eager to give it of our best, rather than to get from it that which will be to our material advantage, why should not our science also become consciously and deliberately African in its outlook, its ideals, and the tasks to which it applies itself? If science has consolidated its position in South Africa, as we believe it has, is it not fitting that, with South Africa as its base, it should enter now into the new sphere of opportunity and achievement which stretches mightily outwards from its borders?

To you, our visitors, I look to give us the stimulus and the encouragement to that enterprise. You have come to Africa. This great land-mass which has reared itself against time's passage, almost since time's beginning, and holds inviolate so many of the records of that passage, has challenged your attention. You have come to Africa to seek new inspiration for the study of the problems that interest you, by seeing them against a different background which has for many of you an unaccustomed vastness. But while Africa was your goal, you did not think fit to enter it at the point nearest to your homes. You steamed down, day after day, skirting the long coast-line of this vast expanse of veld and forest, and have entered it by its southern gateway. For a great body of scientists, it is the only point of effective entry into Africa. It is by way of this southern gateway that science itself can most effectively be made to permeate Africa. And to you, having so come, to you, the ambassadors of science, I present—Africa. It is Africa and science, which, I would like to think, are to-day met together. Happy indeed should be the fruits of the mating.

It is to that theme—Africa and science—that I propose now to invite your attention. What can Africa give to science? What can science give to Africa? Those are the questions to which I would address myself. But as I speak, I would ask you all to remember that it is for the South African scientist that the answers to these questions have primary significance. It is for him that they have significance, because for the solution of many of the problems of South Africa a greater knowledge of Africa as a whole than is at present available is essential, and the extension of that knowledge is his personal responsibility. It is for him that they have significance because he dwells in a land which is strategically placed for attacking the problems of Africa and for drawing forth its hidden resources of scientific discovery for the enrichment of science throughout the world.

(To be concluded)

OBITUARY

GEORGE PERKINS MERRILL

GEORGE PERKINS MERRILL, head curator of geology in the U. S. National Museum, died suddenly of a heart attack in Auburn, Maine, on August 15, 1929.

Merrill was born in Auburn on May 31, 1854, and was graduated at the University of Maine with the degree of B.S. in 1879. In the autumn of that year he was called to the chemical department of Wesleyan University, where in addition to teaching he pursued advanced studies which gained for him in 1883 the degree of M.S. from his alma mater.

The greater opportunities for scientific advancement led him to Washington, where in 1880 he became connected with the Census Bureau. A year later he transferred his allegiance to the U. S. National Museum, then in the making under the gifted G. Brown Goode with whom he worked congenially and successfully, becoming curator of mineralogy in 1881 and in 1897 head curator of the department of geology. Whatever Merrill undertook to do he did well, and in the organization of the National Museum his contributions stand out as conspicuously great, marking him as one of the foremost museum experts of his time.

Meanwhile he spent the winter of 1886–87 at the Johns Hopkins University in following higher studies which resulted in his receipt of the coveted Ph.D. from Maine in 1889. Also it must be mentioned that in 1893 he became professor of geology and mineralogy at George Washington, with which university he continued his lectures until 1916 when he was made emeritus and a year later was given the honorary degree of Sc.D. in recognition of his valuable services.

In 1900 he was called by the authorities of the twelfth census to become special agent of stone-quarry statistics, and to this work he gave his usual careful attention, preparing an important report for the bureau, enriching the collections of the museum with many valuable specimens and finally, as the result of his painstaking efforts, giving to the public his matured studies on the subject in the popular treatise, "Stones for Building and Decoration,"[1] of which two revised editions, largely rewritten, were published. His researches on this subject led to his book entitled "Rocks, Rock-weathering and Soils,"[2] of which Dr. H. W. Wiley has said: "The greatest work on the genesis of soils we owe to Merrill." He

[1] 1891, 1897 and 1903.
[2] 1897, second edition 1907.

was also the author of "The Non-metallic Minerals—Their Occurrence and Uses."[3] He was an accepted expert on building-stones and his opinions were sought on such important buildings as the Lincoln Memorial and the Washington Cathedral.

