

# A NOTE ON THE COMMISSION ON SNOW AND ICE OF THE INTERNATIONAL ASSOCIATION OF SCIENTIFIC HYDROLOGY

By P. D. BAIRD

(Secretary, Commission on Snow and Ice)

THIS Commission with which many readers will be familiar from its post-war meetings reported in the *Journal of Glaciology*, has had an interesting history during which most if not all of the great names of our science have made their appearance.

We can trace its genealogy back to a maternal grandparent—the C.I.G. (Commission International des Glaciers) which was set up in 1894 on a resolution of the International Congress of Geology when meeting in Zürich.

At this time international co-operation in scientific affairs was getting into full stride; the first Polar Year had come and gone—the great meeting of the International Geographical Union, which was to stress the exploration of the last continent, Antarctica, the collecting ground of so many glaciological data, was about to take place. It was suitable that the study of glaciers should be initiated by geologists, who had been leaders in this discipline, and many of whom with their love for mountains had begun the scientific study of natural ice.

The resolution at Zürich was proposed by Professor F. A. Forel and Captain Marshall Hall and the terms of reference of the C.I.G. were: "To encourage, and to collect observations on glaciers all over the world, with the special object in view of discovering a relation between the variations of glaciers and of meteorological phenomena."<sup>1</sup>

Commission members were to be appointed from each of the countries with glaciers: the first were:

Austria	Professor E. Richter.
Germany	Professor Sebastian Finsterwalder, father of the present Commission's President.
U.S.A.	Dr. H. Fielding Reid (d. 1944) of the United States Geological Survey—the pioneer of Glacier Bay (Alaska) investigations.
Denmark and Greenland	Dr. K. J. V. Steenstrup (d. 1913), who made great contributions to the geology, geography, glaciology and archaeology of West Greenland from the 1870's.
France	Prince Roland Bonaparte (d. 1924), grandson of Napoleon's most antipathetic brother Lucien, and the great-uncle of the Duke of Edinburgh.
Great Britain and the Colonies	Captain Marshall Hall.
Norway	Dr. A. Ojen.
Russia	Professor I. V. Mushketov, who was with Admiral Makarov on the famous initial voyage of the ice-breaker <i>Yermak</i> .
Sweden	Dr. F. V. Svenonius (d. 1928), who first studied the Kårsa and other Swedish glaciers, now a classic area.
Switzerland	Professor F. A. Forel (d. 1912), geologist and seismologist, after whom Mt. Forel in East Greenland was named by his protégés in the Swiss Greenland Ice Cap Expedition in the year of his death.

The annual report of the Commission was at first published in French in the *Archives des sciences physiques et naturelles de Genève*. In 1906 when the *Zeitschrift für Gletscherkunde* began publication under Professor Brückner it became the official organ of the Commission and the annual report was given in the various languages of the contributors.

All went well until the publication of the 1913 report on the eve of the first World War. At this time the President of the Commission was Axel Hamberg of Sweden who had contributed greatly to Polar science in Greenland, Spitsbergen and Siberia. The secretary, the second one in succession to M. Muret, was Professor P. L. Mercanton of Switzerland. Both these countries were neutral in the struggle, but the report was being published in Berlin under an Austrian editor, and France, supported by her allies, refused to send contributions. Prince Roland, who had been a generous patron of the Commission's work, cancelled his financial support and a bleak period succeeded, for despite the carnage and hate the glaciers rolled on.

The Bureau of the C.I.G. waited for a post-war Geological Congress to reconvene. This was not to be until 1926, and then Professor Hamberg, travelling from Sweden to Madrid to lay the Commission's case before its parent, fell ill and could take no part. Meanwhile a new International Union, that of Geodesy and Geophysics combining a multitude of loosely "geophysical" disciplines had been founded and, also at Madrid in 1924, had proposed to take glaciers under its wing, the actual wing being its constituent association—that of Hydrology. But the final fitting did not take place till at its third (1927) Assembly at Prague. Then the C.I.G. published its "34th and last circular" in somewhat pathetic vein: "in closing the members of the last Bureau of the dissolved C.I.G. wish to thank their former colleagues for the confidence they have shown them and the spirit of conciliatory denial which they have shown in favour of a logical and profitable solution to glaciological studies."

The two chief officers of the C.I.G. remained, however, as President and Secretary of the new Commission under the International Association of Hydrology, and so continuity was maintained and the tears could be dried. Professor Mercanton, the Secretary, was then at the height of his powers. He had been the companion of A. de Quervain on the second mid-Greenland ice cap crossing of 1912 and had been the first to ascend Beerenberg in Jan Mayen (1921) where his triple interests in meteorology, vulcanology and glaciers were combined. Devotedly he has continued his annual survey of the European glaciers as Secretary of the permanent committee of the present Commission, and as his 82nd birthday approaches we salute him as Permanent Honorary Member of the Commission.\*

But Professor Mercanton has to yield seven years in age to the Commission's other Permanent Honorary Member, Professor J. E. Church.\* He, we might say, represents the father's side of the Commission's lineage. He typifies the wide field from which devotees of glaciology have been drawn, since he was by training a linguist and Professor of Latin at the University of Nevada from 1896 to 1939. Classicists were probably rare in this rugged state, so plenty of time could be spared from his professorial duties and his unbounded energy was channelled to the study of snow. He founded the Mt. Rose Observatory in 1905, and from the studies there have grown the methodology and the varied snow surveys which are now of great economic importance to the western United States.

