B. Ward, who was at that time permanent secretary of the Association.

President Karl T. Compton of the Massachusetts Institute of Technology, presided at the general sessions at the fourth St. Louis meeting in 1935.

Since the Association last met in St. Louis, the name of the St. Louis municipal auditorium has been changed to the Kiel Memorial in honor of the long-time mayor of St. Louis.

The Society of Sigma Xi held its fourteenth annual meeting as an affiliate of AAAS under the leadership of Professor G. H. Parker, president of the society, at the 97th meeting of the Association in 1935.

The first annual lecture of Phi Beta Kappa as an affiliate of AAAS, was delivered in 1935 by William Allen Neilson, president of Smith College.

At the St. Louis meeting of the American Association of University Professors, 1935, Dr. A. J. Carlson, chairman of the Department of Physiology, University of Chicago was elected president for 1936. Dr. Karl T. Compton made the address at the annual luncheon.

Dr. Harold G. Moulton, president and director of the Brookings Institution, spoke at the Thursday evening General Session on "The Scientific Method in the Investigation of Economic Problems."

Edwin Grant Conklin was elected president of the Association for 1936 at the St. Louis meeting.

There were 25 requests for grants-in-aid in 1935 totalling $9,000, but the Committee regretfully announced through its Chairman, Walter R. Miles, that only $3,000 was available for this purpose.

The greenhouses of the city botanical garden show many improvements over their condition 10 years ago when the Association last met in St. Louis. Special floral displays have been arranged for the period 27–30 March.

The entire orchid collection, about 20,000 plants, of the Missouri Botanical Garden is now housed in the arboretum at Gray Summit on the northern fringe of the Ozarks overlooking the Meramec River.

The Washington University cyclotron is housed in a special building near Crow Hall. It is understood that visitors will be welcome during the period of the fifth St. Louis meeting.

Saint Louis University is especially noted for its work in medicine and seismology. It was the first institution in the world to establish a department of geophysics, and is still the only university in the United States to have a separately organized department of this kind.

The reptile and bird houses of the St. Louis zoological gardens are considered the best in the world.

A modern greenhouse known as the "Jewel Box," is located at the municipal Forest Park, which also contains the Art Museum and the Jefferson Memorial within its 1400-acre tract.

The casual visitor as well as the engineer will be interested in the visible evidence of the effectiveness of St. Louis' smoke abatement ordinance.

As Science goes to press news reaches us that Carl Snyder, vice-president of Section K, died in Santa Barbara, California, 15 February.

Science Legislation

The National Science Foundation: S. 1850, Final Senate Bill

Howard A. Meyerhoff
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SCIENCE HAS ENDEAVORED to keep its readers informed on the progress of science legislation. Although it is possible to piece together a coherent story from the reports, texts of bills, and news items which have been published, the task is difficult, and there are not many who have the time to undertake it. In the belief that the legislative situation will be a topic of widespread discussion at St. Louis, a factual summary and analysis may prove useful as a background for such discussions as occur.

Although science has played an important role in many government departments, it was not until 1945 that it featured in Congress. About three years ago Senator Kilgore, of West Virginia, drafted a bill for which scientists and the Congress were not prepared. Its premature appearance and its defects, in combination, were more than this bill could survive. One

of the unfortunate aftermaths of this first science bill was a suspicion of all proposed legislation, coupled with a prejudice against anything which Senator Kilgore might introduce in the scientific field. These suspicions engendered by the first science bill have seriously retarded progress in the consideration of the several bills introduced into Congress during 1945.

Chronologically the first of these to appear was a bill (S. 825) introduced by Senator Byrd on 4 April 1945. Briefly, it proposed the establishment of a Research Board for National Security as an independent government agency. Its principal objective was the creation of an agency competent to formulate scientific research for the Departments of War and Navy. A somewhat similar bill was introduced into the House by Representative May on 11 June, but here it was proposed that the Research Board be set up by the National Academy of Sciences in cooperation with the War and Navy Departments. It was in July that the Senate really warmed up to the idea of introducing science legislation. On the 9th, Senator Fulbright proposed, in S. 1248, to set up within the Department of Commerce a Bureau of Scientific Research to encourage research and to develop inventions, products, and processes which might prove useful to business. The proposed Bureau would absorb the Office of Production Research and Development of the War Production Board and the National Inventors Council. On the 19th, Senator Magnuson introduced S. 1285, which translated into legislation the major recommendations of Vannevar Bush's Report to the President, *Science: the endless frontier*. Four days later Senator Kilgore introduced a more comprehensive bill, S. 1297, embracing many of the features of S. 1285, but including the social sciences and some patent proposals. S. 1297 differed from S. 1285 in one other important particular, namely, in proposing that a National Science Foundation be administered by a Director rather than by a Board of unpaid, part-time scientists.