The collections of minerals and gems in the National Museum were always conspicuously among his favorites. It was largely through his efforts that the Isaac Lea collection of gems and, more recently, the Roebling and Canfield collections of minerals were presented to the museum and, it may be added, with endowments of funds for their continuance. He was the responsible author of the "Hand-book and Descriptive Catalogue of the Collections of Gems and Precious Stones in the U. S. National Museum.[4]

The collection of meteorites in the National Museum early became one of the objects of his special interest. According to Dr. H. S. Washington, "It is one of the great meteorite collections of the world and it will always remain one of his greatest memorials." Merrill was the author of sixty papers on meteorites in which he describes forty new falls, more, probably, than any other writer. His scientific studies on these interesting objects have been most valuable, especially of the minerals of which these are composed, one of which bears the name of "Merrillite" in his honor. The J. Lawrence Smith medal of the National Academy of Sciences was given him in 1922 in recognition of his researches in this field.

The work which crowned his many contributions in this domain and which brought him much gratification in the closing days of his long life was the publication in 1929 of his joint book on "Minerals from Earth and Sky," which was issued as the third volume in the set of popular scientific treatises issued under the name of Smithsonian Scientific Series.

During recent years much of his leisure was devoted to the history of geology, on which subject his opinion was accepted as the last word. He prepared for the 1904 annual report of the U. S. National Museum "Contributions to the History of American Geology," which rewritten and expanded became "The First One Hundred Years of American Geology," 1924, and he also compiled the valuable "History of American State Geological and Natural History Surveys" which appeared as Bulletin 109 of the museum series, 1920.

His honors were many and included the presidency of the Geological Society of Washington in 1906, vice-presidency of the Geological Society of America in 1920 and membership in the National Academy of Sciences from 1922 and in the American Philosophical Society from 1923.

[3] 1904, second edition 1910.
[4] 1922, issued as Bulletin 118.

Merrill's larger works have already been mentioned and his smaller papers, variously contributed, are more than one hundred and fifty in number. He was never idle and he was a large contributor to nearly all the recent standard works of reference. The definitions of building-stones in the "Standard Dictionary" were by him, and the sketches of geologists in the "Dictionary of American Biography" came from his pen.

Last May on Merrill's seventy-fifth birthday his colleagues and friends celebrated the occasion with a dinner at the Cosmos Club in Washington at which there were more than sixty persons present. At that time the present writer said:

> In a few years the Smithsonian will celebrate its centenary, and I can not but believe that when that event occurs, there will be those who will trace the history of that great institution and who will have much to say about the work of the eminent Henry, and they will review the valuable contributions made by the distinguished Baird. Those who are living in that day will learn more of the researches of the able and much-loved Goode, and will come a little closer to the eminent if disappointed Langley, and somewhere there will be told something of the important results achieved by Merrill, so that his name will shine with added glory among this galaxy of scientists, contributing much to his own fame and reflecting luster on the reputation of the great institution which he has served so faithfully during the many years of his long life.

MARCUS BENJAMIN

RECENT DEATHS

FRANK HURLBUT CHITTENDEN, entomologist in the bureau of entomology of the U. S. Department of Agriculture, died unexpectedly on September 15. Mr. Chittenden was in his seventy-first year.

DR. SETH MACCUEN SMITH, professor of otology at the Jefferson Medical College and head of that department at Jefferson Hospital, died suddenly on September 14. He was in his sixty-seventh year.

SIR EDWARD MAUNDE THOMPSON, distinguished for his work in paleography, for more than twenty years director of the British Museum, died on September 15 at the age of eighty-nine years.

Nature reports the death of Dr. T. J. I'A. Bromwich, F.R.S., formerly fellow and prælector in mathematical science at St. John's College, Cambridge, and university lecturer in mathematics, on August 24, aged fifty-four years, and of Professor S. B. Schryver, F.R.S., professor of biochemistry at the Imperial College of Science and Technology, on August 21, aged sixty years.