Always a sincere internationalist his post-retirement years have been devoted to consultant work on snow surveys in other lands; as recently as 1947 and 1948 we saw him in the Himalaya and riding through the southern Andes.

At the Lisbon (1933) Congress the Association of Hydrology set up another Commission, that of Snow, and Church was appointed President. Under his energetic stimulus the study of snow went ahead apace; he drew in members from all parts of the world and his corre-

\* Photograph on p. 290.

spondence was incredibly voluminous. In correspondence with G. Seligman prior to the Edinburgh (1936) Congress, Church advocated the formation of a British Group within the Commission. After the Congress this Group developed into the Association for the Study of Snow and Ice which, in turn, became the British Glaciological Society.

By the time the Edinburgh Congress was convened his Commission of Snow was by far the largest and most active of all those belonging to the Hydrology Association and its three-day proceedings at Edinburgh were recorded in the 800-page volume, *Bulletin 23*,<sup>2</sup> which takes its place as a text book of glaciological science alongside Wright and Priestley's and von Klebelsberg's classic works. A thousand copies of this work were printed at Riga through the efforts of the Commission's Secretary, Peter Stakle of Latvia, at the total cost including distribution of \$2400. Church did not witness the tremendous success of his work at Edinburgh. Falling ill in Moscow he arrived too late to take much part in the proceedings.

It seemed obvious at Edinburgh that the Commissions of Snow and of Glaciers should amalgamate. Snow's Vice-President, A. B. Dobrowolski of Poland, the author of *Historia Naturalna Lodu*,<sup>3</sup> was all in favour of a separate Association for the infant prodigy of our science which was sweeping Hydrology along in a flood, but it was known that the parent Union was opposed to such a move.

The next congress was planned for Washington in September 1939 and in the meantime Church's international correspondence and stimulation went into high gear. But with the outbreak of the second World War European participation at Washington was almost wiped out, the papers presented were necessarily almost entirely American and were never published. What was achieved, however, was the amalgamation of the two Commissions, under Church's presidency with François Matthes as Secretary. So began the present Commission; only its name was changed to what was believed to be the more widely-embracing one of Commission on Snow and Ice. This took place in 1948.

It was nine years before another and post-war Congress could be held, this time at Oslo. The war and those years had taken serious toll of members, of the Commission and of its parent Association of Hydrology. Dr. Matthes was stricken by a fatal illness during the summer when his planning for the Congress was in full swing. His work for glaciology during long service in the Geological Survey of his adopted country had been immensely valuable. It was he who in an early paper first introduced the theory of "Nivation" and in 1939 he hit on the happy term "little ice age" for our present cool moist period. His greatest work had been the Geological History of the Yosemite Valley published in 1930<sup>4</sup> and in his last years he had written a devastating critique of Hobbs' Glacial Anticyclone Theory.

Dr. Knut Faegri, the distinguished botanist of Bergen University, had suddenly to take over the secretarial task of organizing and reporting the Oslo meeting; this he carried out with the greatest efficiency.<sup>5</sup>

The later history of the Commission is probably better known to most readers. Further Congresses have been held at Brussels (1951),<sup>6</sup> Rome (1954),<sup>7</sup> and Toronto (1957). At each of these a small group of keen glaciologists have had fruitful discussions of their science and those personal contacts which are by far the most valuable part of international meetings. It has not been the policy to appoint set "questions" for papers at these meetings but to accept any worthwhile piece of research within our subject's scope. The Commission has had the following officers since 1948 when Professor Church's long and vigorous term of office came to an end. It seems unnecessary to mention the contributions which these have made to our subject since their work is fresh in our minds.

President:	Professor H. W:son Ahlmann	Sweden	1948-51
	Mr. Gerald Seligman	Great Britain	1951-54
	Professor R. Haefeli	Switzerland	1954-57
	Professor R. Finsterwalder	Germany	1957-60

Vice-Presidents: Sir James Wordie	Great Britain	1948-51
Professor R. Haefeli	Switzerland	1951-54
Professor A. Bauer	France	} 1954-57
Professor R. Finsterwalder	Germany	
Professor A. Bauer	France	} 1957-60
Professor U. Nakaya	Japan	

The author of this paper has been Secretary during this period, which has seen a steady growth of interest in Glaciology. We have now several important research organizations devoted to snow and ice studies such as SIPRE in the United States, the Weissfluhjoch research station in Switzerland and the Institute of Low Temperature Science in Hokkaido. Members of these are able to exchange information and ideas through the aegis of the Commission.

