amounted to $650,000. An act of the 7th of July 1838 (repealed in 1841) directed the investment of the money in state bonds, and $500,000 was invested in Arkansas bonds which proved worthless, but Congress, considering that it was a trustee of the fund, made an appropriation to cover the loss. By other gifts, notably that of $216,000 from Thomas George Hodgkins (d. 1892) of Setauket, Long Island, New York, the fund was increased : in 1910 it amounted to $944,918, drawing interest at 6%.

There were many different suggestions as to how the fund should be used. The character of the National Institute (called National Institution before 1843), which was organized in 1840 “ to promote science and the useful arts and to establish a national museum of history," had a great influence in shaping the act (approved on the 10th of August 1846) establishing the Smithsonian Institution and providing for an “ establishment ” by this name composed of the president, vice-president, secretaries of state, treasury, war and navy, the postmaster- general, the attorney-general,@@1 the chief-justice of the supreme court and the commissioner of the patent office of the United States, the mayor of the city of Washington (amended in 1871 to read: governor of the District of Columbia), and such other persons as they may elect honorary members.@@2 The same act provided for the government of the Institution by a Board of Regents composed of the vice-president of the United States, the mayor of the city of Washington (amended in 1871 as above), three members of the Senate (appointed by its president), three members of the House of Representatives@@3 (appointed by its speaker), two members of the National Institute of the City of Washington (chosen by joint resolution of the Senate and House of Representatives), and four others, inhabitants of four different states; the Board chose from its members a chancellor (in practice the vice-president of the United States until 1850 and since then the chief-justice). The act provided for the delivery to the Board of Regents and the maintenance in the buildings, which were to be erected according to the act, of "all objects of art and of foreign and curious research, and all objects of natural history,” &c., belonging to the United States, including the collections of Smithson; and it enacted that any applicant for copyright should deliver one copy of the work to be copyrighted to the librarian of the Smithsonian Institution and another to the Librarian of Congress.@@4 Thanks to the efforts of J. Q. Adams, provision was made for the use of the income of the fund only and the principal was permanently invested.

The Regents met on the 7th of September 1846. Those appointed were: George Evans, Sidney Breese and Isaac S. Pennybacker, senators; Robert Dale Owen, William J. Hough and Henry W. Hilliard, members of the House of Repre­sentatives; Rufus Choate, Gideon Hawley, Richard Rush and William C. Preston, by joint resolution, from four different states; and Alexander Dallas Bache and General Joseph G. Totten, from the National Institute. They elected (Dec. 1846) as first secretary and director of the Institution, Joseph Henry, then professor of natural philosophy in the College of New Jersey (Princeton University), who presented in his first annual report (Dec. 1847) a "program of organization.”@@5 The first paragraph contained the following:—“ *To Increase Know­ledge:* It is proposed (1) to stimulate men of talent to make original researches, by offering suitable rewards for memoirs containing new truths; and (2) to appropriate annually a portion of the income for particular researches, under the direction of

suitable persons. *To Diffuse Knowledge:* It is proposed (1) to publish a series of periodical reports on the progress of different branches of knowledge; and (2) to publish occasionally separate treatises on subjects of general interest.”

Henry was executive head (secretary) of the Institution from 1846 until his death in 1878 and its organization is due largely to him. He opposed the scheme for the gradual formation of a general library under the charge of the Institution, and in 1855 committed the Board of Regents to a repeal of the previous practice of spending one-half of the annual income on the museum and library, and this action was approved by an investigating congressional committee.@@6 Partly because of the prominence given to meteorological research when Henry was at the Albany Academy, and partly through the influence of James Pollard Espy (1785-1860), in 1846 a plan was presented for the unification and systematization of weather observation under the Institution, and in December 1847 an appropriation was made for such meteorological research; in 1849 telegraphic transmission of meteorological intelligence collected by the Institution was begun; in 1850 a standard “Smithsonian barometer” (Arnold Guyot’s improvement of Ernst’s improved Fortin “ cistern barometer ”) was first distributed; weather maps were successfully made in 1856; and in 1870 the meteorological work of the Institution was incorpor­ated as the Weather Bureau, independent of the Institution. After 1854 Henry’s annual reports contained a “ general appendix ” with reports of lectures, such as were held under the auspices of the Institution until 1865, summaries of correspondence, special papers, &c. Before 1870 meteorology bulked largely in these reports; after that year there was more North American archaeology and ethnology.

