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THE NATIONAL ACADEMY OF SCIENCES*

ADDRESS OF THE PRESIDENT[1]

THIS year marks the seventy-fifth anniversary of the founding of the National Academy of Sciences. No special celebration has been set for the completion of three quarters of a century of corporate existence, such as was held at the completion of the first half century in 1913, and will, I presume, be repeated at the century mark twenty-five years from now.

The semi-centennial meeting was a gala occasion spread over three days; it was opened by an address of welcome by the president of the academy, Ira T. Remsen, followed on the morning of the first day by addresses by President Arthur T. Hadley of Yale on "The Relation of Science to Higher Education in America," by Dr. Arthur Schuster, secretary of the Royal Society of London, on "International Cooperation in Research," and in the afternoon by our recently deeply lamented and always highly honored fellow member, George E. Hale, on "The Earth and Sun as Magnets." In the evening the regents and secretary of the Smithsonian Institution entertained the members and guests of the academy at a reception. On the second day, in the morning, Dr. Theodor Boveri, of the University of Wurzburg, spoke "On the Material Basis of Heredity," and Dr. J. C. Kapteyn, director of the Astronomical Laboratory of the University of Groningen, delivered an address on "The Structure of the Universe." In the afternoon a reception was held at the White House, during which the President of the United States presented medals of the academy to Professor Kapteyn, to his Excellency the Ambassador from France for transmission to the recipient, Henri Deslandres of Mendon, to his Excellency the Minister from Norway for transmission to the recipient, Johan Hjort, and finally to our fellow member, Dr. R. A. Millikan, at that time of the University of Chicago.

On the evening of that day the trustees of the Carnegie Institution of Washington tendered a reception to the members of the academy and invited guests. On the evening of the third day there was a dinner at the New Willard Hotel with after-dinner speeches by the Vice-President of the United States, the Honorable Thomas R. Marshall, by the British Ambassador, the

* Meeting at Washington, D. C., April 25, 26 and 27.

Right Honorable James Bryce, by the Nestor of the academy, Dr. Silas Weir Mitchell, by the president of the American Philosophical Society, oldest of American scientific societies, Dr. W. W. Keen, and by Senator Theodore E. Burton, of Ohio. The record states that the meeting adjourned at 11:40 P.M.; but if I am any judge of speakers, I am sure there was not a dull moment throughout.

I *hope* that the centennial celebration may be held under equally auspicious international conditions, though I am afraid that some of us, including a few who missed also the first occasion, may not be able to be present. Midway between the two events we carry on.

There were many interesting things said at the semicentennial anniversary. Dr. Remsen reviewed the work that the academy had done for the government since its incorporation and, among other things, called attention to the fact that in the Sundry Civil Act of May 27, 1908, it was provided:

> SEC. 8. The National Academy of Sciences is required, at their next meeting, to take into consideration the methods and expenses of conducting all surveys of a scientific character, and all chemical, testing, and experimental laboratories, and to report to Congress as soon thereafter as may be practicable a plan for consolidating such surveys, chemical, testing, and experimental laboratories, so as to effectually prevent duplication of work and reduce expenditures without detriment to the public service.[2]

He relates that a committee was promptly appointed, and that committee gave serious and prolonged attention to the subject. It submitted an excellent report to the academy, which was thereupon transmitted by the president of the academy to the Speaker of the House of Representatives and the presiding officer of the Senate. What happened next? President Remsen answered: "That report seems to have been promptly pigeonholed."

One of the reasons for this treatment was undoubtedly that the committee did not consider it wise to make detailed recommendations for changes, in view of the impossibility of meting out equity and efficiency in our report. Instead they advised the establishment by Congress of a permanent board to meet at stated intervals in each year "for the consideration of all questions of the inauguration, the continuance, and the interrelation of the various branches of governmental scientific work." Thirty years after, I am pleased to note that this is the direction in which this still unsettled problem seems to be tending.

The British ambassador spoke of the charms of the scientific life: "It is the man of science who has the really happy life. He is engaged in the discovery of truth and nothing but truth. The applause of the multitude is nothing to him." After illustrating, he remarked, "In these things, friends, there are elements of pleasure and delight, elements also of independence, which I think no other profession can equal." He continued, "I was tempted to add one other charm which your life has. It is the charm of poverty."

Dr. Mitchell was the oldest living member of the academy at that time; he was elected to the academy in 1865, and died a few months after this speech was delivered. His speech was written, for, as he said, he "was well aware of the treachery of the tongue, and much preferred the loyalty of the pen." He reflected:

> Between the mere words of our record—*elected*—*deceased*—you, who are familiar with our history, may read much that is written clear on the roll of scientific achievement. . . .
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> Here are they to whom, from the depths of space, were whispered in the night watches its long hidden secrets. There too are those who, in the silence of the laboratory, rejoiced in the fertile marriage of the elements, or they who, like confessors, heard from dead bones or rock or flower the immeasurable history of the silent ages of earth. . . .
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> I remember once that, at my table, some one asked that ever happy naturalist, Joseph Leidy, if he were never tired of life. "Tired!" he said, "Not so long as there is an undescribed intestinal worm, or the riddle of a fossil bone, or a rhizopod new to me."

His memory went back to a meeting of the academy in 1866 with Professor Henry in the chair and Benjamin Peirce, Wolcott Gibbs, Gould, Louis Agassiz, J. H. C. Coffin and a few others to the number of about fifteen present.

