poration of New York who also helped organize the conference, says that given the terrible state of U.S.–Soviet relations, "any exchanges that can help avoid a nuclear war must go ahead no matter what the context."

A senior Administration official who briefed reporters on the President's speech denied that the principal motivation behind it was political. "Well, I think it, in fact, is a coincidence that these things are coming in a year divisible by four," the official said. But it was clearly made against a backdrop of increasing congressional and public alarm about the sorry state of U.S.–Soviet relations. The possibility of a summit, or high-level U.S.–Soviet exchange, received a flurry of attention last month, but has since faded and is now privately dismissed by many senior Administration officials. One official recently told a private symposium on arms control that "there has not been one scintilla of direct evidence" that the Soviets are sincerely interested. In any event, Reagan has not abandoned his claim that any summit must be "carefully prepared"—a demand that effectively rules out any meeting before November. (The U.S. Senate recently passed a resolution favoring a presidential summit "without preconditions or assurances of success," but it is not binding, and Reagan's advisers are urging him to ignore it.)

Several days after the President's speech, the Soviets proposed to begin negotiations in September on a halt to the development and deployment of antisatellite and antiballistic missile weapons in space. Reagan, briefed by telephone at a weekend retreat, accepted the offer but proposed to discuss limitations on intermediate and long-range nuclear missiles as well. The Soviets dislike this idea, and jockeying over the agenda could substantially delay any agreement. Both sides still charge that the other has violated existing agreements. And acrimony between government spokesmen remains unusually thick, with charges of terrorism and Nazism flung about like greetings.

Seen in this context, the timing of Reagan's proposal on low-level contacts suggests that its motivation is at least partly to garner popular approval. If so, it represents a continuation—not an end—to the long-standing manipulation of scientific and technical exchanges to make a political point. Hamburg, for one, is sanguine about this possibility. "If the election year helped him say what he did, then that's fine, but the important thing is that he said it."

—R. JEFFREY SMITH

OTA Questions Space Station

In a wide-ranging study due for official release this August, the Office of Technology Assessment (OTA) seriously questions the National Aeronautics and Space Administration's (NASA's) current plans for a permanently manned space station, and suggests that the agency could better serve the nation's interests with some fundamental changes in philosophy.

While none of the criticisms are new in themselves, the study as a whole does crystallize concerns about the space station heard in Congress, in the space science community, in the business community, and even occasionally within NASA itself.

The report emphasizes from the beginning that there is a strong case to be made for a permanent "infrastructure" in space. Examples include pressurized laboratories for hands-on experiments in life sciences and materials sciences; unmanned, free-flying platforms for telescopes and other sensitive experiments; orbital drydocks for the repair and maintenance of facilities such as Space Telescope; and reusable "Orbital Transfer Vehicles" to ferry payloads from low-altitude space shuttle orbits to the 35,900-kilometer geosynchronous orbit.

NASA, of course, includes all these infrastructure elements and more under the general rubric "space station." However, NASA's particular approach is also by far the most expensive way to get the job done, says OTA. The $8-billion plan calls for developing habitation modules, laboratory modules, and unmanned platforms from scratch, and starting with a permanent crew of six to eight.

As an alternative, OTA contends that many of the missions proposed for the NASA space station could be done more cheaply with existing hardware, or hardware already under development. It points to such unmanned instrument platforms as the SPAS pallet developed by MBB/ERNO in West Germany, the Fairchild company's Leasecraft, and several others.

Options for what the OTA calls "inhabited infrastructure" include the Spacelab pressure modules, modified Spacelab modules attached to a space station core, and orbiters modified for flights of 20 days or more.

The private sector seems ready and eager to cooperate with such an approach, the report notes. Examples range from Fairchild and its Leasecraft platform to Space Industries, Inc., of Houston, which will soon begin marketing a pressurized laboratory module designed for materials processing, and suitable for docking at the shuttle or at a space station.

Given this activity in the private sector, together with the space efforts of Europe and Japan, OTA suggests that NASA's philosophy and operating style may well be outmoded. In the early days, when space really was a frontier, it was appropriate for NASA itself to do everything that needed to be done up there. In the 1980's and 1990's, it may be appropriate for NASA to take on a more managerial role—seeing to it that things get done. In short, rely more on the private sector for routine hardware, and focus the agency's own efforts on projects that are truly at the cutting edge: the orbital transfer vehicle, for example, or advanced planetary missions.

In conclusion, OTA calls for a new public debate on the nation's goals and objectives in space. Colonies on the moon and Mars? A network of satellites to monitor the global environment? The infrastructure that is built depends on what the country wants to do, says OTA.

NASA officials have had a decidedly mixed response to the OTA study, at least in its draft form. Deputy associate administrator Philip E. Culbertson praises it for putting the NASA space station in perspective among other "infrastructure" options, but he points out that NASA is already working quite closely with Fairchild, Space Industries, and other commercial ventures. "I think there are a lot of pieces of the space station that we should procure [from private sources]," he says. And as for a grand set of national goals, "There are lots of things to be done in space—most of which seem to require a space station of one form or another. That's actually comforting, because if I go ahead and build a space station now, I don't have to make a decision about what we're going to be doing in the year 2020."—M. MITCHELL WALDROP