fashioning swords. It was the means of making men grow to greatness. So likewise science.

We have in science a powerful weapon with which to fight our war for freedom. If the powers in control will be vigilant and will establish a suitable policing system, science and technology are giving us a world in which a stable peace can probably be maintained. But science requires changes in our mode of life. The specialization of our society based on science must be matched by ever closer cooperation on a rapidly increasing scale. Growing attention to special training and more extensive education for leadership is inevitable. Such developments give promise of a truly great society. We are, however, in need of the inspiration of a commonly accepted social objective that will unite our willing efforts.

Never has man had so real an opportunity to master his own destiny. With the new ideas of science, the new tools of technology and the new view of man's place in nature that science has opened, we see ever more clearly how we can shape our world. May God grant us a vision of the possibilities of man which will challenge us to the worthy use of these great new powers.

OBITUARY

HERMON CAREY BUMPUS

May 5, 1862–June 21, 1943

THE long full life of Hermon Carey Bumpus was brought to its close on June 21, 1943, at Pasadena, Calif., the home of his elder son. He is survived by his widow, the former Ella Nightingale, and two sons, Dr. Hermon Carey Bumpus, Jr., and Dr. Laurin Dudley Bumpus.

Dr. Bumpus was bred and educated in New England traditions. He was born in Buckfield, Maine, and reared in Dorchester and Boston. His father was a much beloved Boston city missionary—an unordained pastor, his mother a woman of marked ability and vision, a former teacher.

Nature endowed him with exceptional charm of appearance, and manner, with dynamic, tireless energy and exuberant vitality that lasted well beyond the scriptural allotment of years.

He had a clear mind, wide intellectual interests and an exceedingly lively creative imagination which he relied upon, rather than upon tradition, habit or counsel to direct his course of action. This explains his proverbially direct and original approach to a problem. His own predilection for things which can actually be seen accounts for his confidence in the effectiveness of laboratory work in contrast with the lecture as a means of teaching and for the fact that his really great contribution to education in America must be attributed mainly to his genius for ocular demonstration in the laboratory, the museum and under the open sky.

His instinctive desire to point out to other people what had been discovered took on serious and ever-increasing importance. It inspired his teaching and, when he became responsible for the uses to which great educational resources both in materials and in scholarship were to be put, it became to him a prime moral obligation.

To Dr. Bumpus the mental habits and traits of human beings were important natural phenomena to be accepted and dealt with realistically and sympathetically; this attitude added a fine touch to the quality of his teaching, his museum work and his administration. As a teacher, he was inspiring and simply unforgettable. His methods were original, usually unorthodox, but always effective. His aim was to inspire and orient; it was never indoctrination. His advanced students and his junior colleagues still remember with gratitude how he kindled their enthusiasm and constantly encouraged and generously commended their individual initiative. He was a constant advocate of purposeful research in both the theoretical and the practical fields and he himself worked with equal enthusiasm in either field. As an administrator, Dr. Bumpus was singularly free from a desire for power, personal credit or substantial reward. His heart's desire was to "see things go." He was generous in giving credit to others for the success of mutual undertakings and in assuming blame when things went wrong; yet, when occasion required, he would fight to the last with ardor and enthusiasm for what he considered a matter of principle.

After Dr. Bumpus was graduated from Brown University in 1884, he spent two years there as assistant in zoology, taught zoology at Olivet College for three years, went as fellow to Clark University in 1889, and was the first recipient of a degree from Clark, a Ph.D. He returned to Brown to teach biology in 1890, and during his ten years at Brown he continued his very active teaching, organizing and administrative work at the Marine Biological Laboratory at Woods Hole until 1895. Later, at the U. S. Fish Commission, as scientific director, he restored the scientific features envisioned by its founder, Spencer F. Baird. Then followed ten years at the American Museum of Natural History, of which he became the first director, three years at the University of Wisconsin as the first business manager and five years as president of Tufts College. From 1924 until 1940 he was engaged in

organizing the educational program in the National Parks and concurrently he served for five years as consulting director of the Buffalo Museum of Science.

