

if the point of view of this Foundation . . . is that of the practical gardener and not of the scientific botanist."

"Fundamentally," as he truly says, "the two points of view are, or should be, one," and I was gratified to read, with whole-hearted approval, his further statement that the Arthur Hoyt Scott Foundation "should be and is as much interested in scientific achievement as are any other botanical gardens."

As every one knows, we are now living in a most terrible period of the world's history. We are engulfed in a world revolution. It is a revolution of annihilation. Its aim, partially accomplished, is the obliteration of every moral, religious and educational standard and value. The civilization of human freedom and opportunity, into which you and I were born and with which we have been familiar all our lives, is threatened with extinction. Much of the old will permanently pass away, but everything possible of value must be salvaged from the old and incorporated into the new civilization to come.

These values have been stated so recently and so frequently that it is not necessary to enumerate them here. They include the advancement and diffusion of knowledge, of a love of truth and beauty, and a freedom to cultivate whatever emancipates the spirit of man from all that is sordid and base, from ignorance and superstition.

The only war of aggression that was ever fought to attain these ends has been waged by our churches, our institutions of science and art, our schools and colleges, our museums and botanic gardens—not by guns and bombs, but by the method of St. Paul, of overcoming evil with good, ugliness with beauty, ignorance with knowledge. What a privilege it is to be free to have some part, however small, in leading the coming generations in America toward a higher and still higher type of Christian civilization. Said Lord Tweedsmuir, in his autobiography, "Politics is still the greatest and most honorable adventure." We agree with this with one exception; for "politics" we would substitute the word "education."

## THE SMITHSONIAN INSTITUTION AS AN ILLUSTRATION OF INTERNATIONALISM IN SCIENCE<sup>1</sup>

By Dr. CHARLES G. ABBOT

SECRETARY OF THE SMITHSONIAN INSTITUTION

ON October 23, 1826, James Smithson, the natural son of Hugh, Duke of Northumberland, and of Elizabeth Macie, a lineal descendant of King Henry the Seventh, made his will. It contained this provision: "In the case of the death of my said Nephew without leaving a child or children . . . I then bequeath the whole of my property . . . to the United States of America, to found at Washington, under the name of the Smithsonian Institution, an Establishment for the increase & diffusion of knowledge among men."

This provision became effective on June 5, 1835, and became known at our State Department in September, 1835. President Jackson announced the matter to Congress in December. Senators Calhoun and Preston of South Carolina strongly opposed acceptance, but Senators Jefferson Davis of Mississippi and Leigh of Virginia recommended it, and after some months prevailed. In the House, ex-President John Quincy Adams was a strong advocate, and secured the approval there. On July 1, 1836, the President approved the bill of acceptance, and at once sent Richard Rush of Philadelphia to England to prosecute the claim in the Court of Chancery. Through Rush's tact and

diligence and through the aid of English friends, the mission was accomplished in two years, notwithstanding that in those days chancery suits sometimes began with a man's lifetime and their termination became a feature of his epitaph.

On May 9, 1838, the Court of Chancery handed down its epoch-making decree adjudging the Smithson bequest to the United States. Mr. Rush sailed with the gold in the packet ship "Mediator" and deposited £105,000 at the United States Mint in Philadelphia on September 1, 1838.

Eight years later, after prolonged debates in Congress regarding this unprecedented gift, the Smithsonian Institution was founded by the enabling act approved August 10, 1846.

The Institution is the ward of the Government. It is governed by a Board of Regents comprising the Vice President, the Chief Justice, three Senators, three Representatives and six eminent citizens. Their Secretary is the Executive Officer.

The Regents were particularly happy in selecting Professor Joseph Henry of Princeton, the eminent discoverer in electricity, to be their first secretary. He conceived the plan of operations which has been followed for nearly a century, which has made the Insti-

<sup>1</sup> World-wide broadcast of the American Philosophical Society and WRUL, Philadelphia, May 15, 1942.

tution honored throughout the world, and highly useful to the people and Government of the United States.

