Science in the News

A Few Headaches: Priorities for Science; Preparing for the Test Ban Talks; the Rules Committee

The National Aeronautics and Space Administration has been talking up its plans to shoot a chimpanzee on a brief voyage into space, to be followed, hopefully, within two months by a man in space for an equally brief voyage. This will not involve putting either into orbit; man and beast would be fired off like an intercontinental missile and recovered from the ocean a few minutes later.

This imminent preliminary to the Project Mercury man-in-orbit flight, the latter to follow in about another year, is being watched with great interest, but with less than great enthusiasm, by the President's Science Advisory Committee, which has for some time been convinced, or nearly convinced, that the project is costing more money than it is worth.

The cost, in this sense, is not being measured so much in terms of dollars as in terms of priorities. As the most recent published report of the committee made clear [(*Science* **132**, 1802 (16 Dec. 1960)] the advisers see a need for a number of important changes in federal policies for supporting science, almost all of which will cost a good deal of money, and all of which the committee feels are very important even though none of them have the popular appeal of what George Kistiakowsky, the retired chairman of the committee, liked to call "technological spectaculars."

What apparently worries the committee is that such spectaculars may be drawing an undue amount of support away from a more rational science program, concentrating it instead on things which have to be justified as much for their propaganda value as for their scientific value. The argument being made is not so much that the Mercury project is a waste of money: everyone agrees that man will go into space eventually, and that the money will have to be spent sooner or later. The question is how fast a project like Mercury should be pushed when excellent cases can be made for alternative sets of priorities that would give the man-in-orbit a less immediate target date and put more of the money available today into other projects.

Even on propaganda grounds the case for a near-crash program to put a man in orbit has been made to look doubtful. The new chairman of the Advisory Committee, Jerome Wiesner, was chairman of a Kennedy task force on space that questioned the emphasis on Project Mercury on the grounds that with the situation as it is the Russians are likely to beat us in putting a man in space no matter what we do. Aside from this rather weighty limitation, the propaganda value of the whole space effort will, in the long view, depend on which nation is able to demonstrate its superiority over a period of years, rather than on which is first with a particular spectacular achievement in the early 1960's. From this point of view it becomes doubtful whether rushing to be a close second to the Russians in putting a man into orbit is nearly as important as a more balanced program that, hopefully, would put us well ahead of the Russians a few years from now.

In a related case, such considerations have caused the project for building an atomic airplane to be reoriented in recent years toward spending more of the funds earmarked for this project on basic research and much less on getting an atomic airplane off the ground in the shortest possible time, despite a considerable amount of Congressional pressure to get a plane off the ground. The greatest criticism of the old Administration's failure to put a satellite in orbit before the Russians did is not that it failed to mount an immensely expensive crash program to achieve this, but that it happened to have a rocket to do the job, and for reasons that seemed good enough at the time chose not to go ahead. The point of this sort of assessment is that even in terms of astounding the world more is likely to be accomplished by relying on a well-balanced program of research to produce the spectacular results that have always come from research in the past than by pouring an immense amount of money into a particular thing that can be visualized at the moment. What is beyond the horizon will almost certainly be much better; but of course it *is* beyond the horizon. The problem for the Administration is the not easy one of working up a little more enthusiasm among Congress and the public for what is beyond the horizon.

Problem of Priorities

Putting into perspective the pressure to produce some particular spectacular is not the end of the new Administration's problems of priorities. It is barely the beginning. For the estimates of what it would cost to finance all the sound research programs that are proposed come to an immense amount of money, more than can realistically be proposed for spending. The Science Advisory Committee is trying to come up with a schedule of what should be supported, or, stated in terms that better emphasize the difficulty of the problem, of what clearly valuable projects should not be supported.

The President will then be handed the equally difficult political problem of getting the executive agencies, industrial and university forces, and Congress to go along with something fairly close to what his scientific advisers, inside and outside the Advisory Committee, have been able to convince him is a sound system of priorities. It would be much easier for him if his science advisers could only come up with a recommendation for an extra hundred million or so for research on cancer and heart disease instead of for oceanography, but things are not likely to be that convenient.

Preparing for the Test Ban Talks

The annual report of the Atomic Energy Commission, released this week, devoted a comparatively small but prominently placed part of the report to a warning on the dangers of continuing the current unpoliced moratorium on underground weapon testing. As had doubtless been intended, this was the portion of the report that

made headlines. It made the point, which no one in a position of responsibility denies, that the current de facto, unpoliced ban cannot be allowed to continue indefinitely. It implied what is in dispute: that the unpoliced ban has already run so long that the need for putting an end to it has already reached a critical point. This view is primarily that of outgoing AEC chairman John McCone, but it commands quite a bit of support within the commission.

