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CHARLES DOOLITTLE WALCOTT.

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Leadership is not an accident: the position of Charles Doolittle Walcott among his fellow scientists is subject to scientific analysis, just as the characters of a Cambrian type organism justify study from the viewpoint of phylogeny and ontogeny. Ancestry and environment, as well as self-determination, explain the truly successful life of high scientific attainments, valued public service, and winning personality that made the late Secretary of the Smithsonian a leader in American science.

The future scientist's interest was early stimulated by his environment. He was born in New York Mills, Oneida County, New York, March 31, 1850. At 7 years of age he was already a collector of the natural objects that attract the attention of the country boy, and at 13 the curiosity aroused by some fossils he found started him on the way to the study of local geology which later opened up the larger questions of evolution of life on the earth and of the origin of the earth and the solar system.

A college education was not granted to young Walcott. His paternal grandfather had endowed a professorship at Hamilton College, and his father had held a leading place in the community but died when Charles was only 2 years old. To his training in the public schools and the Utica Academy he added reading and study along lines of his own choice. His later associates have shared with him his own doubt whether a collegiate course would have replaced the training in initiative and continuity of purpose with which seemingly adverse circumstances endowed him.

At 23 he planned to study at Harvard under Louis Agassiz, but the great teacher's death a few months later shut that door of opportunity. Yet his own testimony is that the

influence of Agassiz served as an abiding inspiration in keeping his purpose steadfast. The memoir appearing in 1918 summarizing the results of a research of 45 years on the appendages of trilobites was the fulfillment of a promise made to Louis Agassiz.

In 1876 came his first professional appointment, as an assistant to James Hall, State geologist of New York, and three years later he joined the newly organized United States Geological Survey as assistant geologist. The next decade was crowded with paleontologic and stratigraphic researches both in the West and in the East, as well as in the type district of the Cambrian in Wales. These researches in Cambrian geology and paleontology constitute his outstanding contribution to science and won for him from foreign and American societies five medals including the Wollaston medal, the highest honor at the disposal of the Geological Society of London. One of his fellow scientists recently estimated that of the sum of existing knowledge on those subjects 70 per cent had been contributed by Doctor Walcott and that fully half of his work in this field was done within the last 20 years—a record truly remarkable in view of his diverse activities and responsibilities.

A scientist by deliberate choice and highly successful in his chosen field, Doctor Walcott allowed no talent to remain unused. He had the mind of a skilled executive with exceptionally sound business sense and of a successful diplomat with marked ability in coördinating policies and uniting men. Although at the age of 21 his proved capacity invited a business career and later much more promising opportunities came to him, his obvious genius for business was turned into channels of public service.

The simple title of his address as retiring president of the American Association for the Advancement of Science in 1924—"Science and Service"—concisely stated his creed; advancement of science implies "the physical, mental, and moral advancement of the human race," and in his public life this research scientist so applied his talents that his public service perhaps overshadowed his science.

Exceptional capacity for the dual duties of research and administration eminently fitted Doctor Walcott for the two official positions he held during the third of a century in which he was a prominent figure in public life. As Director of the United States Geological Survey, 1894-1907, he so admin-

istered that scientific bureau, devoted to fact-finding and the coördination of facts and principles, as to serve both the Government and the people. "The public" as defined and served by Director Walcott included farmer, miner, landowner, and investor as well as student, teacher, and research specialist. He was prompt to see the need of research, both scientific and engineering, along varied lines and the growth in popular appreciation of the Geological Survey under Director Walcott is attested by the large increase in annual Congressional appropriations for the Survey's work during his term of office.

In the making of Government policy bearing on the settlement of the public domain and the utilization of its great resources, Director Walcott was well qualified to advise Presidents and Congresses, for he knew his West at first hand. He shared with his predecessor, Major Powell, an ardent interest in the reclamation of arid lands, and his efforts to place on a permanent and scientific basis the development of these lands led to the passage of the reclamation act in 1902. The work authorized by this act was done by the Geological Survey until its expansion justified the establishment of the Reclamation Service, which, however, remained under his direction until 1907. He was also actively interested in forestry, and in 1897 Congress directed the Geological Survey to examine and classify thousands of square miles of lands as the preliminary to the Executive reservation of national forests. Not only the drafting of necessary legislation but its enactment was the task Director Walcott had assumed and it was only his influence with the leaders in Congress that made any stand successful against the anti-reserve agitation, so that the legislative beginning of a national forest policy may also be credited to him. The work thus begun grew into another great Government organization—the Forest Service. Still another child of the Geological Survey—the Bureau of Mines—had its beginnings under Director Walcott.

In 1907 he was selected to fill the position of Secretary of the Smithsonian Institution, tacitly recognized as the premier position in American science, and during the next 20 years his energy was unstintingly given to the many-sided task of that establishment in the "increase and diffusion of knowledge among men." Here he found large opportunity for stimulative guidance of research and wise administration of varied activities. He had earlier served as acting Assistant Secretary

of the Smithsonian in charge of the National Museum, developing its paleontologic collections and suggesting new ways of mounting specimens. His interest in the National Museum as "the museum of all the people" added to its scope: he arranged for the post-war exhibition of aircraft as a medium of public education, and in 1920 he inaugurated the National Gallery of Art, as a separate branch of the Smithsonian Institution.

