

OBITUARY

DR. C. E. P. BROOKS, I.S.O.—1888-1957

CHARLES ERNEST PELHAM BROOKS, who died at Ferring, Sussex on 14 December 1957, at the comparatively early age of 69, was a great and distinguished climatologist, giving special attention to the study of climatic changes on the historical and geological time scales. His professional life of many-sided activities was identified with the Meteorological Office, but to members of the British Glaciological Society he will be best remembered for his researches on ice sheets and the theory of Ice Ages.

In his monumental work, *Climate through the Ages*, Brooks shows by powerful reasoning, reinforced with considerable mathematical skill, that glacial epochs can be brought about solely by geographical factors. This seems in open conflict with Sir George Simpson's solar radiation theory of Ice Ages, which was revived with masterly logic in the issue of the *Quarterly Journal of the Royal Meteorological Society* for October 1957 and is to be extended later on a more quantitative basis. It may well be, however, that when the two points of view can be properly co-ordinated a measure of reconciliation between them will be found. Certainly this important issue will be watched with interest as the years go on.

Brooks' last book, *The English Climate*, a most informative and pleasantly written volume, appeared as recently as 1954. Soon afterwards, however, his health began to fail and it seems likely that the immense output of work which he accomplished through many years had worn him out somewhat prematurely.

L. C. W. BONACINA

DR. B. M. CWILONG

WE also record the comparatively early death of Dr. B. M. Cwilong in London in the beginning of this year. Dr. Cwilong was born in Russia of Polish parents. As a young man he went to the Clarendon Laboratory at Oxford. There, under Professor G. M. B. Dobson, he carried out important general research work on atmospheric ice crystals, while specializing in the physics of condensation nuclei.

Dr. Cwilong was interested in many other aspects of ice and the writer of this note remembers with gratitude the many interesting discussions with him at the Clarendon Laboratory and much helpful advice.

G. SELIGMAN

PROFESSOR (EMERITUS) FRITZ MACHATSCHEK—1876-1957

WHEN Fritz Machatschek died on 9 September 1957 the world lost a distinguished glaciologist. Born in Wischau of the old Empire, in 1876, he obtained his doctor's degree at Vienna under Penck, his thesis being based on climatological investigations on the glaciers of the Sonnblick group in the Central Alps. In 1905 he qualified for residence in Vienna as a university lecturer, with his thesis on the morphology of the Jurassic in the Swiss Jura.

In 1915 he became Professor of Geography in Prague; in 1924 he moved to Zürich and in 1925 he went back to Vienna. In 1935 he finally took up residence in Munich. Thus his activities were spread over many of the classic seats of glaciological research. His particular interest was in geomorphology and in this way he came into close touch with glaciology itself. His small, comprehensive book *Gletscherkunde*, which was published in Leipzig in 1902 as part of the Göschel Collection and reprinted in 1917, was wholly excellent. In it he covered the glaciers from the points of view of both geographers and geologists in an unusually clear and easily understood manner.

His change from Vienna to Munich in 1935 was very advantageous for his research work, for he succeeded the well-known polar scientist, Professor Erich von Drygalski. Together with the latter he rewrote his small book of 1902, *Gletscherkunde*, changing it into the big volume of the same name in the Encyclopedia of Geography, published in 1942 by F. Deuticke in Vienna. In this work the physics of glacial research and of ice is covered, in addition to the temperatures, structure and distribution of the glaciers in many parts of the world. A work was thus brought into being which, in spite of the rapid progress of glaciological knowledge, has not lost its basic value.

Machatschek was a master in the field of geomorphology, which in so many respects is very close to glaciology; among his many important writings his standard work, *Geomorphologie*, stands supreme and is now in its sixth edition.

R. FINSTERWALDER

REVIEWS*

1958 GLACIAL MAP OF CANADA, 1 : 3,801,600, 1.6 × 1.3 m. Published by the Geological Association of Canada with support from the Geological Survey of Canada, Defence Research Board and the National Research Council.†

CANADA, still rimmed on the north-east and west by glaciers, was the seat of the largest of the Pleistocene ice sheets, comparable in size with that of the Antarctic to-day. It is therefore the largest scale laboratory for the erosional and depositional effects of a lately removed ice load. But when at the end of the last war Professor R. F. Flint published his comprehensive *Glacial Map of North America*¹ the detail in the Canadian area was slight and in no respect treated like the area of his own special investigations in the northern United States. This was not surprising. Northern Canadian topographic maps then were sketchy to a degree, and in only a few scattered localities had useful work on glacial features been done by geologists.

In the succeeding years, however, a tremendous programme of aerial survey has been carried out by the Royal Canadian Air Force and the whole country is now mapped on the scale of 8 miles to the inch, with at least oblique photographs of every square mile of territory. Using these photographs, Professor J. Tuzo Wilson and his team of interpreters have produced this new map, advance information on which was given to the Commission on Snow and Ice (I.U.G.G.) at the Congress at Toronto in September 1957. Much of the detailed work of compilation and draughting was done by this society's member George Falconer.

It is a lavish production with at least eight colour plates used. Only a North American printer could have handled a map of this size—almost too unwieldy for the user. But we can enjoy the appearance on this scale for the first time of a clear representation of existing glaciers and ice caps. The Melville Island glaciers, as yet I believe, unseen except from the air are here, but the Labrador cirque glaciers do not show—even on this scale they could perhaps have been indicated. Ice movement features, drumlins, crag and tail and striae, cover a great deal of the map, appearing noticeably less densely in the forested areas where even the flying camera cannot pick them out. It is from these as from the eskers that the general pattern of latest ice flow is to be assumed. The compilers have, perhaps rashly, added *ice divides*, one of which (in Keewatin) they admit in a footnote to be in controversy among themselves. I would suggest that it is equally dangerous to mark in any Keewatin ice divide, preferring to believe with Bird² that all later ice movements here came from a Hudson Bay centre. It is difficult to see how drumlins and eskers can appear at the same time stage

* Shorter reviews and lists of works received will be found in *Ice*, the Society's News Bulletin.

† This map is distributed by the Geological Association of Canada and may be obtained from the Secretary, Room 703, 111 St. Clair Avenue West, Toronto 7, Ontario, Canada, at \$2.00 (Students \$1.00).