

ber of shorter, unrelated subjects of investigation. Wherever possible, cooperation with one's students or colleagues in research will usually yield better results, from the standpoint of economy in time and cost, than will individual efforts. Such matters may seem self-evident to some and trivial to others; but I feel sure that in many cases more attention to them would be well worth while. In short, system is as necessary for efficiency in research as in any other kind of work.

In conclusion, the main points may be emphasized as follows: Obstacles to achievement in research are due partly to inherent or hereditary limits of capacity, and partly to environmental factors. The latter, which are to some extent within our control, include factors determining the mental attitude, which is of primary importance. The remaining factors include the material facilities, increased support for which depends chiefly upon better appreciation by the public of the value of scientific work. Lack of time is often another important obstacle, which in part may be overcome by a more economic arrangement of routine duties. Finally an obstacle in many cases is the lack in the research work itself of systematic planning and organization, which is necessary for the highest efficiency.

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*DR. CHARLES FREDERICK HOLDER*

THE love of nature is so deeply planted in our hearts that even those who have passed most of their lives in the artificial atmosphere of cities respond quickly and warmly to the appeal made by scenic beauty and by the variety and charm of plant and animal life. Hence he who can successfully voice these sentiments and satisfy the desire for a better knowledge of the life, habits and instincts of the denizens of wood, vale and stream, is sure of wide recognition and appreciation.

It can safely be said that no one in our land has more perfectly realized these conditions than the late Dr. Charles Frederick

Holder, who passed away on October 10, 1915, in his home at Pasadena, California. At once an enthusiastic sportsman and an enemy to all indiscriminate destruction of animal life, he possessed a rare blend of qualities sometimes regarded as incompatible one with the other. Something of his repugnance to the reckless slaughtering of animals characteristic of too many hunters, may possibly have been due to the fact that he came of stanch Quaker stock, one of his direct ancestors, Christopher Holder, having founded, in 1656, the first society of Friends in America.<sup>1</sup>

Charles Frederick Holder was born in Lynn, Massachusetts, August 5, 1851, and received his early education in the Friends' school at Providence, Rhode Island, and in Allen's preparatory school at West Newton, Massachusetts, as well as from private tutors; later on he developed an inclination toward naval life, and in 1869 entered the United States Naval Academy at Annapolis, but did not pursue the course there up to graduation. From his boyhood he showed the taste for hunting and fishing, and at the same time for the study of the habits of birds and fish, that was destined to grow with his growth and become the aim and pleasure of his life.

In 1871, though but twenty years old, he became assistant curator of the American Museum of Natural History in New York City, and held this position until 1875. The present writer cooperated with Dr. Holder for nine weeks in packing up the 1,000,000 specimens of the James Hall paleontological collection in Albany, prior to their transfer to the American Museum of Natural History in New York City. His marriage to Miss Sarah Elizabeth Ufford, of Brooklyn, took place November 8, 1879.

That one so devoted to nature study and to sport should be attracted toward California, especially toward southern California, can be easily understood; however, ill health was the determining cause of Dr. Holder's removal in 1885 to that state, where he established his

<sup>1</sup> This is related in Dr. Holder's interesting book, "The Holders of Holderness, or Pioneer Quakers."

residence in beautiful Pasadena, California's "Crown City." Here he carried on the literary work that had long taken up the greater part of his time, his numerous publications, both books and magazine articles, treating almost without exception of the beauties and mysteries of animate nature. His enthusiasm for his favorite theme and his happy facility in expression, combined to make the perusal of his books and papers both a pleasure and a stimulus for his many readers, as well in this country as abroad.

His influence in Pasadena, both social and educational, was felt and gratefully recognized by his fellow-citizens. He was chosen president of the local board of education, and a trustee both of Throop College of Technology and of the normal school, and was honorary curator of the college museum. From this institute he received a call to fill the chair of zoology, but did not accept. However, shortly before his death, he was appointed professor emeritus of the Charles Frederick Holder chair of zoology, the foundation of which was due to the instrumentality of his lifelong friend, advisor and encourager, Dr. George E. Hale, director of Mount Wilson Observatory. The income of the \$50,000 raised for this foundation, goes, after Dr. Holder's death, to his widow for her lifetime.

All movements for the protection of animal life found in him an ardent supporter, whether as member of a society or as its presiding officer. He was long a member of the American Scenic and Historic Preservative Society, and in the Wild Life Protection League of America he was president of the department of southern California; he also belonged to the National Conservation Society, the American Game Protective and Propagation Association, the American Fisheries Society, and was president of the Los Angeles Society for the Protection of Game. He held the office of vice-president in the Audubon Society of California and in the Los Angeles Zoological Society. On the other hand, as a sportsman he has the credit of being the first to catch a leaping tuna, weighing over 100 pounds, with rod and reel, so that the

catch was a legitimate result of a contest between a fisherman's skill and the strength and activity of his eventual victim. The rod used on this occasion is still to be seen at the Tuna Club on Catalina Island, of which Dr. Holder was the founder, his pen having been the most potent factor in making the island and its neighboring waters a favorite resort for fishermen. With Dr. F. F. Rowland he founded the "Tournament of Roses," one of Pasadena's great attractions.

