ern garb, is misdirected benevolence. But there remains the endeavor towards understanding, the hunger for beauty, the urge for justice—these three, and the greatest of the three is justice.

Science nurtures inquiry, the supernatural stifles it. The two are in their very essence incompatible, but they can apparently coexist in some scientists of the first rank. Man is, indeed, a perplexing animal. He is rarely consistently consistent or consistently inconsistent. The crook is not always crooked, the murderer not always cruel, the thief not always greedy. An honorable person may lie and a liar sometimes tells the truth. A shrewd business man may consult a soothsayer and be afraid of a black cat. Most men in early childhood are emotionally conditioned to the supernatural, just as they become emotionally conditioned to other elements of childhood environment: parents, places, playmates, nursery rhymes, the old swimming hole, and what not. Retaining and recalling these emotions please us. Adults may be conditioned, but usually with less emotional content than the child. We can be conditioned to science or justice just as to the supernatural, but the latter usually gets there first. The conditioned emotions usually outlive one's intellectual metamorphosis. Their disappearance seems to be a slow atrophy of disuse. Many factors appear to enter into the persistence of early conditioning to the supernatural, such as group loyalty, the desire to conform to social usage, the disinclination to disturb or distress parents and other intimate friends; social, political and financial ambitions, etc. Men also appear to differ in the emotional satisfaction obtained from the mystic. Additional factors, such as individual emotional capacity, may be operative in making some scientists think and work, while others think and work and pray. I admit it may be easier for men in the physical sciences than for biologists to cling to the supernatural, for much of the grotesque in the supernatural concerns man and other living things rather than inanimate nature. But even so, it is a fact that Rev. Stephen Hale laid the foundation for the science of hemodynamics, and Friar Mendel discovered fundamental principles in heredity. So far as I know, the Reverend Hale and Friar Mendel were sincere adherents of their respective religious cults. Our social heritage, good, bad and indifferent, clings to us like the hand and the appendix of organic inheritance. Hence, like the proverbial Englishman, we "muddle" but, now and then, we "muddle through." Fear and faith have ruled much of man's past, but the millennium is still far, far away. Now let us try what may be accomplished by undertaking. Give science a chance.

I seem to sense a silent sigh from you, saying: "Thank God, he is through." I am—nearly. Knowing next to nothing about public speaking I consulted an experienced colleague, before preparing this talk. He referred me to a well-known canon, which reads: First, you tell your audience what you intend to tell, then you proceed to tell it, and lastly you tell what you have just told. You may have observed that I have followed this advice. I have now reached the lastly. Lest I be accused of hiding my real views in a plethora of verbiage, I will attempt to sum up, in threescore words, what I tried to say in seven thousand: As I see it, the supernatural has no support in science, it is incompatible with science, it is frequently an active foe of science. It is unnecessary for the good life. And yet, the supernatural, in varying dilutions, is likely to persist in society for a very long time. The unconditioning and reconditioning of mankind in fundamentals has been a slow process in the past. It may go a little faster in the future. It is a matter of forgetting the hypothetical universe created out of ignorance and motivated by our undisciplined emotions; and a reconditioning to the actual universe, as gradually understood through controlled experience and experiment.

COPE: MASTER NATURALIST[1]

By Dr. HENRY FAIRFIELD OSBORN

PRESIDENT OF THE AMERICAN MUSEUM OF NATURAL HISTORY

AMERICA is slow to recognize her own great men. Along the entablatures of our scientific buildings as well as of our public libraries are enrolled all the greater names in the long intellectual history of man beginning with the Greeks, but these tributes stop short when it comes to the enrolment of great Americans. We have shown so little appreciation of the life of the subject of this volume that his name is not even mentioned in the recent encyclopaedias which contain many lesser American names. In this case it is not difficult to find at least a partial explanation. Cope was never on the side of the great powers of the period either in science or in government, for both

[1] Foreword of a volume soon to appear from the Princeton University Press entitled "Cope: Master Naturalist, the Life and Letters of Edward Drinker Cope," text 590 pages, classified bibliography of 150 pages and 1395 titles, by Henry Fairfield Osborn, assisted by Helen Ann Warren as editor and co-author. The volume is a sequel to the author's "Biographical Memoir of Edward Drinker Cope, 1840–1897," published by the National Academy of Sciences in 1930.

