Kon-Tiki returning to San Francisco with her crew after having traveled the 4,400 odd miles from Callao, Peru, to Raroia in the Tuamoto Archipelago along the course of the Humboldt Current. The journey, which required 101 days, was planned by Thor Heyerdahl, Norwegian ethnologist, in an effort to prove that the early American Indians might have sailed the route to settle Polynesia. Constructed chiefly of balsa and bamboo bound together with rope and having a 15 \times 18 \text{ foot} canvas sail, the primitive craft was built by Heyerdahl and Herman Watzinger in the style believed to have been used during the pre-Inca period. Other members of the crew were Bengt Danielson, Torstein Raaby, Erick Hesselberg, and Knut Haugland.

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Toward a National Science Policy?

Study Group, Washington Association of Scientists

Washington, D. C.

After two years in gestation a National Science Foundation Bill emerged from the 80th Congress, only to be vetoed by the President (Science, September 12, pp. 236-239). This outcome is undoubtedly puzzling to those who have followed the course of the legislation and are aware of the almost unanimous support for the establishment of a strong national science policy. The paradox exists, however, only when viewed from a distance. Close analysis of the bills introduced into the 79th and 80th Congresses (Science, December 27, 1946, pp. 614-619), of the Congressional hearings and debates on these bills, and of the President's veto message and the relevant sections of the recent reports of John R. Steelman (1), special assistant to the President, and Attorney General Clark (2) shows a sharp cleavage between two opposed philosophies of the relation of science to government and society. From the introduction in the 79th Congress of the original Kilgore and Magnuson Bills, which were based on two sharply divergent conceptions of the nature and purposes of the proposed Foundation, down to the Presidential veto of S. 526, the fundamental dichotomy has persisted and prevented successful completion of the legislation.

In the most general terms, the conflicting philosophies appear to be these. That of the original Kilgore Bill, concurred in by the President and his advisers as well as by many scientists, is based on the premise that science is a national resource, that its raw material is the Nation's scientific manpower, and that, as a vital national resource, its furtherance should be entrusted to an authority directly responsible to the elected representatives of the people—the Congress and the President. The proponents of this philosophy place primary emphasis upon long-range planning for the whole field of science to ensure the development of scientific potential on the widest possible basis throughout the country. They seek guarantees which will deny to special interests a disproportionate influence in formulation of Foundation policy, or disproportionate benefits from its activities. They insist upon a patent policy which will permit free public access to discoveries made with public funds.

The opposing philosophy, embodied in the original Magnuson Bill and, in even more extreme form, in the recently vetoed Smith Bill, regards science as an auxiliary to the development of industry, medicine, and the national defense; it places complete confidence in the existing organizations and facilities for research and believes that these organizations should further the development of science with a minimum of control by the elected representatives of the people. It would thus simply expand scientific activity in the country by enlarging the existing structure, concentrating support in well-tested organizations and centers if results may be thus more effectively attained. It would place control of the Foundation in the hands of recognized leaders in science, industry, and national defense, insulating it from the people's representatives in the interests of security and immediate efficiency.

It is clear that these differences between the two opposed points of view are fundamental and underlie the swirl of controversy which has gone on about more specific issues, e.g. form of administration, inclusion of social sciences, geographic distribution, etc. The basic issue is none other than the proper role of the Federal Government in regulating those areas of our national life which are intimately related to the public welfare and security, in this instance the shape and scope of science. It is not surprising, therefore, to find that groups, organizations, and individuals have lined up on the National Science Foundation very much as they have on atomic energy, national health insurance, Federal support of housing, and similar issues. Science, with its present budget of approximately $1,000,000,000 and a recommended budget (Steelman report) of 1 per cent of the national income, can apparently no longer remain out of the political arena. Issues of fundamental national policy are involved, issues important enough to produce

This analysis of the present status of national science legislation, up to and including the Presidential veto and the subsequent Steelman report, was made by a Study group of the Washington Association of Scientists (a branch of the Federation of American Scientists), consisting of C. Grobstein (chairman), J. M. Conly, I. Feister, L. B. Heilprin, H. Olken, F. J. Pratt, J. W. Rowen, I. Schocken, G. R. Silbiger, R. D. Steehler, F. J. Weiss, and L. A. Wood. The group had the advantage of being on the spot during consideration of the legislation by Congress, and obtained first-hand information through attendance at committee hearings and floor debate and through interviews and correspondence with interested legislators. Their analysis reveals the basic conflict which has so far prevented the passage of a National Science Foundation Bill.