The president of the American Philosophical Society, Dr. W. W. Keen, also was present and brought the greetings of the oldest scientific society in America, inaugurated by Benjamin Franklin in 1727. Speaking with wit and vigor, as always, he recalled that of the fifty original members of the academy forty-one were already members of the American Philosophical Society, and that this community of membership had continued to exist. "Our two co-ordinate societies move on, hand in hand and heart to heart in loyal co-operation, for science knows no boundaries, geographical, political or linguistic"—a statement and a wish and a hope that we heartily endorse.

And so the fiftieth anniversary celebration of the National Academy of Sciences drew to its close.

You will note the emphasis on science as "an imaginative reading the universe"[3] in all this. Since then we have come far. The next year, 1914, witnessed our rude awakening from dreams of peace. The role of the academy as scientific adviser to the government immediately assumed major importance. Events

[2] National Academy of Sciences, anniversary meeting, president's address, page 6.

[3] Arthur Symons, "Studies in Prose and Verse," 1914.

moved rapidly, and in 1916 the National Research Council was organized by the academy under its Congressional charter as its agency, at the request of President Wilson, as a measure of national preparedness. In 1918 the status of the National Research Council was made permanent and its functions broadened at the request of President Wilson. It established and maintained divisions for continuing contact with research and education in all the sciences, with medicine, agriculture, industry and the federal government. Subsequently relations with the federal government were strengthened by the Science Advisory Board, and by its successor, the Government Relations and Science Advisory Committee of the academy. At the request of Secretary Ickes three members of the academy have been appointed and serve on the Science Committee of the National Resources Committee.

In all this you will note the steady growth of consciousness of social and political responsibility that attaches to scientific leadership in our times. I venture that we still love best, however, the imaginative reading of the universe as the most ideal aim of science, and in the long run the most rewarding also in a social sense.

I hardly know what to say of our foreign relations in general since 1913; certainly it would be difficult at this time to duplicate the international galaxy of the semi-centennial celebration; but if there have been clouds in some quarters obscuring parts of the galaxy, clear skies have continued to favor us in others. There is time for only one allusion. The Royal Society of London was the model after which the American Philosophical Society was patterned; if we remind ourselves of Dr. Keen's statement that four fifths of our original membership was derived from that source, a relationship of sorts must be postulated between our academy and the Royal Society. It may be of interest to remind ourselves how closely the origins of scientific organization in America were associated with the Royal Society, the roots of which trace back to 1645, though incorporated in the reign of King Charles II in 1662. During the next century many Americans, as subjects of Great Britain, were elected fellows of the Royal Society, from New England, Pennsylvania, Virginia and the Carolinas. Among them was Benjamin Franklin. In 1727 in Philadelphia, at the age of 21, he gathered scientific men around him in an informal "Junto," and in 1743 formally organized the American Philosophical Society.

After the American revolution I assume that the membership of American citizens as fellows of the Royal Society terminated. But a new relationship began as early as 1788 in the election of James Bowdoin as the first "foreign" American member. At the present time there is a considerable number of American foreign members who are also members of the National Academy and, reciprocally, at least an equal number of members of the Royal Society who are foreign associates of our academy.

A recent fertile union of ideas among officers of our respective organizations has resulted in the birth of the Pilgrim Trust Lectureship. Under the terms of this relationship it is agreed, on the initiation of the Royal Society, that a Pilgrim Trust lecturer shall be appointed annually: in alternate years an American scientific man to be appointed by the Royal Society to give the lecture in London, and a representative of British scientific men to be appointed by the academy to give the lecture in Washington. This arrangement is supported by a grant of 250 guineas per year for a period of six years by the Pilgrim Trust. I am happy to announce that the Royal Society has appointed as the first Pilgrim Trust lecturer our fellow member, Dr. Irving Langmuir, to speak in London in December of this year.

This very welcome consummation has also been the occasion of renewal of pledges of mutual hospitality to our respective members in London and in Washington. The president of the Royal Society alluded most cordially to this arrangement in his anniversary address last November. We join with him in the wish and expectation that science, which stands apart from all nationalism, may become an increasingly strong bond between the nations of the earth.

FRANK R. LILLIE

UNIVERSITY OF CHICAGO

PRESENTATION OF THE AGASSIZ MEDAL FOR OCEANOGRAPHY TO EDGAR JOHNSON ALLEN

WHAT an association of great names of explorers of the ocean! Alexander Agassiz, Swiss-born American, great son of a great father, explorer of life in all the oceans, president of the National Academy of Sciences from 1901 to 1907, foreign secretary, 1891 to 1901 and 1908 to his death in 1910, by his will left to the academy $50,000 to establish the Agassiz Fund.

Sir John Murray, Scot-born cosmopolitan, naturalist on the *Challenger* expedition of 1872–1876, which has been called "the most momentous geographic undertaking since the voyages of Columbus and Magellan," editor of the "Challenger Reports" consisting of 52 monumental volumes, explorer of the North Atlantic together with Johan Hjort and coauthor with him of "The Depths of the Ocean."

I recall his humorous and salty address at the annual dinner of the academy in 1911 and his gift of $6,000 to provide for an award of a gold medal to be named in honor of his friend Alexander Agassiz and to be conferred "for original contributions to the science of oceanography."

Previous recipients of this medal have been: