

SCIENCE

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THE SMITHSONIAN INSTITUTION AND THE NATIONAL MUSEUM.

THE great loss to science in the death of George Brown Goode is becoming every day more apparent and especially in view of the difficulties by which the Regents of the Smithsonian Institution must find themselves confronted in the selection of his successor as Assistant Secretary.

Under the existing relations of the Institution and the National Museum, and the accepted traditions relating to succession, the task must seem well-nigh impossible. While the present situation may not be considered as a crisis in the affairs of the Smithsonian Institution, it cannot be improper for SCIENCE to invite the attention of its readers, and especially of the Regents, to a feeling on the part of a large number of its friends that the time has come for a more or less complete separation of the two organizations and that such separation in the near future ought to be assumed in selecting a successor to Goode.

The reasons for this are so numerous and so convincing, when once the Smithsonian bequest and its interpretation by Joseph Henry are considered, that argument seems unnecessary. It may be well, however, to refer to a few of the more important points,

and especially to show that the existing condition was not approved by those who guided the Institution through the dangers by which it was beset during its earlier years and to whom we are indebted, more than to all others, for the splendid work which it has accomplished during the first half century of its existence.

The origin of the Smithsonian Institution was singular, its organization is unique and its success has been unparalleled. In 1796 Washington recommended as of primary importance the promotion of '*institutions for the increase and diffusion of knowledge.*' In 1826 James Smithson, an Englishman about whom America knew nothing and who knew practically nothing of America, wrote in his will: "I bequeath the whole of my property to the United States of America, to found at Washington an establishment for '*the increase and diffusion of knowledge among men.*'" In 1846 John Quincy Adams wrote: "Let the trust of James Smithson to the United States of America be faithfully executed by their Representatives in Congress; let this result accomplish his object—*the increase and diffusion of knowledge among men.*"

As soon as the funds resulting from the bequest of Smithson were in the treasury of the United States a multitude of plans were suggested for the realization of the intention of the donor. Some were reasonable, many were unreasonable, and it is now universally conceded that the scheme of organization proposed by Joseph Henry and adopted by the Board of Regents was the best that could have been selected. The essence of that scheme is most clearly exhibited in the words of Prof. Asa Gray, who

wrote: "Henry took his stand on the broad and ample terms of the bequest, 'for the increase and diffusion of knowledge among men,' and he never narrowed his mind and to *locality* gave what was meant for mankind. He proposed only one restriction, of wisdom and necessity, that in view of the limited means of the institution, it ought not to undertake anything which could be done, and well done, by other existing instrumentalities. So, as occasion arose, he lightened its load and saved its energies by giving over to other energies some of its cherished work." It is through this policy that the Institution has enjoyed a career of usefulness unequalled by that of any similar organization, and in Prof. Gray's words will be found the strongest arguments against a continuation of its existing relations to the National Museum. By the terms of Smithson's will the Institution is charged with two functions: The *increase* of knowledge, and its *diffusion* among men. To both of these should be applied the principle of restriction so wisely adopted by its first Secretary, that it ought not to undertake anything that could be done, and well done, by existing instrumentalities. It has, therefore, under each of its distinguished directors, increased knowledge by aiding original investigators who were otherwise unable to carry on their researches, and it has diffused knowledge among men by publishing many important memoirs, translations, summaries, etc., which would hardly have been made available without such assistance. Its extensive system of international exchanges has been in the same line, and in all this its position has been unique.

In the earlier years of the Institution its collections were such as related purely to research and were made in the course of various original investigations to which it was giving aid. These naturally increased in number and covered an increasingly large field, though mostly pertaining to the biological sciences. Although no special effort was made to arrange them for public display, they constituted an interesting collection, and a visit to the 'Smithsonian' was accounted an essential incident in a pilgrimage to the Nation's capital. It then came to be considered as in some sense a 'museum.' What is known as the 'National Museum' was established by the Government in 1842, being made up largely of specimens collected by the Wilkes expedition. It was housed in the Patent Office, but in 1858 it was transferred to the Smithsonian Institution, being largely increased at that time by additions from other government departments. Its acceptance then by the Institution was undoubtedly in furtherance of the idea that it ought to undertake what evidently could not have been accomplished by any other organization, namely, the consolidation of the numerous collections that had separately grown up in the several departments. That it was not expected that the Institution should permanently load itself with museum management is clear from the attitude of its authorities twenty years ago. In his Report to the Regents for the year 1876, Prof. Henry puts the whole matter so clearly that his words may well be quoted in part. He says: "I may further be allowed to remark that the experience of the last year has strengthened my opinion