Socially he was one of the most genial and sympathetic of men. He thoroughly enjoyed social intercourse with those whose interests were like his own, and was ever ready to aid them in realizing their aims. The leading social club of Pasadena, the Valley Hunt Club, was founded by him, and he was a member of the Twilight Club of that city. Other clubs to which he belonged as member, or honorary member, were: Sunset Club of Los Angeles, Tarpon Club of Texas, Aransas Pass Tarpon Club, South California Rod and Reel Club, Authors' Club of London, Sea Anglers' Club of Glasgow, British Sea Anglers' Society of London, Fly Fishing Club of London, Casting Club of Paris. In 1911 the Académie des Sports of Paris awarded him a gold medal. In a field less exclusively his own, he was a member of the New York Academy of Sciences, of the National Geographic Society and the Linnæan Society.

It is impossible to do more than mention a few of the more notable publications of Dr. Holder, as, for example, "Elements of Zoology" (1885), "Living Lights" (1887), "Louis Agassiz, his Life" (1892), "Along the Florida Reef" (1892), "Stories of Animal Life" (1900), "Half-Hours with Nature" (1901), "The Log of a Sea Angler," "Life and Sport in the Open in Southern California," "Big Game Fish at Sea" (1873-76). Among his almost innumerable magazine papers were a series of articles in *Forest and Stream*. This represents but a fraction of the literary work of one who by precept and example furthered the true interests of sport, and aroused and fostered in a large circle of readers a taste for the observation and study of nature.

The funeral services took place at his late residence, 475 Bellefontaine Street, Pasadena, the Rev. Robert Freeman officiating. There were present to do honor to his memory many prominent people from all parts of southern California. The active pallbearers, selected from among the intimate personal friends of Dr. Holder, were: C. D. Daggett, Dr. Francis F. Rowland, Walter Watkins, Walter Raymond, William R. Staats and A. Stephen Halsted. Notable among the many letters of condolence received by Mrs. Holder, was a warm tribute of regard from Gifford Pinchot, who was in strong sympathy with Dr. Holder's tireless work in behalf of the conservation of wild life in our land.

GEORGE F. KUNZ

#### SCIENTIFIC NOTES AND NEWS

OFFICERS of the Royal Society were elected at the anniversary meeting on November 30 as follows: *President*, Sir J. J. Thomson in succession to Sir William Crooks; *Treasurer*, Sir A. B. Kempe; *Secretaries*, Professor A. Schuster and Mr. W. B. Hardy; *Foreign Secretary*, Dr. D. H. Scott; *Other Members of the Council*, Professor J. G. Adami, Sir T. Clifford Allbutt, Dr. F. F. Blackman, Dr. Dugald Clerk, Sir William Crookes, Professor A. Dendy, Professor J. Stanley Gardiner, Dr. H. Head, Mr. G. W. Lamplugh, Professor A. E. H. Love, Major P. A. MacMahon, Professor A. Smithells, Professor E. H. Starling, Mr. R. Threlfall and Sir Philip Watts.

M. MAURICE CAULLERY, professor of organic evolution in the University of Paris and president of the Zoological Society of France, has been appointed to be exchange professor from the French universities at Harvard University and will lecture at Cambridge during the second semester.

CHARLES CLARK WILLOUGHBY has been appointed director of the Peabody Museum of American Archeology and Ethnology of Harvard University.

At the annual dinner of the Geographic Society of Chicago, which will be held in the Congress Hotel on January 8, the gold medal

of the society will be presented to General William C. Gorgas.

DR. ERNST EHLERS, professor of zoology at Göttingen, has celebrated his eightieth birthday.

THE prize of the Martin Brunner foundation in Nürnberg has been awarded to Dr. Jakob Wolff, of Berlin, for his work on cancer.

ON November 23 at Aberdeen, S. D., the South Dakota State Academy of Science was organized with the following officers:

*President*, H. I. Jones.

*First Vice-president*, E. A. Fath.

*Second Vice-president*, O. R. Overman.

*Treasurer*, A. Mahre.

*Secretary*, R. J. Gilmore.

The meetings of the organization are held at the same time and place as the State Educational Association.

At the annual meeting of the American Association of Clinical Research, held recently in Philadelphia, the following officers were elected: *President*, Dr. Coleman, of New York City; *First Vice-president*, Dr. William B. Snow, of New York City; *Second Vice-president*, Dr. Leon T. Ashcraft, of Philadelphia. Dr. James Kraus, of Boston, is *Permanent Secretary* of the organization.

At the annual meeting of the Faraday Society, London, Sir Robert Hadfield was elected president.

THE following, as we learn from *Nature*, have been elected officers of the Cambridge Philosophical Society for the ensuing session: *President*, Professor Newall; *Vice-presidents*, Dr. Shipley, Dr. Fenton, Professor Eddington; *Treasurer*, Professor Hobson; *Secretaries*, Mr. A. Wood, Dr. Arber, Mr. G. H. Hardy; *New Members of the Council*, Dr. Bromwich, Dr. Doncaster, Mr. C. G. Lamb, Dr. Marr, Mr. J. E. Purvis.

THERE is also given in *Nature* the list of officers elected at the anniversary meeting of the Mineralogical Society which follows: *President*, W. Barlow; *Vice-presidents*, Professors H. L. Bowman, A. Hutchinson; *Treasurer*, Sir William P. Beale, Bart.; *General Secretary*, Dr. G. T. Prior; *Foreign Secretary*,