Briefly, the plan is to increase knowledge by doing original research in fields not fully cultivated elsewhere, and by making grants, as means permit, to investigators who show promise. To diffuse knowledge, the Institution publishes its own researches and occasionally those of others, and distributes its publications without cost to about 1,500 libraries and specially interested individuals all over the world. It also collects each year and publishes in the original or in translation, as the Appendix to its Annual Report, about 25 articles from sources not generally available, including foreign as well as domestic authors, and even preferring to use foreign sources difficult of access here. These articles are chosen to set forth in simple but accurate terms the outstanding news in scientific discovery, so that non-specialist readers can understand what's worth while and follow the chief advances in science.

Besides these publications, the Institution, in further diffusion of knowledge, conducts a zoological park and several museums of art, industry, history and natural history which are visited by two and one half millions of people annually. It also gives information by letter to many thousands of inquirers each year, sponsors a weekly half-hour radio program, "The World is Yours," and gives occasional lectures. It originated and still administers the International Exchange Service, through which our Government and many American institutions exchange parliamentary proceedings and scientific documents with countries in all parts of the world.

The Institution has sent exploring and collecting parties to all the continents and most of the islands, and its correspondence and distribution of publications is very copious and equally far-reaching. Exchanges have built up the Institution's scientific library to three quarters of a million items, and these it has loaned to the Library of Congress, in order to extend their usefulness.

For some years the Institution had in its hall a column of books, 4 books square and 23 feet high, which were all Smithsonian research publications. The label truly informed the visitor that hardly a textbook or an encyclopedia or scientific work of recent times exists which does not make use of knowledge recorded in these volumes.

Such is the Institution of world-wide influence for culture, useful knowledge and peaceful aims which was set up by that scientific statesman, James Smithson. A less far-sighted man would have made his bequest solely to relatives, or at the best to some charity in his native land. But Smithson was interested unselfishly in the advancement of all mankind

through knowledge, and wonderfully has his bequest succeeded in promoting his ideal.

Those of us who can look a little backward through the years to the times before the first world war, recall the happy state of international relations. A traveler then could go almost throughout the world without a passport. Discoveries, without regard to their money value, were published in the language of their author, and distributed to scientific readers everywhere. Complete faith in the honest intentions of all scientific research workers was the rule. Results obtained in one country were used as the basis on which to build further knowledge in all. Such was the attitude of mind which was then prevailing in scientific circles, and under such genial conditions knowledge increased by leaps and bounds.

Think of the development of electricity from Faraday and Henry, about 1830, to include the dynamo and the street car. Remember Edison and the electric light. Recall Henry and Morse and the telegraph; Bell and the telephone; Hertz and Marconi and the radio. Household conveniences multiplied, such as fans, toasters, refrigerators, bells and hosts of others. Think of Röntgen and the x-ray and its use in surgery; of Pasteur and antisepsis; of preventive medicine with its engineering sanitary aids all unknown in Smithson's day. Think of the astonishing progress in the chemistry of carbon, leading to medicines, plastics, colors, gas and gasoline. Think of the Curies and radium leading to the intimate study of the structure of the atom. Think of Einstein and relativity bringing a new philosophy to be the complement of that of Sir Isaac Newton. Here we see men and women of many countries in a united friendly effort, giving all mankind new thoughts and new conveniences, prolonging life and enriching it.

That was the vision to which James Smithson devoted his fortune. It has not only accomplished much directly through the Smithsonian Institution, but Smithson's deed has become so well known that it has led many others in many countries to emulate him in founding research institutions, and in helping to increase and diffuse knowledge without narrow or selfish limitations.

A notable instance is the establishment of the Nobel prizes. Alfred Bernhard Nobel was a Swedish chemist and engineer who devoted himself to the improvement of high explosives. He amassed great wealth in connection with the development of the Russian oil fields. Dying in 1896, he left most of his fortune to establish five large prizes to be awarded by certain Scandinavian agencies without regard to the nationality of recipients. The first three prizes are awarded for eminence in physical science or physiology. The

fourth is for the most remarkable current literary work of an idealistic tendency. All hail to the fifth! It is given to the person or society that renders the greatest service to the cause of international brotherhood, in the suppression or reduction of standing armies or in the establishment or furtherance of international congresses to promote peace. Numerous Nobel prizes have been given and to representatives of many countries.