Science, October 24, 1947
various departments who are interested in research and teaching of statistics. Plan (2) would be more formal and desirable, but its success would depend on joint membership of its personnel with other departments. This is particularly important for the effective teaching of applied statistics, which should be carried out in conjunction with departments interested in applications of statistical methods.

The Committee summarized its conclusions as follows:

1. There should be developed a basic introductory course in statistics at, preferably, the freshman level for colleges and universities throughout the country.

2. The laboratory work in the average course in statistics is inadequate, particularly at the elementary level; experimental work should replace much of the computation at this level.

3. The minimum requirement for effective organization is a central statistical laboratory with which all of those teaching or doing research in statistics would be associated, even though informally in some cases.

4. More success is to be expected from a department of statistics associated with a statistical laboratory, and having some members in common with other departments.

5. The number of institutions needed for giving first-class training through the graduate level are: (a) 5-10 in mathematical statistics, (b) 25-30 in varying fields of applied statistics.

6. An institution giving complete training in either mathematical or applied statistics should give some training in the other.

7. Institutional stipends for graduate students specializing in mathematical and applied statistics are inadequate.

8. In strengthening its statistical work at the advanced and research levels, any given university should consider which field it can develop most effectively, so as to avoid duplication and inefficiency from a national point of view.

9. The immediate critical shortage of highly qualified teachers can be eased only by suitable training of high-grade personnel now in fields of application, or mathematics.

10. An adequate number of postdoctoral fellowships in statistics is needed.

11. Arrangements should be established whereby postgraduate students, research workers, and teachers on leave would be able to obtain work experience in certain government agencies, industrial laboratories, and business research organizations.

12. To help offset the present critical shortage of qualified personnel in applied statistics, it would be desirable to promote conferences at advanced levels and short courses at the elementary level in various fields.

Recent Deaths

Ole A. Nelson, 55, Battelle Memorial Institute staff member in charge of research activities on metals and chemicals in agriculture, died September 17 following an extended illness.

José F. Nonidez, 55, professor of microscopic anatomy, University of Georgia Medical School, and formerly professor of anatomy, Cornell University Medical College, died in Augusta, Georgia, September 27, after a brief illness.

Frederic Lendall Bishop, 71, professor of physics, University of Pittsburgh, since 1909, died October 10 at his home in Fox Chapel Manor, Pennsylvania.

Ellsworth Huntington, 71, research associate in geography at Yale University until his retirement in 1945, died October 17 at his home in Hamden, Connecticut. Dr. Huntington had been a member of the Yale faculty since 1907.

The American Institute of Physics, 57 East 55th Street, New York City, plans to publish a new monthly journal in physics which will be designed to fill part of the gap now existing between technical journals and popular science magazines. David A. Katcher, Naval Ordnance Laboratory, Washington, D.C., has been appointed editor of the as yet unnamed magazine, which will make its appearance early in 1948.

The Loyal Order of Moose has appointed a National Advisory Council for Research in Gerontology for the Fraternity's city for the aged at Moosehaven, Florida, near Jacksonville. The members of the Council include: Allan G. Brodie, dean, University of Illinois College of Dentistry, Chicago; Anton J. Carlson, emeritus professor, Department of Physiology, University of Chicago; Louis J. Haas, director, Men's Therapeutic Occupations, New York Hospital, White Plains; George Lawton, consulting psychologist, New York City; S. L. Pressey, president, Division on Maturity and Old Age, American Psychological Association, Ohio State University; Martin L. Remert, director, The Mooseheart Laboratory for Child Research; and N. W. Shock, chief, Gerontology Section, Baltimore City Hospitals.

The well-known Mooseheart Laboratory for Child Research, in Illinois, established by the same organization 17 years ago, has provided facilities for research in human development which have been utilized widely, and it is hoped that a similar arrangement may be made with respect to the new development. Inquiries may be addressed to Dr. Reyment.

The South African Association for the Advancement of Science is now publishing and editing South African Science, a monthly bulletin devoted to affairs of the Association, preliminary announcements of new discoveries, short communications, book reviews, longer articles, and so on, which will appear in English or Afrikaans, depending on the language in which they are received. The bulletin, the first issue of which appeared in August, is free to members of the Association; others may subscribe at 15/- per year. Further information with respect to contributions and subscriptions may be obtained from The Editors, South African Science, P. O. Box 6894, Johannesburg.

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American Institute of Chemical Engineers, November 9-11, Detroit, Michigan.

National Committee for Mental Hygiene, November 12-13, Hotel Pennsylvania, New York.

American Society of Animal Production, November 28-29, Chicago.

American Association for the Advancement of Science, 114th Meeting, December 26-31, Chicago, Illinois.