in intellectual equipment and in life history there is a strong parallel between Cope and his great French Revolutionary predecessor, Lamarck. Both were men of genius; both were innovators in the classification of the animal kingdom; both rendered great service to the science of zoology; both failed of contemporary scientific and political support; both ended their lives in poverty and more or less obscurity. May the publication of this volume have at least one great result, namely, that posthumous justice be done to Cope as it has been done to Lamarck, and that his name be enrolled as one of the master naturalists of all time.

The preparation of this volume has been a labor of love, practically beginning a month or so before Cope's death in the year 1897 with my insistence that he should begin to prepare his own bibliography. During the thirty-three succeeding years step after step has been taken in the preparation of this volume, aided by many willing and able coadjutors both in the extremely arduous preparation of a bibliography of such length and complexity as has never been known before and in the no less arduous preparation of the biography which began with many contributions from Cope's contemporaries in the year 1897. It reached this final phase by close, continuous and active work on the part of a recent graduate of Barnard College, Helen Ann Warren, an excellent exponent of the advantages of the higher education of women, so strongly advocated by Cope, and a graduate of an institution endeared to the present author by the lifelong devotion of Lucretia Perry Osborn to its interests.

Soon after Cope's death his beloved daughter, Julia Cope Collins, whose name figures largely throughout his correspondence, presented to the American Museum Cope's complete personal library of his own publications. This furnished the backbone of the bibliography. A greater mark of confidence was the deposit in the American Museum of the lifelong correspondence of Cope with his family, including intimate letters which throw an entirely new light on his personality. The first duty of Miss Warren was to copy these letters from the beginning to the end, thereby creating a picture of Cope's whole life story. The letters were written in brilliant style; they form a priceless picture of the United States in the Civil and post-Civil War period. They allude to the trials and hardships as well as the ambitious and rivalries inevitable in the pioneer western period in which Cope was working. While many strictly family references have been omitted from the letters in Chapters II to VI and such omissions are partly indicated by dots, a great many matters including Cope's high or low opinions of other men and defenses of his own lines of conduct are included. The omission of some of these passages perhaps might have placed Cope in a more angelic light. On the other hand, such omissions would not have given a true biography, so, with the full permission of Cope's family, they are included. We feel confident that the true light on personality is always the best light and that many who have hitherto misunderstood the character of Cope will be more charitable in their judgments and more full of admiration for the many fine sides of his character. Another reason for extensive quotation of the letters is that the family have lent very substantial aid in the preparation of this volume and will naturally welcome and enjoy the family side of Cope's life history.

Now that the hard thirty-three years' work in the preparation of this volume is drawing to a close, the author desires to express his heartfelt appreciation of all those who have cooperated in bringing it to completion. Their names are partly recited above and again in full throughout this volume. They are given fullest credit at every appropriate point throughout the work and are included in the following list of biographers and bibliographers:

Biography

Theodore Gill, 1897
Persifor Frazer, 1897
Julia Cope Collins, 1897–1931
William H. Collins, 1926
William Berryman Scott, 1897–1931, Geology and Paleontology
William Diller Matthew, 1897–1930, Paleontology
George Gaylord Simpson, 1929–1930, Paleontology
William King Gregory, 1930–1931, Ichthyology and Phylogeny
E. W. Gudger, 1930–1931, Ichthyology
G. Kingsley Noble, 1930, Herpetology
Barnum Brown, 1930, Paleontology
Frederic A. Lucas, 1928, Paleontology
Charles C. Mook, Geology
George Gaylord Simpson, 1929, Map of Cope's Journeys
John Germann, 1929–1930, Map of Cope's Journeys
Florence Milligan, 1925
Johanna Kroeber Mosenthal, 1913

Bibliography

Anna M. Brown, 1897–1899
Jannette May Lucas, 1915–1931
E. W. Gudger, 1924–1931
G. Kingsley Noble, 1920–1931
Robert T. Hatt, 1931
Barnum Brown, 1931
George Gaylord Simpson, 1930
Walter Granger, 1930
W. B. Veazie, 1917–1921
Paul Brockett, 1929–1930
William Diller Matthew, 1897–1930