Dr. Bumpus played an important part in establishing or remodeling the policies and practices of several of these institutions. He also, as an active trustee, impressed his unmistakable hallmark upon many others.

It is not derogating from his accomplishments elsewhere to say that his most important work was done in the field of his primary interests, biology and natural history, and that it was at Brown University and concurrently at Woods Hole, at the American Museum of Natural History and in the National Parks that his creative and administrative talents found their greatest opportunity.

At the age of twenty-eight he deliberately set out to establish at Brown a department, in effect a biological institute, within the university which should combine the collegiate traditions of undergraduate teaching with the ideals of research which he had found at Clark University and which in turn were obviously derived from European universities of the seventies and eighties, via the Johns Hopkins. He proposed to introduce also the element of familiar companionship prevalent at Woods Hole, inherited from Agassiz's earlier laboratory at Penikese. Before his decade at Brown was over he had realized his vision in all essential respects. This demonstration of what collegiate education might be, which was novel fifty years ago, strongly influenced the development of the educational policy of the university.

In 1901, at the invitation of President Morris K. Jesup, Dr. Bumpus began his service at the American Museum of Natural History under conditions which contrasted sharply with those which he dealt with at Brown. The museum was a great institution, having already an amazing wealth of material, equipment and financial resources, both actual and potential. He entered the field, "when museums of nearly every type were just thawing out of their Ice Age." The thawing process was considerably accelerated both at the American Museum and throughout the country by his strenuous and eminently successful efforts in developing the educational functions of this museum and in founding the American Association of Museums (1905–06).

In the museum field, as in his university work, Dr. Bumpus held that both research and teaching were necessary for discharging the obligation of the institution as a whole to those in whose interest it was founded and maintained and that it is the responsibility of the administrator to see that these obligations are met. His old associates at the museum attest his staunch adherence to this proposition in his administration. A distinguished colleague has said: "Bumpus' cardinal principle in the conduct of his office was cooperation. He made it a point to form an almost daily contact with the head of each department, scientific, clerical and mechanical, and the breadth of his knowledge permitted him to meet each man on his own ground, and there was created a spirit of promptness and effectiveness that was diffused throughout the museum." The increasing confidence placed in him by President Jesup resulted in a "combination of authority and ability under the impetus of which the potentialities of the museum developed rapidly, and in *research, exhibition* and *education* it took its place among the leading institutions in its field."[1] After a change in the organization of the museum had substantially affected the authority which had gradually been vested in the office of director, and the official attitude of the museum toward popular education, Dr. Bumpus left the museum and, temporarily, the field of natural history to become a pioneer in the new field of university business management at the University of Wisconsin. After three years of signal success in this office, he was called to Tufts College as its president and successfully guided the college through the strenuous war years. In 1919 he left it with its prestige enhanced and its foundations strengthened.

In 1924 Dr. Bumpus returned to the field of natural history to take a leading part in organizing a nation-wide educational program in the National Parks. The purpose of this program was to point out and interpret the primeval, archeological and ethnological features of the parks to the increasing throngs of visitors and to provide the only reliable insurance for the preservation of a priceless national heritage by creating an intelligent interest born of understanding in the minds of the millions of voters who ultimately control its destiny.[2]

The desirability of such a program developed out of the earlier separate efforts of several enthusiastic park executives under the stimulus and support of certain influential citizens who visited the parks and became concerned over the immense unimproved opportunities for public enlightenment which they afforded. With the approval of the National Parks Service and supported by liberal grants from the Laura Spelman Rockefeller Memorial, the American Association of Museums undertook to implement this program. Dr. Bumpus, as chairman of its committee on outdoor education, was requested to assume leadership. He submitted a highly original plan for plac-

[1] Italics mine.

