lems by giving power over technical matters to a single department for scientific and technical activities of the government. These arrangements allow the President and the Bureau of the Budget to become knowledgeable of science questions without removing the technical activities from the agencies whose missions they augment.

Jerome Wiesner and his staff must be judged by what he and his office have accomplished rather than by the weight of reports so commonly used to evaluate professors. He helped the President to open a small path of understanding with the Soviets, encouraged the careful analysis of costs and effectiveness that permitted the Secretary of Defense to re-establish civil control over the military, strengthened the management of science within many of the agencies, and more recently helped make some small steps to connect better the scientific community to the problems of the less-developed nations. He unobtrusively insisted on a proper place for science in the affairs of the nation and gave continued support for free scientific inquiry.

As for me (one of the officers in the agencies whose scientific progress Wiesner is alleged to control), I have found him to be critical, helpful, and insistent that the decisions in the Department of Commerce were ours and not his, and that he served only to help the President and his secretariat. Like President Kennedy, he has insisted not only on the right, but the necessity, to talk to those who are informed and not only to those who, by some quirk of accident, occupy positions of authority.

All of us who have a part in the nation's scientific and technical affairs recognize that there are most serious problems facing the nation and its science and engineering. The technical resources of our country are now clearly limited. We cannot carry out all of the proposals that the scientists and technical people can make. Scientific and technological resources are a major basis for economic development and for national power, and we do not yet know how best to deploy them. The relative roles of private and public participation in the use of science and technology for practical purposes are not clear, nor do we know how to employ fully the fruits of science for the improvement of our society.

All of us seek to attract bright, intelligent, wise, and effective people into government service. Usually, scientists serving the nation full time find their careers interrupted and their pay far too low. Technical industrial leaders are frequently not considered because of concern for potential conflicts of interest. Academic people often are not fully prepared for the pragmatic problems faced by those involved in formulating scientific policy. Finally, many are unwilling to face the realities of American political life necessary to serving their government. There are others who would like to maintain their scientific, technical, industrial, or academic positions while influencing national policy. They would like the authority without the responsibility.

In these difficult times, this nation needs all of those who are willing to give of their time and effort to study, to understand, and to make science more fully serve humanity.

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Wiesner's Public Service

The editorial in the issue of 22 November [*Science* **142**, 1025 (1963)] suggests that when the President's science adviser retires from office, tradition requires that "comment at this time should consist of 'fulsome' praise of his policies and accomplishments." It seems to me that Wiesner's retirement does not call for either "fulsome" praise or "fulsome" criticism but for a dignified, judicious, reasonably sympathetic, and constructively critical appraisal of his tenure, one that will be worthy of the official journal of the AAAS. I hope that such a report may yet appear in the pages of *Science*.

My own opinion is that Wiesner deserves the gratitude and admiration of his fellow scientists for 3 years of devoted public service in their behalf while necessarily foregoing his own scientific work. As for his effectiveness in office, I can cite the obviously important part he played in helping to bring about the ban on atmospheric testing of nuclear weapons, which ranks as one of the most hopeful steps taken toward world peace since the end of World War II. I also recall two instances in which he used the full influence of his office to protect observational astronomy from possible permanent damage—from the orbiting of dipoles or "needles" in one instance, and in the other from the encroachment of man-made interference on radio-astronomy frequencies. In both cases Wiesner and his staff responded to the petitions of astronomers with sympathy and understanding, and he acted with great courage to safeguard the interests of our science. He and his associates on the PSAC are primarily responsible for the publicly announced policy of the United States government to forego space experiments that are harmful to science.

These few examples, and many others which are all matters of public record, in my judgment refute the assertion that "After almost 3 years in which Wiesner has participated in countless decisions, there is little in the public domain to indicate the quality of his judgments or actions."

I should think that communications like this one belong more properly in the Letters section than on the editorial page.

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Science as a Tail to NASA's Kite

Rosa [*Science* **142**, 914 (1963)] is not the first to say, in effect, that we should support NASA research because of the scientific "fallout" accruing to other scientific disciplines. But if this accrual is so important, why not directly support research in "geophysics, . . . geomagnetics, . . . solar physics, astrophysics, and solar system astronomy"? Why waste money through a middleman? Rosa's inclusion of molecular biology among the beneficiaries of space research is particularly ludicrous; the question of spores in space is an interesting one, but hardly fundamental to molecular biology, and surely not to be included among any logical reasons for massive support of NASA.

His argument that "space has stimulated interest in science . . . more than any other scientific development in modern times" might be acceptable if we did not know the tremendous public-relations build-up given the whole enterprise; witness the successive astronaut launchings. The interest was built up by the glamor boys, and I dare say to the detriment of the rest of scientific endeavor.

Rosa reasons that "space offers mankind an opportunity to channel deep,