The overlapping objectives of the four Senate bills made the need for further study and coordination evident, and during the months of August and September Senators Fulbright, Kilgore, and Magnuson agreed to hold joint hearings on their respective bills. Meanwhile, the President's message of 6 September, although designed to stress the need of science legislation and to harmonize the proposals obtained in the several bills, in effect magnified the differences among them and created a rift that made S. 1285 and S. 1297 rival bills. Each of them slowly acquired partisan support among scientists, and the October hearings widened, rather than healed, the rift.

Starting early in August the American Association for the Advancement of Science interested itself in the legislation and made an earnest effort to secure improvements which were deemed vital if either S. 1285 or S. 1297 were to be enacted into legislation. By means of a questionnaire sent to members of the Council and distributed ultimately to approximately 600 scientists in different parts of the country, the Association obtained a sufficiently reliable background of opinion to enable it to take an active part in the hearings and in senatorial staff conferences. Over 90 per cent of the returns indicated definitely that American scientists want a National Science Foundation, and the Association regarded this strong desire of its membership as a mandate to work for the best possible legislation.

Approximately 100 scientists and a few laymen participated in the October hearings. The selection of witnesses was, for the most part, made without reference to the views which they held and, indeed, an earnest effort was made to obtain every shade of opinion from university, industrial, and government scientists, as well as from agencies and businesses whose chief concern is the application of science. Of all the witnesses, only one went on record as being opposed to the establishment of a National Science Foundation. A clear majority favored the inclusion of the social sciences in the Foundation. A majority likewise favored the Board form of administration, as opposed to administration by a Director appointed by the President. Except among the industrial groups, the interest in patent problems and issues was comparatively low, but there was a clearly defined concern about the free dissemination of results of government-supported research.

For a time it was hoped that these consolidated hearings might result in a consolidated bill, but the combination of circumstances led in the opposite direction. The old prejudice against Senator Kilgore led to a misrepresentation of his position, particularly among those scientists who, for one reason or another, favored the Board form of administration, the exclusion of the social sciences, and the exclusion of patent provisions from the bill. During November this rather miscellaneous group formed the Committee Supporting the Bush Report, which came out definitely against S. 1297 and for S. 1285. The majority of scientists, on the other hand, found themselves unable to give unqualified support to either of the two bills and so worked consistently for still better legislation in the form of a new bill. Their efforts led to the introduction of S. 1720 on 21 December. This bill, introduced by Senator Kilgore, with Senators Johnson, Pepper, Fulbright, and Saltonstall as

co-sponsors, embodied so many changes and improvements that it provided a new basis of discussion.

In January, through the intervention of Senator Thomas, of Utah, representatives of the Committee Supporting the Bush Report were brought together with Senators Kilgore and Saltonstall, and several modifications in the provisions of S. 1720 were proposed and carefully considered. On 9 February everyone concerned agreed upon a somewhat revised version of S. 1720, which was introduced into the Senate as S. 1850 on 21 February, and which will be known as the Kilgore-Magnuson Bill. In addition to Senators Kilgore and Magnuson, Johnson, Pepper, Fulbright, Saltonstall, Thomas, and Ferguson are sponsoring S. 1850.

The full text of the revised bill has already been printed (*Science,* 1946, **103,** 225–230; 240) and comments on it have been made (*Science,* 1946, **103,** 192). Only a brief analysis of its provisions will be attempted. It establishes a National Science Foundation with broad powers and objectives. The affairs of the Foundation will be directed by an Administrator who will be aided—and checked—by a National Science Board, composed of high-ranking scientists selected by the President. The Board shall have a voice in the selection of the Administrator, and it shall have direct access to the President and to the Congress, both in reporting on the achievements of the Foundation and in supporting or opposing specific acts of the Administrator. Within the Foundation there will be divisions of (1) mathematical and physical sciences, (2) biological sciences, (3) social sciences, (4) health and medical sciences, (5) national defense, (6) engineering and technology, (7) scientific personnel and education, (8) publications and information. Additional divisions, not to exceed three in number, may be created by the Administrator, by and with the advice of the Board. Inasmuch as the work of the natural science divisions will be guided by the carefully prepared reports of Vannevar Bush and his committees, the work of the division of social sciences is restricted until a comparable report is prepared, detailing the proposed research in this general field. Public ownership of patents and free dissemination of information arising from Foundation-supported research are provided for, but the Administrator is given latitude and discretion in regard to patents, specifically in contracts which involve substantial contributions to the development of particular inventions, discoveries, and developments on the part of the organizations to which such contracts are given.

Apart from the solution of the controversial issues, the new bill provides for a broad program of support for research and for scientific education and cooperation. Scrupulous care has been taken to leave research and researchers free and unrestricted, save as the Foundation may deny support when particular projects are unsound or unwarranted. International cooperation and interdepartmental coordination within the United States Government are other important adjuncts to the proposed science legislation.