Financial Aid

Julia Cope Collins
Mrs. Philip C. Garrett
The Cope Family
Henry Fairfield Osborn
The American Museum of Natural History

The work of my co-author and editor, Miss Helen Ann Warren, should be especially praised not only for its thoroughness and accuracy but for the rare quality of sustained interest and enthusiasm for the subject shown, especially in the introductory chapter entitled "Pioneers of Paleontology in America" which is very largely her own assemblage and writing, guided, of course, by the author, also in the biographic narrative of Chapter II which from the standpoint of the newer education seems the most opportune in this biography. The old education seems to have been altogether ideal in the case of Cope. Then we pass to Cope's experience in the university of the world and find him fully equipped for his great career.

I am confident that all who have taken part in the preparation of this volume will feel fully rewarded by the thought that they have helped to write a great chapter in the history of American science, namely, of a period covering the lives and labors of our three founders of vertebrate paleontology, Leidy, Marsh and Cope, a branch of science in which America has won a place of honor and esteem throughout the world. I trust also that this volume will firmly establish the permanent reputation of Edward Drinker Cope as a "Master Naturalist."

SCIENTIFIC EVENTS

THE BALTIC GEODETIC COMMISSION

THE Baltic Geodetic Commission is an organization for dealing with the geodetic problems of the many nations surrounding the Baltic Sea. It recognizes the fact that geodesy is no respecter of national frontiers. The nine member countries are Denmark, Esthonia, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden. The fifth conference of the commission was held in Copenhagen last October. The member nations, except Russia, were all represented by accredited delegates, and in addition Norway and Austria were represented by invited guests. Six sessions were held for the consideration of business matters and reports; scientific papers were also presented and visits made to scientific institutions in and near Copenhagen.

The Baltic Commission has already gained a high reputation for the careful geodetic work done under its auspices and for its high scientific standards. The comparatively small number of its members, their nearness to one another and the frequency of the meetings all contribute to the close cooperation and to the interchange of experience that are so favorable to good work and rapid progress.

The commission is, however, considering the widening of its field of work. According to the convention establishing the commission any country desiring to join the commission is entitled to do so. At the Copenhagen meeting, moreover, there was some discussion of a very ambitious project that far transcends the geodetic survey of the Baltic area, namely, the extension of the existing geodetic arc along the 52nd parallel in Europe into Asia as far as Bering Strait and thence across the strait into Alaska, where it would connect with Alaskan triangulation, which in turn will soon be connected with geodetic triangulation in Canada. In this way the longest geodetic arc in the world would be formed. This would be a great achievement, but it will probably be some time before such a scheme can be carried out. Even the existing portion of the arc in Europe needs to be strengthened in various ways and it is still to be proved that it is feasible to make an adequate geodetic connection across Bering Strait.

Professor Kohlschütter, of Potsdam, was elected president, succeeding Professor Nörlund, of Copenhagen, who was chosen vice-president. Professor Bonsdorff, of Helsinki, continues to serve as general secretary.

The information on which this notice is based was supplied in part by Professor Schumann, of Vienna, who attended the meeting as a guest and representative of Austria.

W. D. L.

THE INTERNATIONAL BIOLOGICAL CONGRESS AT MONTEVIDEO

FROM October 8 to 12 there was held at Montevideo a Biological Congress as one of the events designed to celebrate the centenary of Uruguayan independence. A Medical Congress ran concurrently. The national government assisted those in charge by providing honoraria for a number of foreign delegates. Among these were Professor Gustav Embden, of Frankfort; Professor Pedro Rondoni, of Milan; Professor Claude Regaud and A. Mawas, of Paris; Professor Wolfgang Koehler, of Berlin, and Professor Edwin Baur, of Munich. Each South American country sent delegates representing its institutions. There were probably 200 in attendance. Plenary sessions were held each morning. The afternoons were devoted to visits to laboratories, museums and other institutions of local significance, while the evenings were used for sectional