Spencer F. Baird, Henry’s successor, incorporated in the general appendix annual reports on the progress of the sciences, and he perfected Henry’s system of “ international exchanges," under which the Institution, through agents in the principal cities of Europe, ex­changes its own publications, those of other departments of the United States government, and those of learned societies for foreign publications. Baird had been at the head of the United States National Museum, a branch of the Institution, before he became secretary of the Institution, and it was particularly developed during his administration. It was built up around the collections of the United States Patent Office, which were turned over to it in 1858, and those of the National Institute, transferred to the Smithsonian Institution in 1861, when the Institute was dissolved. A part of the collection (including Smithson’s collection) was destroyed by fire in 1865. The small art collection which remained was exhibited in the Corcoran Gallery until 1896. A new building for the Museum was erected in 1881. Mrs Harriet Lane Johnston (1833-1903) left her art collection to a national gallery of art, when such a gallery should be established, and in 1906 the Supreme Court of the District of Columbia decreed that the art collection of the National Museum was a “ National Gallery ” and turned this collection over to the National Museum, whose art collections have been called since that time the National Gallery of Art and have been enlarged by the gift from Charles L. Freer of Detroit of more than 2300 pieces (since 1904), including the work of American artists (especially Whistler, Tryon and T. W. Dewing) and of Japanese and Chinese masters, and by the gift of about 90 American paintings from W. T. Evans of New York City. The museum gained much valuable archaeological and ethno­logical material from the exploring parties sent out under J. W. Powell, excellent ichthyological specimens through Baird’s position as United States Fish Commissioner, and general collections from the exhibits made at the Centennial Exhibition of 1876 by the United States government; and it has a good herbarium. The Bureau of American Ethnology was established as a branch of the Institution in 1879, when the various organizations doing survey work in the West united as the United States Geological Survey and anthropo­logical and ethnological research was transferred to the Smithsonian Institution. The director of the Bureau of Ethnology in 1879-1902 was J. W. Powell; he was succeeded by William H. Holmes.

Secretary Baird planned an astrophysical observatory and in 1887 appointed as assistant secretary of the Institution, to take charge of the observatory, Samuel P. Langley (*q.v.*), who succeeded as secretary@@7 upon Baird’s death in the same year. In 1890 a small observatory was built in the Smithsonian Park; in 1891 an appropriation was made for astrophysical work and $5000 was contributed by the executors of Dr J. H. Kidder (1842-1889). Langley’s principal research in the observatory was on the nature of the infra-red portion of the spectrum. His name is also closely connected with his paper entitled *Experiments in Aerodynamics* (1891), and with the experiments and mathematical studies carried on under the Institu­tion which proved that a machine other than a balloon could be made which would produce enough mechanical power to support itself and fly. Under the terms of the Hodgkins bequest prizes were

@@@1 The Secretary of the Interior was added in 1877 and the Secretary of Agriculture in 1894.

@@@2 No honorary members have been chosen since 1873, and an amendment of 1894 omits the provision for their election.

@@@3 In January 1847 James D. Westcott objected to the constitution­ality of the act because by it members of Congress were appointed (contrary to section 6, part ii. of the Constitution) to civil offices under the authority of the United States created during their term of office in Congress.

@@@4 In 1865 the actual granting of copyright was transferred from the Smithsonian Institution to the Library of Congress.

@@@5 Reprinted in *Smithsonian Institution Miscellaneous Collections,* vol. xxi. pp. 399-406.

@@@β Congress was long jealous of the power of the Board of Regents; and in Congress there was for many years open opposition notably on the part of Andrew Johnson, to the very existence of the Institu­tion.

@@@7 In January 1907, after Langley’s death, Charles Doolittle Walcott (b. 1850), a geologist, director of the U.S. Geological Survey in 1894-1907, became secretary of the Institution.