

PROCEEDINGS OF THE GEOLOGICAL SOCIETY OF LONDON

No. 1572]

7 October, 1959

[Session 1958-59

OBITUARY NOTICES

REGINALD ALDWORTH DALY died in Cambridge, Massachusetts, on 19 September 1957 after several years' illness. He was born in Napanee, Ontario, on 19 May 1871, and received the A.B. degree from Victoria College in 1891 and A.M. and Ph.D. from Harvard University in 1893 and 1896. He continued his studies at Heidelberg and Paris. In 1903 he married Louise Porter Haskell. From 1895 to 1912 he was variously an Instructor at Harvard University, Professor of Physical Geology at Massachusetts Institute of Technology, and member of the Geological Survey of Canada. In 1912 he became Sturgis Hooper Professor of Geology at Harvard where he remained until his retirement in 1942.

At the end of the first quarter of this century Daly was the foremost of North American geologists, a man of great intellectual courage and bold imagination tempered by a keen appreciation of the complexities of geology derived from arduous years of field work. His early field experience was in New England. The mapping of Mount Ascutney in Vermont brought to his attention the problem of emplacement of igneous bodies and led to his hypothesis of magmatic stoping.

His survey of the Canadian-American boundary during the field seasons 1901 to 1907 is a monumental work. From the foot-hills in Alberta to the Pacific coast, over the rugged and inaccessible terrain of a great eordillera, he mapped the structure and stratigraphy, the igneous bodies and the metamorphic rocks. The varied experience thereby gained gave him the firm foundation which enabled him to move on into the realm of synthesis where he made his name.

Soon after becoming Professor at Harvard he was heard to remark that geology was "drowning in facts" and urged more concern about the theoretical framework to explain the processes which had gone on, or are going on, in the Earth. He followed his own advice with bold imagination and to the lasting profit of the science. He was one of the first to see the need for geology to progress on a more quantitative and experimental basis. In 1932, joining with colleagues in physics and astronomy at Harvard, he initiated a research programme in geophysics and experimental geology aimed particularly at elucidating problems of the interior of the Earth.

His early research was largely in the field of petrology. He was deeply concerned with the compositions and amounts of the various igneous rocks, with magmatic differentiation, and with the origin of alkaline rocks. The world-wide uniformity of basaltic magmas led him to the hypothesis of a glassy basaltic substratum, an hypothesis which he did not discard until very late in his life. To investigate basalts he travelled widely over the oceans, to Hawaii, Samoa and Ascension and St. Helena. He became interested in the origin of atolls and the coral reef problem. This resulted in his glacial control hypothesis. Though much of what he wrote has become part of more valid theory today his hypothesis is no onger of general validity, though it does have limited applicability to many of the features of the marginal coral seas.

Daly was among the first to look upon continental ice-sheets as a means of assaying the reaction of the crust to loading and to deduce from post-glacial uplift something of the nature and properties of the crust and upper mantle. He also suggested that turbidity currents, previously observed in Swiss lakes, might have been the agents which eroded the great

submarine canyons of the continental slopes.

So sound was his logic, so keen his imagination and so courageous was his approach to major problems of geology that even when his hypothesis later proved to be wrong, it nevertheless was an inevitable stepping stone to a better hypothesis. Many of the problems he sought to solve might well have remained dormant for decades had he not had the insight to attack them.

He was a superb lecturer and a source of stimulation to his students and all who heard him. Through his writings he had a profound effect on geologists the world over. He was the author of seven books. At least one of these is to be found on the book-shelf of any thoughtful geologist. It would be superfluous to mention here all of the many honours accorded him. It is enough to say that he was a Foreign Member of the Society.

H.H.H.