[2] The chief naturalist, Dr. Carl P. Russell, reports that "during the five-year period 1938–42 the average yearly number of visitors to the areas of the National Park System has been 17,000,000" and that "the great majority of these visitors have made use of the park museums. . . ."

ing at strategic points throughout the National Parks what he called "Trailside Museums" which were to be small museums located in the field. The natural features of the parks were to be the exhibits in situ and undisturbed. The buildings were to contain readily available sources of information and interpretation about them. It was characteristic of him that his solution was simple and direct and that he based his whole program squarely upon the psychology of "Everyman," who is naturally anxious to learn about the new things he sees around him. The function of the museums was to furnish reliable information while he is in this receptive mood. Dr. Bumpus was requested to create a model museum in the Yosemite to serve as a demonstration. This was done with the enthusiastic cooperation of the park executives. The success of this experiment was so complete and the validity of the basic idea so well attested that a succession of "trailsides" was soon established in other national parks, and eventually, as was hoped, the United States National Parks Service took over the program. Dr. Bumpus as National Parks Advisory Board chairman continued to be its guiding spirit. At present there are more than 200 such museums in national, state and municipal parks throughout the country, the offspring of the famous demonstration in the Yosemite. Happily, Dr. Bumpus lived to see his vision realized in the nation-wide adoption of his "Trailside Museum" idea.

When he reached the age of seventy-eight, Dr. Bumpus resigned from active leadership in this National Parks program and, in doing so, deliberately brought to its conclusion the active phase of his long career. In the formal awards of medals and in the documentary references to his life's achievements which followed, he was especially gratified by the acknowledgments of the correctness of his far vision in anticipating the results of the programs which he had projected so long before.

The Department of the Interior in its "Field Manual for Museums" acknowledges that the Manual itself "may well be regarded as evidence that the field museum program anticipated by Dr. Bumpus and his associates of the Committee on Outdoor Education is an established instrument in teaching Americans to know their heritage."

The American Scenic and Historical Preservation Society awarded the Cornelius Amory Pugsley Gold Medal in 1941 to Dr. Bumpus for "his creation and popularization of the trailside museums" and the president in his citation paid him high tribute as a zealous pioneer.

In 1941 the distinguished service award, officially the Henry W. Kent Diploma, presented to him by the American Association of Museums, also brought Dr. Bumpus complete and gratifying assurance that his early vision had been correct. No other body was so competent to judge of the trends in museum development and no person so intimately familiar with the whole range of Dr. Bumpus's museum work as its president, Dr. Clark Wissler, who gave the citation.

Finally in May, 1943, when Dr. Bumpus resigned as Senior Fellow of Brown University, having been a member of the board for nearly forty years, the Corporation abandoned the precedent of a hundred and seventy-five years and promptly elected him the first Fellow Emeritus.

Dr. Bumpus thoroughly enjoyed his stay upon this planet, which he found "so full of a number of things." He enjoyed pointing out these things in a new light to the men, women and children, high and low, who were here in his time, and he did not neglect the interests of those yet to arrive. At the last, he went on his way in a golden sunset aware that what he had done and the motive of it had won approval in the judgment of his peers.

A. D. MEAD

RECENT DEATHS

DR. WILLIAM EMERSON RITTER, professor of zoology at the University of California until his retirement with the title emeritus in 1923, who was from 1909 to 1923 director of the Scripps Institution of Oceanography at La Jolla, died on January 10 at the age of eighty-seven years.

DR. GEORGE OTIS SMITH, from 1907 to 1930 director of the U. S. Geological Survey, chairman of the Federal Power Commission in President Hoover's administration, died on January 10 in his seventy-third year.

DR. JOSEPH JASTROW, professor of psychology at the University of Wisconsin, where he was a member of the faculty from 1888 until his retirement in 1927 with the title emeritus, died on January 8 at the age of eighty years.

DR. CASWELL GRAVE, since 1919 professor of zoology and head of the department at Washington University, St. Louis, who retired with the title emeritus in 1940, died on January 8 in his seventy-third year.

DR. FRANK LEVERETT, formerly lecturer on glacial geology at the University of Michigan, died on November 15 at the age of eighty-four years.

DR. GEORGE A. PFEIFFER, associate professor of mathematics at Columbia University, died on January 4 at the age of fifty-four years.

DR. GEORGE CRANSTON ANDERSON, since 1932 secretary of the British Medical Association, died on January 1 at the age of sixty-four years.