mission sequences and on the kind of spacecraft they will need. Not incidentally, these groups include several dozen planetary scientists who are not in the SSEC itself; the idea is to broaden the base of support for the committee's final recommendations next year.

The SSEC's strategy is not without its pitfalls. Some are scientific: "You have to recognize that you can't do everything with small-scale missions," says Levy. "For example, we have already learned things about Mars that call into question the stability of the climates of terrestrial planets [including the earth's]. We know that Mars' climate was vastly different in the past, and we suspect that the shift was triggered by very subtle changes in its orbit, or in the amount of solar radiation it received. But we don't even know when it happened. There is no way you can pin it down without a substantial program that will eventually include a surface rover and a sample return. "There is a perception in Washington that when you've visited an object once, you've learned all you need to know. It's hard to convince the politicians that the problems of interpreting Mars are more pressing than before."

Hinners agrees on the need for large-scale missions: "We have to allow for the possibility that X years from now, the political climate may shift and the opportunity may arise for, say, a Mars sample return. We have to have the planning ready to respond, just as NASA had the Apollo idea ready when Kennedy needed it."

"Even with just the small missions there is a danger in appearances," says Hinners. "Congress and the Office of Management and Budget tend to measure the vitality of the program by the number of new missions," he says, not by total science being done or even the overall funding level. "It's common sense to break up some of the big missions into smaller chunks. But that gives you a lot of new starts. So people on the Hill may just say 'you had a new start last year. It's not your turn this year.' " Previous attempts to promote smaller scale missions and fixed level funding have foundered on this very problem. "We're going to be talking with OMB and the congressional staffs to see if we can get away from this numbers game," says Hinners.

What is really needed, however, and what has not yet been forthcoming, is a renewed political commitment to the idea that planetary science is worth doing. Hinners, for one, is cautiously optimistic about the future, saying that he finds no overt vendetta against planetary science anywhere; the problem is basically one of tight budgets. In that sense it may help that the SSEC plan calls for no new starts before 1985—"an administration away," as one member puts it.

But for now, planetary science seems to have few friends in the upper levels of Washington. And the outlook for any new initiatives, however modest, looks bleak indeed.—M. MITCHELL WALDROP

Pared Down PSAC Proposed

Ever since President Nixon axed the President's Science Advisory Committee (PSAC) in 1973 because it insisted on offering advice—sometimes in public—that ran counter to his policies, elders of the scientific community have lamented the lack of a science advisory committee in the White House. Their years in the cold may soon be over, however, for George A. Keyworth, President Reagan's science adviser, has proposed the establishment of a 15-member board that he can call upon for outside advice.

In an interview with *Science*, Keyworth made clear, however, that the proposed board would have neither the status nor the independence that PSAC enjoyed. Rather, it would function as an appendage of the Office of Science and Technology Policy (OSTP), which Keyworth heads. It would work on issues that he selects and offer advice to him rather than to the President, as PSAC did. "The main thing is that I want a body that feels and is a part of the office," Keyworth said.

What Keyworth has in mind is a committee that would meet at least once a month, which he could turn to for quick studies of specific problems. The panel would thus function much like an addition to OSTP's staff, which Keyworth says is "pretty overwhelmed with work right now." A final decision on whether the committee should be established rests nominally with the President, but in practice it will be Edwin Meese III, Reagan's chief counsel, who will decide. So far, says Keyworth, the idea has "been received with some considerable enthusiasm."

Frank Press, President Carter's science adviser, says that he wanted to establish a formal science advisory committee but was prevented from doing so because of problems with the federal advisory committee act. The act requires meetings of government advisory committees to be advertised in the *Federal Register* and, except for discussion of budgets or classified material, to be held in public. Such a requirement, Press argues, could expose to public scrutiny delicate matters of presidential advice and the Carter White House was not keen for that to happen. Keyworth does not seem so concerned, however. He says he has planned the committee on the assumption that it would come under the advisory committee act, and he has not sought an exemption.

Keyworth is clearly anxious to avoid the committee becoming the voice of the scientific community within the White House. PSAC's demise was at least partly due to the fact that it was generally seen as representing the interests of scientists and that its members were drawn largely from the liberal end of the political spectrum. The final straw came when the committee opposed Administration policy on the deployment of antiballistic missiles and on the construction of a fleet of supersonic aircraft, a sin that was compounded when some committee members went public with their opposition in congressional testimony.

Indeed, Keyworth says that the reason it has taken him 6 months to propose the establishment of a science advisory board for OSTP is that he has been seeking the right kind of people to serve. "It has taken me a long time and a lot of thought to pick people on the basis of judgment as well as on the basis of their demonstrated qualifications as scientists and engineers," he says. He is looking "for the kind of judgment that addresses the country's needs rather than the parochial interests of the communities themselves."

Keyworth says he now has a slate of people in mind and is ready to set up the committee as soon as he gets the go-ahead from the powers that be.

—COLIN NORMAN

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