The Joint Congressional Committee on Atomic Energy has generally leaned toward McCone's point of view. But no member of the committee has criticized the 8-week delay in the resumption of the Geneva talks, to the end of March, which Kennedy announced at his first press conference. That move apparently was cleared in advance with the committee, which accepted Kennedy's point that the Administration needed at least that much time to make up its mind about just what had to be done. There has been some indication that the Administration would have liked more time to prepare for the resumption of negotiations but that the 8 weeks was as much as it could get its more important potential critics to accept without raising an immediate fuss.

Nevertheless, signs of restiveness have begun to appear, and the Administration clearly is in for a hard time on this issue no matter what it decides to do. It is just not possible for a layman to reach really sound conclusions on what should be done because the information on which a decision must be based is not available to the public, and some of it, such as the effectiveness or lack of effectivness of the Central Intelligence Agency in getting wind of what is going on inside Russia, simply cannot be made available.

The difficulty of even the President's getting together enough information to provide a satisfactory basis for policy making was illustrated in the necessity at this late date of appointing a committee of scientists who have been working on the problem to provide him with what is hoped to be a definitive appraisal of the technical side of the question.

The committee included Hans Bethe, the most articulate advocate of the ban within the scientific community, but not Edward Teller, the leading opponent. This by no means implies that the report is predestined to be optimistic in tone: at the Joint Committee's test ban hearings last summer there was not much difference between Bethe's and Teller's interpretation of the technical problems of detecting clandestine tests. Both agreed that the problems were enormous.

The principal disagreement was on the amount of danger to this country's security that would be involved in risking the Russians' continued testing while we obeyed the ban. But neither man appeared to have anything like the solid factual basis for his opinions on this point that was available to lead both to agree that under any inspection system that would conceivably be accepted by the Russians it would not be easy to detect and prove a violation.

The Rules Committee

Kennedy's State of the Union message in general was completely in tone with his campaign addresses: one blunt statement after another of things that were unsatisfactory in his view, interspersed with frequent calls for action to do something about them. Here is a paragraph devoted to science and education:

"Our classrooms contain 2 million more children than they properly have room for," Kennedy said, "taught by 90,000 teachers not properly qualified to teach. One-third of our most promising high school graduates are financially unable to continue the development of their talents. The war babies of the 1940's, who overcrowded our schools in the 1950's, are now descending in the 1960's upon our colleges—and our colleges are ill prepared. We lack the scientists, the engineers, and the teachers our world obligations require. We have neglected oceanography, saline water conversion, and the basic research that lies at the root of all technological progress. Federal grants for both higher and public school education can no longer be delayed."

How much legislation to deal with these problems will actually go through Congress in this session was thrown in doubt when it became clear last week that the optimistic outlook for a reform of the Rules Committee that was reported in this space was drastically incorrect.

Speaker Rayburn was forced to postpone the showdown from Thursday of last week to Tuesday of this week in an effort to solidify support, and Kennedy, who until last week had remained aloof from the fight on the sound principle that the President should not use his personal prestige when lesser measures will do the job, gradually became more and more publicly committed on the measure, finally authorizing a spokesman to tell the press that a defeat for Rayburn on the rules change amounted to a repudiation of the President within his first two weeks in office by a Congress dominated by his own party, and that such a blow would have most unfortunate repercussions at home and abroad.

The galleries were packed when the House met for the showdown on Tuesday. Midway through the roll call the Kennedy forces trailed by a dozen votes, but at the end the rules change carried by 5 votes out of a total of 429. There was no question that the power of the Presidency had provided the narrow margin of victory. The stage was thus cleared for a burst of legislative proposals from Kennedy, but the narrowness of the margin despite the extraordinary pressures applied by Rayburn and the White House showed that the House as a whole was far from eager to begin the march into the New Frontier.

Indeed Kennedy's tactics in winning the Rules fight, together with his blunt State of the Union message, served to solidify his opposition, for there was no longer much basis for the hope that his campaign talks were just campaign talk.

But the conservative opposition was immensely weakened by the change in the Rules Committee. As the leaders on both sides clearly recognized, the issue was not entirely or even mostly the power of the committee to kill the President's program, for there are ways, albeit cumbersome ones, for a determined majority to bring bills before the House despite the opposition of the Rules Committee.

What the conservative coalition has lost that is more important is its power to keep a good part of the Kennedy program from reaching the House floor where the unique power of a President to influence public opinion through such a device as the televised press conferences could put heavy pressure on members to vote for bills they would have been quite willing to see buried in the Rules Committee.

