Science in the News

Science Enters the Political Arena

Recently there has been widely publicized evidence that science has at last come into its own in the political arena. Abroad, British Prime Minister Harold Macmillan promised in his election campaign that if he won he would appoint a Minister of Science. In this country, a special task force of the Republican Party's Committee on Program and Progress released a report on "The Impact of Science and Technology," and the Democratic Party's new Advisory Committee on Science and Technology held a press conference at which it urged the establishment of a federal scientific laboratory to "wage peace."

Britain's Science Minister

Now that Macmillan has been reelected, it is reasonably certain that Britain will have a Minister of Science. The Prime Minister described the post in the Conservative Party's election manifesto, "The Next Five Years," a document that is comparable to the platforms presented by the Democratic and Republican parties before a presidential election. The manifesto indicates general lines of policy and makes a few specific commitments. One of these was the appointment of a Minister of Science who would be given the task of promoting scientific and technological development.

After pointing out that it would be wrong to concentrate all government scientific work in a single ministry, the manifesto said that the new minister would have responsibility for the Department of Scientific and Industrial Research, the Medical and Agricultural Research councils and the Nature Conservancy, the atomic-energy program, and the United Kingdom contribution to space research. At a pre-election press conference, Macmillan is reported to have commented that he envisaged giving the science post to one of the Cabinet ministers who had no departmental responsibility, such as the Paymaster General.

The Republicans Study Science

The Republican report on science, which was released on 4 October, was prepared by the Task Force on the Impact of Science and Technology of the Republican Committee on Program and Progress. The task force was headed by Charles E. Ducommun of California, president of the Ducommun Metals and Supply Company. The report, a 15-page pamphlet, strongly endorses President Eisenhower's present administration of science and attempts to establish guidelines and goals for the future.

In general, the pamphlet recommends greater government support of science, especially of basic research, but warns against government control, saying that scientific effort should be widely decentralized and competitive. Coordination should be through discussion and the interchange of papers, not "through administrative fiat."

The report suggests that by 1976 the country should be spending about $36 billion a year "consciously and purposely to expand the scientific revolution." (At present the budget is approximately $10 billion for research and development.) To encourage industrial research, the task force urges tax benefits for private enterprise and patent protection for commercial applications of inventions resulting from work conducted with government funds.

The following three conditions essential to the creation of a strong science and technology are presented and then discussed.

"The maintenance of an environment of freedom and public understanding in which creativity can flourish.

"The maintenance of a superior educational system which stresses the value of excellence for its own sake and which makes a special effort to search out the most gifted minds, wherever found, and to make available to them the most advanced training which they are capable of absorbing.

"The provision of scientists and engineers with the economic resources with which to pursue their search with the utmost aggressiveness."

The release of the Republican pamphlet has special significance, for it marks the first time that any political party has formally conducted a study and issued a report on the impact of science and technology.

In addition to Ducommun, members of the task force are Paul D. Bagwell, Michigan State University; Elmer Hess, former president, American Medical Association; Sigurd S. Larmon, president, Young and Rubicam, Inc., New York; Robert E. Rathburn, professor of architectural engineering, University of Colorado; Claude Robinson, chairman, Opinion Research Corporation; Stephen C. Shadegg, president, S-K Research Laboratories; Paul R. Williams, fellow, American Institute of Architects; and Mildred Younger, lecturer and broadcaster.

Democratic Science Group Speaks

On 11 October, just 1 week after the Republican report was released, the Advisory Committee on Science and Technology of the Democratic Advisory Council, which was formed last spring, held an all-day meeting at Democratic headquarters in Washington to discuss the problems of science and technology in relation to United States foreign and military policy, the U.S. space program, proposals on science and technology for the 1960 Democratic campaign platform, and problems of civilian defense.

However, the chief topic at a midday news conference was the proposal to establish a government laboratory for active study in a scientific manner of methods for maintaining peace. Committee chairman Ernest C. Pollard, head of the department of biophysics at Yale University, conducted the press conference with the assistance of two Nobel-prize-winning committee members, Polykarp Kusch of Columbia University, and Harold C. Urey of the University of California's Institute of Technology and Engineering at La Jolla.

Pollard explained that the proposed laboratory should be an independent agency of the federal government, but that eventually it might become an international body. It would be staffed by

top-level scientists whose first work would be to make "realistic suggestions for meeting the technical problems of disarmament, and meeting them in a professional way on a solid basis." Later, at a reception, Pollard suggested that the agency should be launched with a $50-million budget. Another committee member compared the operation of the proposed organization to that of the Operations Research Organization, pointing out that we should wage peace with the same scientific efficiency that we wage war.

At both the press conference and the reception, committee members noted the lack of scientists on the Republican task force, none of whom are listed in *American Men of Science*. All 17 men in the Democratic group are recognized representatives of the scientific community.

