It was with great shock and regret that the news of the death of Edward Thiel in an aircraft accident in Antarctica was received by his many associates and friends. This misfortune was doubly severe in that it occurred not long after his marriage, and at a time when he was at the height of his unusual research abilities.

As one of the most promising students at the high school in his native city, Wausau, Wisconsin, these abilities had already become apparent. In 1950 he received the B.S. degree with Senior Honors in physics from the University of Wisconsin; he had conducted unsupervised research which would have been highly commendable even on a graduate level. A love for the out-of-doors, fostered by many camping and hunting trips with his father, led him into the study of earth science, and he remained at the University after graduation to pursue work in geophysics. After a tour of duty in the U.S. Air Force, he received his Ph.D. degree in 1955. Because of his excellent record he was awarded an American Chemical Society Post-doctoral Fellowship the following year at the Department of Geophysics, University of Utah, where he engaged in a regional gravity and magnetic study of the Uinta Mountains.

His investigation of polar problems, with which he became so intimately connected, began in 1954 when he established a network of gravity stations in Alaska as part of a study of Alaskan crustal structure and geology. During the summer of 1956 he returned to Alaska for the American Geographical Society in order to conduct seismic and gravity measurements on the Juneau Ice Field. But the exploratory spirit was strong in Thiel, and Alaska was not far enough afield, so when the search began for geophysicists to join the United States I.G.Y. expedition to Antarctica, he was one of the first to volunteer. In the fall of 1956 he sailed as a member of the party which established Ellsworth Station on the Weddell Sea coast where he "wintered over" as deputy station scientific leader. The winter was not an easy one, both because of the harshness of the environment and because of personality conflicts among station personnel. Thiel showed exceptional ability for compromise and co-operation which won him the respect and admiration of all at the station. The following summer he served as co-leader and chief geophysicist of the Ellsworth traverse party which made a number of major glaciological and geographical discoveries despite severe difficulties in travelling and working in the remote and badly crevassed interior of the Filchner Ice Shelf.

Returning to the University of Wisconsin, Thiel undertook responsibility for the reduction and analysis of all the Antarctic traverse geophysical data as project leader at the Antarctic Data Analysis Center. Never content to remain in an office for long, however, he returned to the Antarctic in charge of airborne geophysical programs in 1958–59 and 1959–60.

His long association with the University of Wisconsin came to an end when he accepted an appointment as Assistant Professor of Geophysics at the University of Minnesota in January 1961. His teaching duties kept him from the south polar regions for one season, but during 1961 he inaugurated a program of seismic refraction studies north of Alaska as part of a unified geophysical study of the Arctic Ocean basin.

In October 1961 he returned for the fourth time to the Antarctic and had just completed a long aeromagnetic flight across a previously unexamined portion of the continent when the fatal accident occurred.



Ed. Thiel was a born scientist. His initiative as one of the first to apply a combination of geophysical methods to glaciological research in Antarctica has contributed greatly to our increasing knowledge of the Antarctic Ice Cap. He had a strong determination to accomplish whatever he set out to do; without this the Filchner Ice Shelf traverse could never have succeeded in the face of serious obstacles. But his strong will lay behind a calm and unassuming manner which brought him many friends. His appointment as deputy station scientific leader during the trying winter at Ellsworth Station is testimony to his tact and patience; these qualities, together with his enthusiasm for geophysics and glaciology, made him an inspiration to everyone who was fortunate enough to work with him.

Ed. Thiel's accomplishments were many but expectations for the future were greater. Glaciology and the Society have suffered a severe professional loss, and his many friends a sad personal one. Our wholehearted sympathy goes out to his wife and family.

C. R. BENTLEY