as to the propriety of a separation of the Institution from the National Museum. * * * Smithsonian gave *his own* name to the establishment which he founded, thereby indicating that he intended it as a monument to his memory, and, in strict regard to this item of his will, the endowment of his bequest should be administered *separate from all other funds, and the results achieved by it should be accredited to his name alone.* The Institution should not, therefore, be merged in an establishment of the government, but should stand alone, free to the unobstructed observation of the whole world, and keep in perpetual remembrance the name of its generous founder. * * * Every civilized government of the world has its museum, which it supports with a liberality commensurate with its intelligence and financial ability, while there is but *one Smithsonian Institution*—that is, an establishment having expressly for its object 'the increase and diffusion of knowledge among men.' The conception of such an institution—not a local establishment intended to improve the intellectual condition of any single city or any single nation, but that of mankind in general—was worthy of the mind of Smithsonian, and the intelligence and integrity of the United States are both involved in the proper administration of the trust, since the terms in which it was conveyed must be truly interpreted and the intention expressed rigidly carried out." Prof. Henry continues in reply to the assumption sometimes made that the Institution was benefited by increased popularity due to its connection with the Museum, declaring that, on the contrary, this connection has proved a serious obstacle in the

way of the full development of the plan of the Institution, and naming as the most objectionable result the necessity for constant appeals to Congress for appropriations, which would be quite unnecessary if its energies were confined to their legitimate channels.

In his Report for 1887 Prof. Henry said: "In the preceding reports I have called the attention of the Board of Regents to the propriety of a final separation of the Institution from the National Museum, and nothing has occurred during the past year to change my opinion on this point. * * * The functions of the Institution and the Museum are entirely different."

In a report of a special committee submitted in 1887 by Prof. Asa Gray, then a Regent of the Institution, the question is seriously considered and the dangers by which the Smithsonian Institution is menaced through its relations to the National Museum are set forth, in part, as follows:

"We are therefore bound to conclude that the Board of Regents, as respects these National collections, acts as the trustee of Congress. Under this state of things, and in view of the ever-increasing magnitude and interest of these collections, the relation of this Institution to the National Museum becomes a matter for grave consideration. * * *

"Our Secretary, in his annual report submitted on the 26th of January, 1876, has now raised the grave question whether the well-being of the Institution would not favor or even require the adoption of a similar policy as regards the National Museum. He declares that it is most 'desirable that a more definite distinction between the two establishments, if not an entire separation, should be made,' and he urges the subject upon our attention by considerations which cannot be disregarded. Your committee was appointed to take thought upon this subject. The vast increase of museum objects in natural history, ethnology, and materials of industrial art, consequent

upon the Centennial Exposition, an increase far beyond the largest anticipations, gives new importance and urgency to this question. * * * Now the proportion which the Museum bears to the Institution proper is already large, and it threatens to be predominant. We have no desire to check its immense development, and we contemplate with satisfaction its sure popularity; but as respects the burden which the Museum throws upon our Secretary, we may say that it is already heavy, and that it threatens to be injuriously large. If not provided against, the time seems sure to come when the Museum will mainly absorb the working energies of the Institution. * * *

"No present action is proposed by this committee beyond the recommendation that the distinction between the Institution itself and the Museum under its charge should be made as prominent as possible. The very great development which the Museum is now undergoing may soon bring the whole subject before the board in a practical form * * * if the Museum is to develop to its full size and importance upon the present site, according to the plans laid before the board, and by it recommended to Congress this will, as it seems to us, almost necessarily involve the acquisition by the government of our present edifice, and that will pave the way for an entire separation of administration, or to such other adjustment as the Board of Regents may then think best, or be able to accomplish."

[Signed]

ASA GRAY,
A. A. SARGENT,
HIESTER CLYMER,
Committee.

Although Prof. Baird was naturally more interested than his predecessor in the development of the Museum, of which he was, indeed, for many years Curator, his recognition of its independence of any real relation to the Institution was shown in his first report to the Regents, being that for the year 1878. He says: "The relations existing between the Smithsonian Institution and the National Museum have been so frequently referred to by my predecessor that it is only necessary to mention briefly

that the Museum constitutes no organic part of the Institution, and that, whenever Congress so directs, it may be transferred to any designated supervision without affecting the general plans and operations connected with the 'increase and diffusion of knowledge among men.'"