Through Vice-President Bauer a special symposium on the Physics of Ice Movement has been organized by the Commission to take place in Chamonix in September 1958. The Commission has also sponsored an International Glaciological Expedition to Greenland which it is hoped will begin in 1959. We look forward to the next reunion in Helsinki in 1960 by which time the data from the International Geophysical Year should be arriving in full flood, posing a very different problem for sorting and publication compared with the first report of the C.I.G. in 1895.

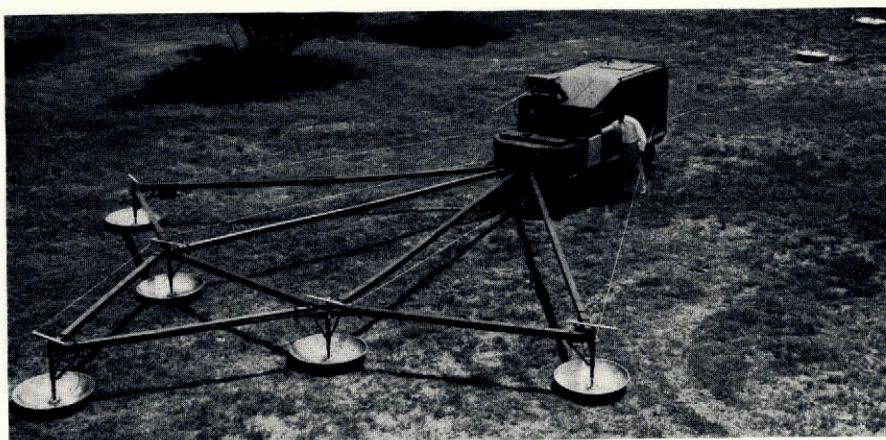
*MS. received 28 April 1958*

#### REFERENCES

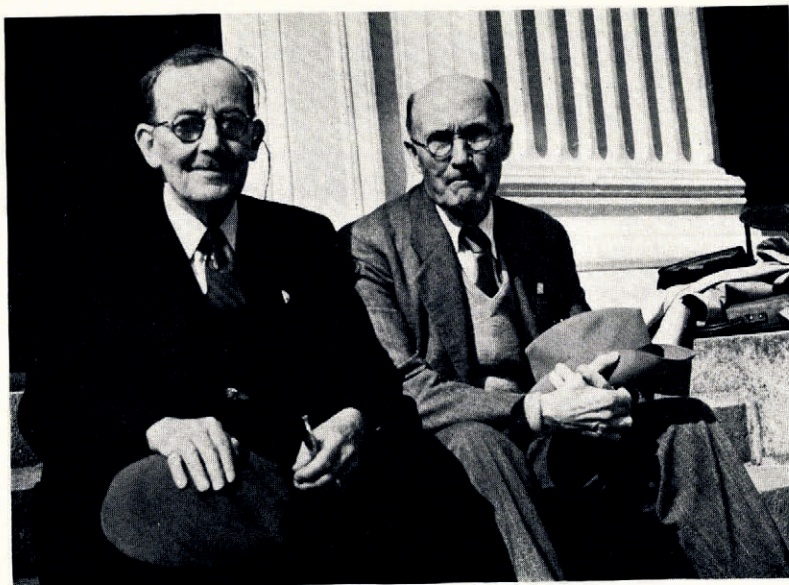
1. Reid, H. F. The variations of glaciers. *Journal of Geology*, Vol. 3, 1895, p. 278-88.
2. Assemblée générale d'Edimbourg. *Bulletin. Association Internationale d'Hydrologie Scientifique*, 23, 1938.
3. Dobrowolski, A. B. *Historia naturalna lodu*. Warszawa, 1923.
4. Matthes, F. E. Geological history of the Yosemite Valley. *U.S. Geological Survey. Professional Paper* 160, 1930.
5. *Association Internationale d'Hydrologie Scientifique. Assemblée générale d'Oslo 19-28 août 1948: Procès-verbaux des séances. Tom. 2*. Louvain, [1950].
6. *Association Internationale d'Hydrologie Scientifique. Assemblée générale de Bruxelles, 1951. Tom. 1*. Louvain, Imprimerie Ceuterick, [1952].
7. *Association Internationale d'Hydrologie Scientifique. Assemblée générale de Rome, 1954. Tom. 4*. [Louvain], Association Internationale d'Hydrologie, [1956].



*Polygonal frost  
patterns, see letter from  
Mr. R. Clark  
on p. 328.*



*Double crevasse  
detector (Model  
1), see letter  
from Mr.  
John C. Cook  
on p. 326.*



*Professors  
P. L. Mercanton  
and  
J. E. Church.  
See p. 253-4.*