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THE SMITHSONIAN INSTITUTION— PARENT OF AMERICAN SCIENCE¹

You have been invited here to-day to discuss the future of an institution which was given to this country by a native and resident of another; an institution which enjoys the protection of the United States government and is yet a private organization; an institution which inspired the orderly development of American science and which, as long ago as 1850, made youthful American an international patron of thought and knowledge.

James Smithson was an Englishman. He was the natural son of the Duke of Northumberland and a direct descendant through his mother of Henry VII, King of England. Embittered by the bar sinister on his name, this gentleman of the eighteenth century was yet great-spirited enough to devote his life to the service of men. A chemist and mineralogist of repute, he was admitted to the Royal Society at the early age of twenty-two. "Every man," he said, "is a valuable member of society who, by his observations, researches and experiments, procures knowledge for men." Acting on this principle, he devoted his attention with equal thoroughness to the small and the great, the practical and the cultural. His chemical papers are numerous and fine. He discussed the origin of the earth, and he improved oil lamps. Yet for all his labors, fame mocked him. The years brought him only bad health and painful infirmities. Broken in body and mind, he sat down in 1826, at the age of sixty-one, to make his will, and because in that act he held true to the ideals which had inspired his life, he gained for himself an immortality which seemed to have escaped him.

James Smithson had never been in the United States. He lived in a day when Englishmen prophesied the collapse of this government; in a day, also, when great philanthropic foundations were rare. Yet he bequeathed, subject to the life interest of his nephew, his entire estate of half a million dollars "to the United States of America, to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men."

Smithson died in 1829, but the estate did not revert

¹ Address of the chancellor of the Smithsonian Institution at a meeting called to consider plans for the extension of the work of the institution, held in Washington on February 11, 1927.

to the United States until the death of the nephew in 1835. From the moment in 1835 that President Andrew Jackson reported Smithson's bequest to Congress, it engaged the attention and inspired a sense of responsibility in the leading men, whether in public or private life, in this country. Such men as John Quincy Adams, then serving in the House of Representatives, and Jefferson Davis, in the Senate, appreciated the importance of the gift and its great possibilities for good if properly administered. They overcame the objections of John C. Calhoun, and others, and induced Congress to accept the bequest.

In July, 1836, Richard Rush, of Pennsylvania, who had been Attorney General, Secretary of the Treasury, minister to France and minister to England, was named to go to England to put in a formal claim for the bequest.

The English government, appreciating the nobility of Smithson's legacy, pushed a friendly suit through Chancery in the then unprecedentedly short period of two years. Consequently, in 1838, Rush was able to bring back to the United States \$508,000 in gold sovereigns, a sum which later small additions brought to a total of \$550,000.

Congress and the country were now faced with the difficult problem of defining knowledge and determining how best to increase and diffuse it. Five successive congresses spent much time in indecisive debate of these matters. Three presidents urged the duty of decision on them. Learned men proffered advice—voluntary and solicited. The press and the pulpit discussed the matter. But not until August 10, 1846, did the Twenty-ninth Congress give form to the long-waiting Smithsonian Institution. The long debate impressed the men of Congress and the public strongly with the country's obligation to make the institution worthy of the beneficence of the donor's gift and purpose. This alone was worth the delay.

In view of the condition of knowledge in those days many immature proposals sought to absorb the fund. The wonder is that none of them succeeded. A post-graduate university, an astronomical observatory, a normal school, a library, an institute for the promotion of agriculture, a mineralogical bureau, a system of lectureships, were suggestions advanced. The institution, as it finally took shape, was a compromise. To its charter John Quincy Adams, Joel R. Poinsett, ex-Secretary of War, Richard Rush and Robert Dale Owen contributed the basic ideas.

Among the good points of this charter were, first, the solidity of organization which it secured to the institution. It vested the Smithsonian with the prestige and dignity of the United States government by making the President, Vice-President, Chief Justice and members of the Cabinet the Smithsonian Estab-

lishment. It put the actual management in the hands of men whose positions guaranteed their high-mindedness. I refer to the Board of Regents, which includes the Vice-President, Chief Justice, three Senators, three Representatives and six citizens chosen from the country at large. It was this insured stable control which led Charles Lang Freer, of Detroit, to select the Smithsonian as the institution in this country to which he was willing to leave his rare collections of Oriental and American art and his fortune to endow them.

The second important thing the charter did was to secure the permanent investment of the principal and to permit the use of the interest only.

Thirdly, it ordered that no part of the primary fund should be expended for buildings and structures.

Fourthly, after stipulating for the inclusion of a library, a museum, a chemical laboratory, a gallery of art and lecture rooms, it left the development to a large extent in the hands of men who would be best qualified to determine what that should be.