In addition to Pollard, Kusch, and Urey, the members are: Samuel K. Allison, professor of physics, Enrico Fermi Institute for Nuclear Studies, University of Chicago; Harrison S. Brown, professor of geochemistry, California Institute of Technology; Leslie C. Dunn, professor of zoology, Columbia University; Louis B. Flexner, chairman, department of anatomy, University of Pennsylvania; Trevor Gardner, chairman and president, Hycon Manufacturing Company, Pasadena, Calif.; H. Bentley Glass, professor of biology, Johns Hopkins University; David R. Goddard, director, division of biology, University of Pennsylvania; Frank Goddard, Jet Propulsion Laboratory, California Institute of Technology; David L. Hill, consulting physicist, New York, N.Y.; Charles C. Lauritsen, professor of physics, California Institute of Technology; F. T. McClure, chairman, Research Center, Applied Physics Laboratory, Johns Hopkins University; Richard B. Roberts, department of terrestrial magnetism, Carnegie Institution, Washington, D.C.; John S. Toll, chairman, department of physics, University of Maryland; and Gilbert F. White, chairman, department of geography, University of Chicago.

Eight members of the Democratic Advisory Committee on Science and Technology belong to the Federation of American Scientists, an organization that pioneered in the scientist's struggle to be heard in politics. The federation was formed in 1946 by a group of nuclear physicists who felt that Congress should hear the scientists' point of view when it was considering atomic energy legislation. Now that both political parties are giving formal attention to scientific questions, and with legislation pending before Congress, it seems clear that scientific issues will be widely discussed in the 1960 election campaign.

Lunik III Flight to Moon Underscores U.S.-Soviet Positions in Space Competition

Lunik III, the 618-pound Soviet moon rocket, is expected to go around the earth 18 October as it follows the elliptical orbit that first took it around the moon last week. The rocket was launched 4 October, the second anniversary of the launching of the world's first satellite, Sputnik I. Reaction here to the launching and to the developments in the space competition during the last 2 years has been a composite of realistic acceptance of the facts and a growing realization that without the *sine qua non* of space research—rocket boosters in the 1.5-million-pound thrust range—the future can only promise a widening gap between this country's achievements and those of the Soviet Union.

"I wish it were different, but there is nothing you can do to change the clock back." This comment, by Herbert York, the Defense Department's director of research and engineering, reflects both the general view on the latest Soviet moon shot and one of the major reasons for the gap. The Soviet Union is reported to have started its rocket program in 1946, with the aid of a sizable number of German scientists. This country, putting its reliance on bomber-carried atomic weapons, did not start such a program until 1953, when tests in the Pacific showed the feasibility of combining small nuclear warheads with rocket carriers. A crash program was instituted, also with the help of German scientists.

The program, which has been marked by many successes and a number of spectacular failures, has resulted in the orbiting of 12 satellites, including the paddle-wheel satellite that relayed a picture of the earth's cloud cover, and Vanguard III, a 50-pound device launched 18 September. The U.S. satellites have ranged in size from 3 to 450 pounds. Most (and this is regarded as the significant fact) have carried a wide range of finely sensitive—"sophisticated"—instruments that have relayed back miles of taped information on the nature of outer space. The Van Allen radiation belts, for example, were discovered by analysis of this information.

The Russian program has resulted in the orbiting of four satellites, but each, because of its weight and the nature of the experiment involved, represented a major step in the exploration of space. Sputnik II carried the dog Laika. Sputnik III, with a payload of almost 3000 pounds, is the largest satellite ever put in orbit. Lunik III is the first to have circled the moon.

Lunik's Observations Unreported

Although Lunik III was launched almost 2 weeks ago, no concrete information as to its purposes or observations has been reported to the public. At the time of launching it was widely reported that the instrument case contained a camera that would take photographs of the dark portion of the moon. Since 4 October, however, Soviet commentators have not confirmed or denied the earlier report. Nor is factual information available as to whether the satellite passed in front of the moon's path or behind it. Most of the released information on Lunik's progress has been obtained second-hand from the Soviet press agency, Tass. According to these reports, the satellite came within 4375 miles of the moon during its swing around it. A maximum distance from the earth of 291,870 miles was reported. The speed of the satellite varied with the influence of gravity; on the return flight the speed is said to be about 1200 miles an hour. When the satellite reaches the point in its orbit closest to the earth—about 25,000 miles away—it is expected to have a speed of 9000 miles per hour. After it reaches this point Lunik will start on its second outward trip. No prediction has been made about the satellite's life expectancy. Beyond these facts, the United States experts have little information about Lunik. All speculation may be thrown off by the firing of undisclosed "retro" or counter-thrust rockets. Commentators generally agree that the Soviets are making a minimum number of commitments on Lunik to avoid the propaganda risks of missing announced goals.

Among the many comments that followed the Soviet moon shot was one by T. Keith Glennan, administrator of the National Aeronautics and Space