His last service for the Smithsonian, before his death on February 9, 1927, was his planning of an effort to win wider and more generous support. Chief Justice Taft in speaking to the Board of Regents at the launching of this project referred to the late Secretary as one "who most nearly personified the Smithsonian Institution for the past 20 years" and as "a great figure in the field of progressive science in this country."

Doctor Walcott's activities overflowed the confines of the two public offices he held, wide though these might be. He was the first president of the Geological Society of Washington and also served as president of the Geological Society of America, Washington Academy of Sciences, and American Philosophical Society. His connection with the Carnegie Institution of Washington was typical of his constructive leadership; as its secretary and administrative officer from 1902 to 1905 and an active member of the executive committee from the beginning, he contributed much to the wise planning of its research program. In the organization of the National Research Council he was also active, serving as its vice-chairman, member of the executive committee, and chairman of the division of Federal relations.

Preparedness had been a first principle in Doctor Walcott's career, so he was prompt in meeting the call which the World War brought to science. No less prompt was the response of his two sons and daughter, who served overseas. His son Benjamin Stuart Walcott, who bore the name of a Revolutionary soldier ancestor, proved his patriotic spirit by early becoming a member of the Lafayette Escadrille and was shot down, December 12, 1917, while on patrol duty behind the German lines.

Secretary Walcott's quiet assumption of responsibility in the organization of the National Advisory Committee for Aeronautics, of which he became chairman, continued the Smith-

sonian's support of the science of aviation, which had been "rescued from ridicule" by his predecessor Langley. In the words of a memorial resolution by his associates, "His was the vision that saw the need of organized scientific research on the fundamental problems of flight." and "If he had done no more for his country than he did in advancing the science of aeronautics alone his fame would rest secure." Another notable service during the war period was rendered as chairman of the Military Committee, a coördinating body composed of eight Army and Navy bureau chiefs whose responsibilities involved scientific assistance and seven chiefs of scientific bureaus in the civil branch of the Government. Even earlier he had served as a diplomatic catalyzer in effecting productive coöperation between the Army and Navy officers and others equally interested in aviation.

Secretary Walcott was a member of the council and vice president of the National Academy of Sciences, and from 1917 to 1923 he was its president, an honor earned by his scientific attainments but an opportunity for leadership during a critical period that called for administrative skill. It was in no small degree due to his guidance that organized science received so large a meed of credit for its patriotic service. The beautiful home of the Academy and Research Council also embodies much of Doctor Walcott's genius in planning and execution.

Academic honors that came with the years included the degree of Sc.D. from Cambridge and Harvard Universities; LL.D. from Hamilton, Chicago, Johns Hopkins, Pennsylvania, Yale, St. Andrews, and Pittsburgh Universities; Ph.D. from Royal Frederiks University, Christiania, and the University of the State of New York; and Doctor Honoris Causa from the University of Paris. Doctor Walcott held membership in the leading foreign scientific societies as well as those at home, and he was foreign associate of the Académie des Sciences of the Institut de France.

The man behind the career is what counts, after all, and as a man Charles Doolittle Walcott was never found wanting. His was a noble record of genial, sympathetic, and encouraging contact with his fellows. He made and kept friends. Many are the tributes of affection for the man and testimonials of indebtedness for his helpful and inspiring fellowship and friendship—a rich heritage that proves how well he invested his years. The Walcott home was both the place of quiet and

happy family life and a center of influence among scientists and public men. Great sorrow came in the death of his wife Helena Stevens Walcott, and later of their two sons, but he continued to face life with the same calm, steadfast, and optimistic spirit and met his multifold duties without any respite.

Truly, Doctor Walcott looked to the hills for strength. His extensive researches after he became Secretary of the Smithsonian Institution were carried on largely in the magnificent mountain country of British Columbia and Alberta, which he called "a geologist's paradise." And as a writer in the Geological Magazine (London) remarked: "Dr. Walcott has already admitted others to his paradise by the publication of the beautiful photographs and photographic panoramas of the British Columbia Alps, which bear testimony to his skill as an expert photographer of mountain scenery." In the later excursions to the mountains the geologist's interest in their beauty was augmented by the artistic studies of their flora by his wife Mary Vaux Walcott, who shared with him every interest, scientific and public.

Charles Doolittle Walcott was a man of faith: faith in his science, faith in his fellow man, and faith in God and the future life. He was outspoken as a churchman—in his own words "an active church worker," and as described by a fellow scientist "a man of deep religious conviction," one of a group of notable scientists who published their simple confession of faith that there is no conflict between science and religion.

As was said by the editor of the Outlook, commenting on the breadth of Secretary Walcott's interests, scientific, civic, and artistic, "He was a man of spiritual insight; and, though he knew as a scientist how to weigh and measure, he valued most highly those things that are measureless and imponderable."