Gentlemen, this charter was sound, but it did not make the Smithsonian Institution. The credit for that belongs to a great man, who was its first secretary. The first Board of Regents recognized clearly that the "future good name and success and usefulness of the Smithsonian" would depend in the main on the character and ability of the secretary. In selecting this officer the board sought the advice of the most distinguished men of science here and abroad. The unanimous choice of all who were consulted, including Faraday, David Brewster, Arago, Bache, Silliman, was Joseph Henry, professor of physics and natural history at Princeton. In their opinion, Joseph Henry stood "without a peer in American science." He had discovered the principle of the electric telegraph. He had anticipated the great Faraday by a year in the discovery that a magnet induces electricity, though he did not publish his results in time to get the credit. For him to undertake the organization of a new institution meant the sacrifice, to a great extent, of his own career of research and discovery. Henry knew this, and nothing less important than the Smithsonian Institution and what it could be made to mean to American science could have induced him to make this sacrifice.

He came to the Smithsonian in December, 1846, and he gave himself to the institution unreservedly for thirty-two years, until he died in May, 1878. During that time he built his own ideals into the institution. He was far beyond men of his time and many men since in his willingness to share with others, and without claim or credit, knowledge which he and his associates had gathered. His sole aim was an extension of the boundaries of knowledge.

Only last December, when the American Telephone and Telegraph Company presented a bust of Alexander Graham Bell to the institution, we heard read a letter written by Mr. Bell to his parents in 1875 when he was working on the telephone. In that letter Bell gave credit for the continuation of his researches to a successful conclusion to the encouragement and advice given him by Henry. Alexander Graham Bell was only one of many whom the first secretary of the Smithsonian inspired.

Joseph Henry gave to the Smithsonian a program of organization which has never been essentially modified. He deduced that plan from Smithson's phrase: "the increase and diffusion of knowledge among men." He proposed to increase knowledge by stimulating original research through suitable awards and pecuniary assistance, by publishing the results achieved by investigators in order to encourage them, and by promoting major investigations, like that of continental scope on meteorology. He proposed to achieve the diffusion of knowledge by publishing memoirs containing the results of original research and a series of reports, giving, in language easily understood, accounts of the new discoveries in science and of the changes made from year to year in all branches of knowledge.

Joseph Henry did not seek a great building, or a heavy administrative organization with a necessarily large overhead, nor did he feel it a justifiable expenditure of Smithson's bequest to maintain public museum collections, an art gallery and a great library, such as the charter of the institution imposed upon the funds. He saw, long before any one else, that in a short time the accumulations of a museum or a library would use up for their care alone more than the small income of the Smithsonian endowment without contributing effectively to the increase and diffusion of knowledge.

He was not against any of these things in themselves, but he did not feel that they should be supported by the Smithsonian funds. He set himself, therefore, with an ability which we can not too highly appraise, to prevent the institution from being swamped with the care of such material. While he avoided the expenditure of a large portion of the funds in this way he put the institution in the way of building a better library than could possibly be bought, by exchanging Smithsonian publications for those of learned societies throughout the world. In 1866 he succeeded in having the care of this accumulating library transferred from the Smithsonian to the Library of Congress, which agreed to give it a special custody. This has been a most happy arrangement, for it has permitted the Smithsonian to build up the foremost scientific library in this country, without bearing the cost of upkeep and care. It is called the Smithsonian Deposit in the Library of Congress.

While he was thus successful in part in saving the Smithsonian funds from the burden of caring for vast masses of museum material, it was twelve years, or 1858, before he induced Congress to recognize its responsibility for the upkeep of a national museum. It took twenty-four years before the government was persuaded to assist in any adequate way to support the great collections of the National Museum created by the Smithsonian, and for which the Smithsonian had been spending yearly more than half of its own limited income, which was in 1870 \$45,000.

To illustrate how burdens that did not belong there were piled on the meager Smithsonian funds, let me cite to you the case of the International Exchanges. This service, by which the Smithsonian acted as the channel for the sending of scientific literature from this country to all institutions and learned societies abroad and receiving from abroad scientific literature for distribution among American learned societies, was inaugurated in 1847. In 1867 Congress recognized it as so efficient and desirable that it imposed upon the Smithsonian the duty of distributing and receiving governmental publications in the same way, without, however, appropriating for that purpose. From 1860 to 1876 the annual cost of the exchanges to the institution mounted from \$2,348 to \$10,199, but it was not until 1881 that Congress made an annual appropriation of \$3,000 to this service.

The wonder is, gentlemen, that these burdens did not absorb the entire fund. That they did not is due solely to the constant struggle and self-sacrificing zeal of Secretary Henry and of his aid and successor, Spencer F. Baird. With a few thousand dollars annually, these two men performed marvels in the encouragement of investigations in every field of science and in the publication of results. They had their fingers on the pulse of American science. Where the greatest need was, there they were to help, sparingly but effectively, and it was for that reason that the institution came to be in a peculiar sense the incubator of American science.

