at the goals of SDI, a report prepared recently by a bipartisan committee of defense experts, cochaired by former national security adviser Brent Scowcroft and former defense undersecretary William Perry, is likely to be influential. The committee, known as the Aspen Strategy Group, concluded there is "virtually no prospect of building a significant and effective population shield against a responsive enemy inside this century, and there is great uncertainty about the long term."

Calling SDI's goals unclear and confusing, the report recommended a robust long-term research program concentrating on experimental work and technology development rather than engineering and demonstrations of doubtful legality under the ABM treaty. Near-term efforts should be focused on research designed to counter a possible Soviet breakout from the treaty, including work on technologies that would enable U.S. warheads to get through Soviet defenses, it said. In addition, the committee suggested that research on nuclear-tipped interceptors, which are currently excluded from SDI, should be resumed.

■ **Arms control.** The Reykjavik summit meeting, at which President Reagan refused to accept Soviet demands for limits on SDI research in exchange for an agreement on major reductions in offensive forces, has brought arms control issues to the forefront of the debate over SDI. There are two facets to the discussions: potential conflicts with the ABM treaty and SDI's role as a bargaining chip in arms control negotiations.

As for the ABM treaty, the argument centers on what types of development and testing are permitted. The treaty permits the United States and the Soviet Union to deploy up to 100 ground-based interceptors at a single site, and it permits research and development associated with such systems. But it forbids deployment of space-based missile defenses. That much is almost universally agreed. The debate is largely over experiments in space (*Science*, 31 October 1986, p. 533).

According to an interpretation that was widely accepted in the United States until recently, the treaty permits research on all ABM technologies but prohibits development, testing, or deployment of sea-based, air-based, space-based, or mobile land-based "systems or components," and precludes testing non-ABM systems "in an ABM mode." Not surprisingly, these somewhat fuzzy terms have been subject to a wide range of definitions, which in turn have prompted debate within the United States over the legality of some proposed SDI experiments.

The debate abruptly shifted in October 1985, however, when the State Department offered a new interpretation of the treaty. A reading of the classified negotiating record indicates that the treaty only covers technologies that were "current" at the time it was written, the department said. This would permit new technologies to be developed and tested to the point of deployment. This reinterpretation caused such a furor, however, that the Administration subsequently announced that it would abide by the earlier, more restrictive reading, although it explicitly reserved the right to use the new interpretation at any time.

Members of the Senate Armed Services Committee are currently reviewing the negotiating record. Senator Carl Levin (D–MI) has already concluded that the State Department's new reading is "fatally flawed." Staff members say that if that turns out to be the majority opinion, the committee may try to force the Administration to adhere to the restrictive interpretation of the treaty by inserting binding language into the military authorization bill.

Meanwhile, at Reykjavik, Soviet leader Mikhail Gorbachev attempted to fence SDI research in by calling for a ban on all SDI-related experiments in space. President Reagan refused to consider this, arguing that it would effectively kill SDI.

Some observers believe there is room for negotiating an understanding on the treaty limits, perhaps as part of talks on arms cuts. "If the United States is prepared to modify its position that all development and testing of space-based systems is allowed, and if the Soviet Union is willing to drop its demand that nothing beyond laboratory research is allowed, major progress toward a new agreement should be possible," the Aspen Strategy Group concluded.

Joseph Nye, a professor at Harvard's Kennedy School of Government who directed the Aspen study, argues that the United States "could adhere to the traditional interpretation of the treaty without seriously hampering a research program for a decade." However, any move toward early deployment of SDI systems would probably force a severe conflict over the treaty because demonstration projects of at best doubtful legality would be required.

So far, the Administration has resolutely refused to consider any concessions on SDI. However, the Senate Armed Services Committee's policy statement said "we should be prepared to consider adjustments in the pace and scope of SDI if the Soviet Union agrees to significant, stabilizing, and verifiable reductions in strategic offensive forces."

The debate over SDI, which has dominated strategic discussions over the past 4 years, is clearly not going to die down. Indeed, it appears to be entering a new and critical phase. ■ COLIN NORMAN

Briefing:

House of Lords Wants U.K. Research Assessed

Britain's House of Lords has suggested that 1% of the United Kingdom's research and development budget should be spent on the evaluation of research results. The proposal was made last week in a report published by the House of Lords select committee on science and technology, which claimed that the scientific community's current approach to evaluation is "less scientific than the science and technology it is designed to assess," and argued that evaluation "must be approached as a discipline and not as a threat."

The committee said that Britain's scientific effort currently suffers from a major lack of coordination, and suggested the creation of a new body to finance strategic research, which falls between the traditional categories of fundamental and applied research. It also proposed that, in order to raise the visibility and attractiveness of research to the banking community, all companies should be required to make an annual statement of their spending on R&D, a recommendation that is already being considered by the government's scientific adviser. ■ **D.D.**

New French Minister

Jacques Valade, professor of organic chemistry at the University of Bordeaux since 1963, is being tipped in Paris as a likely successor to Alain Devaquet, the minister for research and higher education who resigned in December following widespread student protests against his proposals for the reform of universities. Valade is currently a member of the French Senate, and is also the chief deputy to the powerful Mayor of Bordeaux, former Prime Minister Jacques Chaban Delmas. Devaquet's successor is expected to be named as part of a reshuffle of ministers to be announced in Paris within the next week. Other names being cited in addition to Valade include Michèle Alliot-Marie, the deputy minister for education who was Prime Minister Jacques Chirac's chief spokesman for research during last year's general election campaign, and Jean-Pierre Soisson, the minister responsible for universities in the mid-1970s. ■ **D.D.**