There is another and most serious objection to the present organization which is, in a degree, personal in its nature. There is an approved tradition that the Assistant Secretary shall, on the occurrence of a vacancy, succeed to the Secretaryship, and the latter should, in the best interests of science, be held alternately by representatives of the two great divisions of science, physical and biological. It will almost invariably happen that the naturalist only will have any special taste or fitness for museum work, and upon him, then, both as Assistant Secretary and Secretary, this burden will fall. If he is chosen for his experience and skill as a museum director, he may fail as a Secretary of the Institution if he should in time succeed to this high office, for we may not expect to find many such men as Goode, who, in a remarkable degree, combined the qualities necessary to a successful administration of both functions. On the other hand, one selected with a view to his eventually being a worthy successor to the distinguished men who have thus far guided the destinies of the Institution may not be a good museum administrator.

Finally, the whole may be put in two or three simple propositions. There is no logical connection between the Smithsonian Institution and the National Museum. The Museum is a most important institution,

it is now well established, its maintenance is demanded by the people, and it will thrive under a competent director, responsible only to Congress or to the head of some department under which it could properly be placed. The usefulness of the Smithsonian Institution will be increased by the diminution of burdensome administrative duties which were never contemplated in its original scheme, and for the existence of which there can be no reasonable excuse. Its legitimate work is too important to be interfered with by demands which can be met in ordinary channels, and if such wide departures from its early policy continue to be forced upon it by ill-considered legislation, there is reason to fear that its splendid career during its first half century will not be repeated in the second.

In conclusion it ought to be said that in the above it is not intended to reflect the views of the present distinguished head of the Institution or of any of its officers. We are quite ignorant as to what these views may be, nor do we wish to be understood as criticising, in the slightest degree, the present admirable administration of the Institution or of the Museum. There are doubtless valid arguments, such as the danger that the Museum might fall among politicians, which could be urged for the continuation of the present arrangement. Still we believe that, for the reasons recorded, the interests of both institutions and the interest of science throughout the world would be furthered by a separation of the two organizations. If the regents are strongly of the opinion that the danger of political intermeddling is too great to justify a complete severance of existing relations at this time,

it is at least possible to select an Assistant Secretary in accordance with the theory outlined above, and a Director of the Museum possessed of special qualifications for that work, and who shall, of course, be subordinate to the Secretary of the Institution. This might lead the way to what is certainly still more to be desired.

THE GEOLOGY OF GOVERNMENT EXPLORATIONS.*

GEOLOGICAL EXPLORATION.

DURING the Civil War all scientific exploration in the West under the auspices of the government was suspended, and it was not until the summer of 1867 that it was resumed. By this time far-sighted men had come to appreciate the political importance of a more exact geological knowledge of the region between the Mississippi Valley and the Sierra Nevada. During the war there had been no little danger that the States of the Pacific slope might secede from the Union and form a republic of their own, isolated as they were from the other States by a barrier of 1,000 to 1,500 miles of comparatively uninhabited mountains and desert valleys. The lending of government aid to the building of a trans-continental railroad, which had already been decided on, was the first step toward removing this barrier and drawing the peoples of the East and the West into closer connection. The second step was to encourage the settlement of this intermediate region by making known to the public its rich and varied mineral resources. Hence, Congress showed itself ready to lend an ear to geologists who were desirous of getting government aid to carry on geological researches in the comparatively unknown region beyond the mountains.

Now, for the first time, explorations be-

yond the Missouri river, or surveys, as they soon came to be called, were fitted out avowedly for the purpose of geological investigation, instead of being primarily organized for geographic or military purposes and admitting researches into geologic and other branches of natural history as a sort of ornamental appendage of their work. For the first time also were they under civilian control instead of military discipline and command. During the twelve years previous to the organization of the present Geological Survey the principal geological work in the West was done under four district organizations, popularly known from the names of their leaders as the King, Hayden, Powell and Wheeler Surveys. The official control of the first and last was under the Chief of Engineers of the United States army, but only the last was commanded in the field by military officers. The other two were under the Interior Department and their official titles changed somewhat with the development of their work.

During this period geologists were also attached from time to time to military reconnaissances, but with one exception—that of Newton and Jenny in the Black Hills, where the geological information had a political bearing—the march was so rapid that the opportunities of geological research were very limited, and the results of relatively little importance. Therefore, in view of the limited time at my disposal, I shall confine myself mainly to the principal surveys above mentioned.

Before commencing an account of their methods and work accomplished it will be well to pass in review the condition of geological knowledge of the country west of the Mississippi Valley at the commencement of this period in 1867.

No areal work, in the sense in which it is understood to-day, had been commenced or hardly thought of. The only maps that

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