Secretary Langley and Secretary Walcott, the successors of Henry and Baird, have held to the fruitful principles built into the institution by Henry. In their time the burden of maintaining the various government bureaus created by the institution and left for the sake of efficiency under its administration has been lifted from the small Smithsonian funds, although the immediate Smithsonian staff is not recompensed for their administrative services to these government bureaus.

I must make clear, gentlemen, that the Smithsonian Institution is not, and has never been considered, a government bureau. It is a private institution under the guardianship of the government. That point was

clearly made in the first report of the House Judiciary Committee in 1836, when it said: "The sum given to the United States by Mr. Smithson's will is no wise and never can become part of their revenue. They can not claim or take it for their own benefit. They can only take it as trustees to apply to the charitable purpose for which it was intended by the donor."

It is because the institution still administers for the government seven of the public bureaus which it created that many people suppose this private research establishment to be a part of the government. The importance of keeping the Smithsonian—in so far as it is an institution for the "increase and diffusion of knowledge"—a private organization, was early brought out by Joseph Henry. He said: "That the institution is not a national establishment, in the sense in which institutions dependent on the government for support are so, must be evident when it is recollected that the money was not absolutely given to the United States, but intrusted to it for a special object, namely, the establishment of an institution for the benefit of men, to bear the name of the donor, and, consequently, to reflect upon his memory the honor of all the good which may be accomplished by means of the bequest. The operations of the Smithsonian Institution ought, therefore, to be mingled as little as possible with those of the government, and its funds should be applied exclusively and faithfully to the increase and diffusion of knowledge among men." That this opinion is a sound one, gentlemen, we believe the Smithsonian's achievements prove. It is obvious that the freedom from political exigencies which has permitted the institution to play so great a part is due primarily to the private nature of its funds.

Gentlemen, there seems something fateful in the timeliness of James Smithson's bequest to the United States. It came to meet an unexampled opportunity. Here in 1846 was a vast untouched continent, enclosing, in a single geographical and political unit, a prolific plant and animal life ready under the most favorable conditions to reveal their secrets to botanists and zoologists; a continent peopled by a primitive race, illustrating the mode of life and habits of thought of prehistoric man, and offering a useful key to the lost story of man's climb upward. At the same time, in the hands of an energetic people were the mechanical tools—particularly steam transportation—capable of developing this new continent. Such a setting and such men to deal with it offered possibilities for the increase of knowledge such as perhaps the world had never seen before. The danger was that the men would remain blind to those possibilities and waste the setting for practical ends before those of its secrets which were perishable should be gleaned. It was a crucial moment in the history of knowledge. What

was needed was some powerful inspiring force, actuated by the highest ideal of knowledge for its own sake, which would be conscious of the possibilities and which would devote its energies to making the most of them. That force the liberality of an Englishman helped to supply, and the self-sacrificing idealism of American men of science—Joseph Henry and his associates—directed. The debt of America and of science to the Smithsonian Institution is great.

Joseph Henry had the vision to understand clearly what Smithson meant his foundation to be, and the energy and character to make it that. The Smithsonian has now come to a time when without the support of the nation, it can no longer continue to be what Henry made it. And yet the need for just such an institution as it has been is no less than the need was eighty years ago. In some respects the unique opportunities are even greater. This institution is not the product of a moment; eighty years of the toil of great men have gone into its making. There is that about it which can not be replaced.

The regents have felt it their duty to reveal to a leading group of representative American citizens what it is, and does, and to advise with them what its future shall be. For that reason they have invited you here. They wish you to see the broad and comprehensive scope of the institution, competing or interfering with nobody, cooperating with all, reaching the basic problems of mankind and of the time, with a view to furnishing the information through which alone they can be solved. They wish you to see what the future possibilities of the institution are, and if you think them worthy of realization, to advise us as to how we may go about achieving it.

Around this hall are arranged exhibits of the researches and publications of the Smithsonian, with especial emphasis on how they should and could most profitably be extended. The scientists in charge are at hand to answer your questions. May we invite your careful attention to them?

WILLIAM HOWARD TAFT

CHANCELLOR OF THE SMITHSONIAN
INSTITUTION

UNDERLYING FACTORS IN THE CON- FUSION IN ZOOLOGICAL NOMEN- CLATURE WITH A DEFINITE PRACTICAL SUGGESTION FOR THE FUTURE¹

SERVICE of thirty-one years as member (twenty-nine of these as secretary) of the International Commis-

¹ Address of the retiring president of the American Society of Parasitologists, Philadelphia, December 29, 1926.