ing the government's immediate research requirements.

3) With research and development now one of the largest single items in the federal budget, economic and political realism dictate that the nation cannot pursue every reasonable technological possibility.

4) But, if priorities have to be determined and hard choices made, basic research, which accounts for only 5 to 10 percent of the total R&D budget, should be protected against budgetary restrictions. The justifications offered were that basic research is relatively cheap, it is closely tied to the educational process, and it provides a reservoir of knowledge that is indispensable for creating possibilities for application and development.

The forum for the presentation of these views was the Science and Astronautics Committee subcommittee on science, research and development, a ten-member body chaired by Emilio Q. Daddario, a Democrat from Hartford, Connecticut. Since it is becoming difficult to distinguish the science investigators without a scorecard, it might be pointed out that the Daddario committee is not the Select, or Elliott, committee which was recently established by the House to conduct a comprehensive investigation of federal support of research and development. That committee, chaired by Carl Elliott, Democrat of Alabama, is still putting together a staff for its difficult assignment, and is yet to be heard from.

Any suggestion of rivalry between the two committees is diplomatically discounted by persons associated with either, but Daddario's people are hard put to suppress their pleasure at having gotten off to a fast start, and they offer the view that if Elliott is going to fulfill his mandate, his committee will have to plow a lot of the same ground.

By far the most wide-ranging and freewheeling discourse was delivered by Wiesner, who put aside a tightly drawn prepared statement to deliver a 2½-hour, off-the-cuff soliloquy, followed several days later by a second appearance that ran for another hour and a half. To some extent Wiesner's performance was unquestionably confusing, but, as he candidly pointed out, pat answers are overwhelmed by the problem of extracting the maximum value from a $15-billion-a-year investment in as delicate and little-understood a creature as scientific research and development. He told the committee that he was pleased "to talk about the questions that are on your mind to the best of my ability and in a sense to share my confusion with you, because I think that some of the questions that you are asking about and looking into are questions that none of us can give a complete and comprehensive answer to or a plan for some of these things." Wiesner then went on to present a thesis that may be summarized as follows.

The Cold War turned out to be something of a blessing in disguise for American science and engineering, for "it gave us sort of an automatic motivation to carry out a very intensive and extensive research and development activity." But now, while military-motivated research and development will continue at a high level, we have arrived at a point where we are confronted by a new situation, one that brings us to a "crossroads" in government support of research and development. The military payoff from basic research is not going to be as great as it was in the past; this is because it is becoming increasingly difficult to find new militarily useful applications. "While we will continue to make investments in the military field and in atomic energy," Wiesner explained, "I think the progress won't be so great, so the motivation to drive as hard probably will not be there." Furthermore, we are experiencing a drop-off in the rate of useful civilian applications from militarily inspired research. "There will be new developments, new materials, new understandings, and so on, from this work, but the kind of direct transfer that took place, for example, in the aircraft industry, is not as likely to happen here."

As a result, he said, we are going to have to recognize that national security means "more than arms . . . and in the end it can't come from arms, though I think we must continue the process of refining our military achievements and probing selectively for new possibilities. But . . . security means more than that, it means good relations with others, it means a strong economy, a healthy people . . . and science contributes . . . in a major way to all these objectives.

"I think one of the problems we are all wrestling with now is how to identify these more general, but equally important problems and how to keep our technological enterprises working on them, because it is easy to put off some of these things."

"Our basic problem in the government, in the broadest sense, is to bring an understanding of all this, of technology and science, to bear on serving the collective needs of our people, and it is a process that no one of us can handle alone; it must combine the skills of the statesman, the politician, the scientific expert, the engineer, the entrepreneur, or industrialist, and demands a major effort for understanding and setting the guidelines."

As for the critical question of how much the government should spend on research and development, Wiesner said that he has found no certain guidelines, except that "one should continue to make investments in research and development until the marginal returns in the future from the investments you make just equal the investments, and according to the economists we are a long way from that point." But the trouble with this rule, he added, is that "I don't think anybody can tell us how to make assessments here, just as I don't think anyone could have measured what the ancillary byproducts of an investment in air defense were going to be to the economy, or can put a price tag on the value of penicillin."

Protect Basic Research

Nevertheless, he said, choices will have to be made, but he offered the hope that basic research would be the last to feel the pinch, unless basic research expenditures "get to be considerably higher than they are now, which may happen when you are wanting large numbers of expensive tools in all fields. . . ." However, he added, "we

Wiesner Leaving White House Post

Jerome B. Wiesner, the president's science adviser, has confirmed published reports that he plans to resign in the near future to return to M.I.T.

Wiesner, who also holds the post of Director of the Office of Science and Technology, originally agreed to serve the administration for 2 years, then extended his stay at the President's request. The date of his departure has not been announced, but, according to his office, it is likely to be in the spring. A successor has not yet been named.