

many variations in them according to circumstances. They have also observed plant cells under the microscope while they were being cooled to freezing, and have found many different types of freezing which could be correlated with the variations of the freezing curves. They are now studying resistance against frost of frost-resisting insects such as slugs, caterpillars and the European corn-borers found most commonly in Hokkaido.

Members of the medical section, in conjunction with those of the biological section, are studying the cold preservation of blood. They are intending to find a way by which blood can be kept unfrozen even below 0° C. without incurring any harmful change. They are also engaged in studying the influence of cold on bacteria.

The results of the research work are published in the Journal, "Teion-Kagaku (Low Temperature Science)," written in Japanese with a résumé in English, and in separate papers under the general title of "Contributions from the Institute of Low Temperature Science." Both are edited by the Institute. Twelve volumes of the former and three numbers of the latter have already been issued. The results of the investigation on sea fog were published in a separate book entitled "Studies on Fogs."

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O B I T U A R Y

JOHN GILL McCALL

JOHN McCALL died suddenly on 5 November 1954 in Alaska. He was 31. He left Pennsylvania State University when his country entered the war and saw some of the hardest fighting as a parachutist with a U.S. airborne division. After the war he decided to go to Alaska and continue his university career. He was a first-class ski-er and mountaineer—he was one of the few who have climbed Mount McKinley—and grew so fond of the Alaskan countryside that he decided to make his home there. He graduated in engineering in 1950, and came to Cambridge to take a Ph.D. in glaciology. He chose as his subject "The flow characteristics of a cirque glacier and their effect on glacier structure and cirque erosion," where his application of engineering techniques was especially valuable. During his three years he made four trips to Vesl-Skaftbreen, a cirque glacier in Jotunheimen in Norway, where he jointly led the Cambridge party which so successfully investigated this little glacier by tunnels and careful survey and related work. It was in no small measure due to his genial character, his natural leadership, his persistence and his skill particularly in the field, that this considerable task was accomplished.

On receiving his Ph.D. in 1953 he returned to the University of Alaska as a member of the teaching staff, and the following academic year was made Acting Head of the Department of Geology. He introduced a course in glaciology, a new departure for his University. He was also very proud of the fact that he was called in to advise an Alaskan firm of civil engineers about possible glacier encroachment on a projected road, and was therefore possibly the first glaciologist to be paid a consultant's fee.

He continued to ski and climb. He was coach to the University ski team; and in the spring of 1954 he led a rescue party, with great skill and complete success, up to 11,000 ft. on Mount McKinley to bring back an injured climber.

His was an extraordinarily attractive personality; all associated with him will feel his loss deeply. A career full of promise has been tragically cut short and the Society has lost one of its strongest supporters. His widow and four children deserve the deepest sympathy.