The conservatives had much the worst of the argument on the issue, for it is hard to answer Kennedy's argument that the whole House, not six men on the Rules Committee, should have the power to vote his program up or down. But although the conservatives

were cast in the role of the "bad guys" on this issue, they did no more than what the liberals would have done if the positions had been reversed. They fought hard to avoid a disadvantageous shift in the balance of political power, and their only regret, quite properly, is that they lost.—H.M.

News Notes

U. N. Conference on Energy Sources To Meet in Rome

The United Nations Conference on New Sources of Energy, which will examine practical problems and experience in the utilization of solar energy, wind power, and geothermal energy—with especial reference to the problems of the less developed countries—will be held at the invitation of the Italian Government in Rome from 21 to 31 August 1961.

Prospects for the practical utilization of new sources of energy other than the atom were reviewed initially in a report prepared in 1957 for the United Nations Council by Secretary-General Dag Hammarskjold. In April 1959 the council decided that an international conference could yield especially interesting results for areas which have a shortage of conventional energy resources. At three preliminary meetings of experts, in Madrid, Grenoble, and Rome in May, June, and July of 1960, the program agenda and substantive guidelines for potential contributors of papers to the conference were drawn up.

Conference Agenda

The conference objective is to bring together experts in the fields of solar energy, wind power, and geothermal energy, as well as people interested in energy development in general, to provide participants with up-to-date information on progress, problems, potentialities, and limitations in utilizing these three sources of energy, especially in areas lacking conventional energy sources or facing high energy costs. Participants in the conference, who will attend as individuals and not as representatives of governments, organizations, or societies, will emphasize applications of these forms of energy rather than scientific principles or basic research.

The agenda provide for two parallel series of technical discussions, one devoted basically to the utilization of geothermal energy, wind power, and solar energy for power purposes; the other to solar energy for purposes other than power.

Participation will be by invitation of the U.N. Secretary-General. Participants will be selected from among duly qualified persons who have been nominated to attend. Nominations will be made by governments of member states or their governmental services, by the United Nations and its specialized agencies, and by interested nongovernmental organizations or societies. It is expected that qualified individuals will also apply for invitations, and their requests will receive particular attention.

As a result of the preliminary meetings in 1960, some specialists have already been asked to submit papers. In addition, the Secretary-General is inviting 16 outstanding specialists to serve as rapporteurs on agenda items. A rapporteur will introduce the subject for which he is responsible, having first reviewed the papers contributed in that area and prepared a general report suggesting the main lines for discussion. In addition, the rapporteurs will summarize problems and findings in the plenary meetings. Before the meeting, they will also screen papers and advise the secretariat in preparatory work.

The United Nations has issued an information bulletin covering organizational arrangements for the conference and including application forms for participation. The Secretary-General has appointed Alfred G. Katzin of his office to be executive secretary of the conference.

Harvard Sponsoring Program on Science and Public Policy

The Graduate School of Public Administration of Harvard University, with the aid of a grant from the Rockefeller Foundation, has undertaken a research and training program on science and public policy, including an unusual seminar for advanced students that is in its first year of operation. The level of the seminar is apparent from a list of some of the 1960–61 guest speakers: former presidential science adviser George B. Kistiakowsky; Admiral Rawson Bennett, the retiring head of the Office of Naval Research; Elting E. Morison of Massachusetts Institute of Technology; Caryl P. Haskins of the Carnegie Institution of Washington; Major General James McCormack, USAF (retired), vice-president of M.I.T.; and Sir Charles P. Snow, physicist and author and former United Kingdom Civil Service commissioner.

Admission to the Seminar

About 15 students are admitted to the seminar each year. As in other research seminars of the school, students are selected primarily from among candidates who have had a number of years of experience in government or in comparable research or administrative positions and who seek to prepare themselves to deal with public policy issues at a higher level of responsibility.

Seminar participants are expected to make a contribution to the study of some aspect of the broad range of problems involved in the application of science to the formulation and determination of public policy, and in the financing and administration of scientific research. Admission is based on a man's academic record, including graduate work, if any; on public service experience; and on recommendations, especially from his government agency if he has been selected by it for training.

The breadth and flexibility of the school's programs make them especially appropriate for men in those government agencies which, because many of their leaders in administration and policy are drawn from technical or professional fields, seek to combine technical training and scientific research with executive development. A student who wishes to participate in the research seminar in science and public policy will be considered for admission regardless of his intention to qualify for a degree.

Fellowships

All federal and certain other public agencies have authority to pay expenses for advanced training at nongovernment institutions, where this is part of the agency's approved training program. Employees of such agencies are encouraged to investigate their eligibility for such training before applying for admission.

Several fellowships are available for candidates who are not eligible for training at government expense. Fellowship stipends will be sufficient to cover tuition and, on the basis of need, most of a student's living expenses.

Application blanks, catalogs, and