Although the phraseology of S. 1850 as printed (*Science,* 1946, **103,** 225–230; 240) has proved acceptable to scientists and to the Senators involved,[1] it may yet undergo major or minor changes when the bill is presented to the full Senate Committee on Military Affairs, and again when it is reported out of Committee and onto the Senate floor. Once proposed legislation reaches the floor of the Senate, amendment is an uphill job, but it must be remembered that a rival bill was recently introduced by Senator Willis (S. 1777), and that there may be some pressure from this group to secure modifications in the bill which comes from the Committee on Military Affairs, with concurrent support from the Committee on Commerce. However, it has been admitted by several of the cosponsors of S. 1777 that their support was given primarily because of the rift among the scientists. S. 1777 provided for further study of the situation and commanded their support for this reason. The reason no longer exists, and it is hoped that this group of Senators will support the legislation which the vast majority of scientists approve.

The fate of the new bill in the House of Representatives is unpredictable. The May Bill (H.R. 3440) has already been passed, but it provides solely for military research. The new Senate bill incorporates many of the provisions of the May Bill, applying them specifically to the Division of National Defense; and it may be hoped that the supporters of the May Bill will find the Kilgore-Magnuson document acceptable as a substitute and as an amplification of the Government's research program. The Luce Bill (H.R. 5332), which was introduced on 1 February 1946, does not appear to be rival legislation. It proposes the creation of a Department of Science and Research, with a Secretary of Science and Research in the Cabinet. The proposed divisions of the new department do not include all of the fields of science, and the proposed groupings are open to serious criticism. The Luce Bill offers nothing which scientists

[1] There has been one change in the phraseology of S. 1850 as printed (*Science,* 1946, **103,** 225–230; 240). In Section 4 (b), second paragraph (p. 226), the second sentence in the final draft now reads as follows: "The Administrator shall pay the compensation of such executive secretary and may furnish the Board and the divisional scientific committees such additional personnel, and such facilities, services, and supplies as may be necessary for the proper performance of the functions of the Board and the divisional scientific committees."

can support and creates the serious hurdle of obtaining recognition of a new Cabinet post. It is safe to conclude that none of the science legislation currently before the House will prove competitive; but, on the other hand, there is reason to believe that the Representatives are more interested in economy than they are in the support of science. There has been comparatively little opportunity for members of the House to familiarize themselves with the thinking that has gone into the Kilgore-Magnuson Bill, and it is clear that an important job of education lies ahead and that the scientists are best qualified to undertake it.

At a time when our allies in the late war are giving generous support to science, and when American science has lost 100,000 or more recruits in scientific research through the operation of Selective Service, it is appropriate to endorse and actively to support legislation which is designed to supplement the contributions which our industries and our educational institutions are making to scientific research. A Senator or a Representative can take intelligent action only when he is informed of the action his constituents want him to take. A resolution gets some attention, a letter from an individual is more informative, a telegram is somewhat better than a letter, but a personal call on his Senator now or his Representative a little later is the best way that an individual scientist can take positive action to ensure the passage of the Kilgore-Magnuson Bill, S. 1850.

Science Exhibition

Kiel Memorial Hall, St. Louis

27-30 March 1946

Now that Association meetings are again being held, it is possible to resume the important and interesting Science Exhibition. The Exhibition, which has long been an integral part of the meetings, will be housed in the Auditorium, located on Market Street between 14th and 15th Streets. The building is conveniently located with respect to the meetings of the various sections, which will be held in nearby hotels.

The same high standards in effect during prewar years have been maintained for this year's Exhibition, and we wish to express our appreciation for the cooperation we have received from the exhibitors who have helped to make possible this feature, which all of the members find most useful.

Some institutions and concerns who have recently decided to take part in the Exhibition were not able to send descriptive material for publication at the early date that this issue of *Science* went to press. It is our hope, however, that it will be possible to have available complete information which may be obtained at the Registration Desk to be located in the center of the Exhibition area.

At our request, the exhibitors have furnished us with the following descriptions of their exhibits:

A. S. Aloe Company

St. Louis, Missouri
Booth Nos. 60–61

A display of new and essential apparatus, particularly for the biological sciences, includes recent handmade micro-tome knives of the double hollow ground design, a new series of micro-dissection instruments, and dehydration apparatus for small batch processing. Suggestions and recommendations for the development of new laboratory instruments will be discussed with those interested at our booth.

Guests at the Science Exhibition are cordially invited to visit our new building located at Nineteenth and Olive Streets. Among the many new facilities are a modern show room where new apparatus may be thoroughly examined and also a modern chemical laboratory, complete with laboratory furniture and equipment in our display.

American Medical Association

Chicago, Illinois
Booth Nos. 38–39

This exhibit shows the significance of the work of the Council on Physical Medicine and the Council on Pharmacy and Chemistry in the investigation of products intended for therapeutic purposes and the interpretation of these efforts from the standpoint of human welfare.

American Optical Company

Buffalo, New York
Booth Nos. 153–154

The Scientific Instrument Division of American Optical Company, formerly Spencer Lens Company, will exhibit: the new Phase Microscope, a recent research development; a new Metallurgical Microscope with Vertical Illuminator; and a Polarizing Microscope in which Polaroid of optical quality replaces calcite. Other stand-