The friendly relations which prevailed among all nations, before the world wars of this century, fostered and were fostered by the international societies which grew up among the eminent men of science in each of its principal branches. Every science from astronomy to zoology, throughout the alphabet, had its occasional congresses held in turn in the different nations. Fast friendships were formed across the seas. It was inspiring to meet the eminent discoverers, whom one had grown to admire through their published works, to be found in the scientific libraries of all nations.

These congresses took up world problems in science, assigned suitable parts to the several nations harmonious to their opportunities, and thus astonishing

progress often followed, far beyond what individuals could have done without organized cooperation.

In recent time we lament to see a reaction against this friendly policy of Smithsonian and of Nobel. Germany fifty years ago was revered as a world's leader in culture. American students who wished to be liberally educated went by thousands at great financial sacrifice to enjoy the benefit of the invigorating German scientific atmosphere. But now, we are informed, not only are illustrious Germans like Einstein obliged to fly from their country, but science, art, religion and truth itself are warped and emasculated so as not to appear to contradict the cruel and hateful policy of the German rulers. All information is censored and death is the penalty for listening to the news broadcast from other nations. In conquered countries the Germans seek to exterminate culture and reduce the inhabitants to slavish status. Our lines have run into very dangerous times. Truth is gravely threatened. Free peoples everywhere emulate one another in the sacrifice of their dearest possessions to preserve for the world the Smithsonian ideal of altruistic increase and diffusion of knowledge among all men.

## SCIENTIFIC EVENTS

### DEATHS AND MEMORIALS

DR. FRANCIS RAMALEY, professor of biology emeritus of the University of Colorado, botanical editor of *Ecology*, died on June 10, in his seventy-second year.

DR. ROY K. FLANNAGAN, medical director of the department of public health of Virginia, died on June 18, at the age of seventy-one years.

DR. LAURENCE S. MOYER, of the department of botany of the University of Minnesota, was killed recently in a blimp accident near Atlantic City while on a mission for the Navy.

DR. WILLIAM A. BRYAN, director of the Los Angeles Museum of History, Science and Art, died on June 18, at the age of sixty-six years.

DR. A. R. FORSYTH, emeritus professor of the Imperial College of Science and Technology, London, died on June 2, at the age of eighty-four years.

*Nature* reports the death of Professor Charles Cohen, formerly of the Pasteur Institute, Brussels, aged sixty-one years; of Dr. John Miller, director of aircraft production (factories), formerly chief engineer, London and North-Eastern Railway; of Professor G. A. Witherington, formerly of the department of mathematics in the Royal Naval College, Greenwich, aged sixty-nine years, and of Dr. Bernhard Fischer-Wasels, professor of morbid anatomy at Frankfurt-on-Main, president of the German

Pathological Society and editor of the *Frankfurter Zeitschrift für Pathologie*, at the age of sixty-five years.

IN connection with the seventy-fifth anniversary celebration of the founding of the Torrey Botanical Club, the department of botany of Columbia University observed the fiftieth anniversary of its organization as a separate department of the university and the one hundred fiftieth anniversary of the appointment of the first professor of botany in Columbia College, then at Astor Place in lower Manhattan. Dr. Richard S. Kissam was appointed to the chair of botany on February 20, 1792, and was thus the third designated professor of botany in America, being preceded in point of time only by Adam Kuhn in 1768 and Benjamin Barton in 1789 at the College of Philadelphia. The department of botany was eventually organized a hundred years later as a distinct school at Columbia by Dr. Nathaniel Britton. In observance of these anniversaries an exhibit depicting the development of botany at Columbia was held in Low Memorial Library during the month of June.

### GRASSLAND RESEARCH IN GREAT BRITAIN<sup>1</sup>

THE appointment of Sir George Stapledon as the director of the Ministry of Agriculture Grassland Improvement Station, Dodwell, marks a break in a long period of pioneer service which may be said to

<sup>1</sup> From *Nature*.