

▶ **Test Ban Treaty Held Hostage** In 1996, President Clinton became the first world leader to sign the Comprehensive Test Ban Treaty (CTBT) at the opening ceremony of the 51st United Nations General Assembly (see *PHYSICS TODAY*, December 1996, page 37). One year later, at the start of the 52nd UN session, Clinton announced that he was sending the long-sought treaty to the Senate, because "our common goal" should be to put the test ban "into force as soon as possible." But the CTBT, which has since been signed by 147 additional countries, including the four other acknowledged nuclear weapons states, still awaits consideration, let alone ratification, by the US Senate. (For more on the CTBT, see Jeremiah Sullivan's article, page 24).

Responsibility for the delay rests with Senator Jesse Helms, the North Carolina Republican who chairs the powerful Foreign Relations Committee and has yet to schedule hearings on the treaty. His inaction threatens to prevent the US from getting a place at the conference table next year when nations that have ratified the treaty meet to decide how it can be more quickly enforced.

In effect, Helms is holding the CTBT hostage until, as he put it in a letter to Clinton on 22 January, "the Senate has had the opportunity to consider and vote on the Kyoto Protocol [a global agreement to reduce emissions of hydrocarbon pollutants into the atmosphere] and amendments to the ABM [Anti-Ballistic Missile] Treaty." Until then, Helms and other Republican conservatives are digging in their heels. They argue that abiding by the Kyoto Protocol will threaten US businesses and endanger the country's economy, and they want to alter the ABM treaty with Russia to allow the US to build a national ballistic missile defense system—both issues wholly unrelated to the CTBT.

Also in January, by contrast, four former chairmen of the Pentagon's Joint Chiefs of Staff, who respectively have served in the Carter, Reagan, Bush and Clinton years, endorsed Senate ratification of the CTBT. They said they are confident that the treaty's implementation would not diminish national security or the integrity of the US nuclear arsenal.

Meanwhile, more than 100 former or current heads of state and nonmilitary leaders from around the world, including Jimmy Carter and Russia's Mikhail Gorbachev, have signed a statement that calls for removing nuclear weapons from alert status and taking other measures intended to eventually eliminate all nuclear weapons. The statement is similar to an appeal by 60 present and former military leaders in 1996. "The world is not condemned to live forever with threats of nuclear conflict or the anxious fragile peace imposed by nuclear deterrence," the document says. "Such threats are intolerable and such a peace unworthy. The sheer destructiveness of nuclear weapons invokes a moral imperative for their elimination."

Endorsing this message are 117 prominent figures from 46 nations, including 47 past or present presidents and prime ministers. Among them, in addition to Carter and Gorbachev, are former German Chancellor Helmut Schmidt, former British Prime Minister James Callaghan, former French Prime Minister Michel Rocard, former Canadian Prime Minister Pierre Trudeau and former South African President F. W. DeKlerk.

Accompanying the release of the statement, retired Air Force General George Lee Butler, who commanded the Strategic Air Command from 1991 to 1994, delivered a forceful speech at the National Press Club in Washington on 2 February, in which he denounced the concept of nuclear deterrence that was the centerpiece of US military strategy throughout the cold war and remains part of the official

rationale for retaining nuclear weapons today. "It is distressingly evident that for many people, nuclear weapons retain an aura of utility, of primacy and of legitimacy that justifies their existence well into the future, in some number, however small," said Butler. He is critical of the revised nuclear targeting guidelines issued by Clinton last November because they reflect more continuity than change. Though Clinton dropped the cold-war strategy requiring US forces to be prepared to win a protracted nuclear war, he affirmed that the US will continue to rely on nuclear arms as a cornerstone of its national security.

▶ **Cutting College Tuition Costs** Colleges and universities must either become more "cost-efficient" or run the risk of "an erosion of public trust," the 11-member National Commission on the Cost of Higher Education warned in its final report on 27 January. The commission sent its 50-page report, "Straight Talk About College Costs and Prices," to Republican leaders in Congress, who had initiated the study last August to help the lawmakers respond to complaints by constituents about the soaring tuitions for higher education. The panel confirmed a report issued last September by the National Science Foundation, which examined the financial records of 1339 universities and colleges and found that from 1980 to 1994 tuition and fees had increased by 225% on average, before adjusting for inflation—far steeper than the rise in median household income or the Consumer Price Index in the same period (see *PHYSICS TODAY*, October 1997, page 87).

In noting that 78% of all undergraduate and graduate students attend four-year public colleges and universities, the commission reported that those students paid 132% more in 1996 than they did in 1987. But the average cost to the schools per student went up by only 57% in that same period. At private four-year schools, the outlays by students increased by 99%, while costs to the schools were up by 69%.

This trend, the commission stated, helps explain why opinion polls show that public worries about the costs of going to college or university are now so intense. Despite this, many schools haven't made an effort to reduce their costs or tuitions, the commission stated in its report.

"If America's colleges and universities don't take the initiative, others will do it for them, with a lot less thought and consideration," said Barry Munitz, a commission member and former chancellor of the California State University System, who is president and CEO of the J. Paul Getty Trust, a Los Angeles-based foundation for the arts and humanities. The panel rejected as too dangerous proposals floated in the past by the Clinton Administration and members of Congress from both political parties that would penalize schools for raising tuitions too high—though neither the panel nor politicians have indicated how much is too much.

The commission agreed that cost controls imposed on colleges and universities by the government could destroy "academic quality," and concluded that the institutions on their own need to make stronger efforts to control costs and increase productivity. "Efficiency is not a dirty word and should rank high in the vocabulary of higher education institutions," said George Waldner, a commission member and president of York College in Pennsylvania. Another panelist, Morton Schapiro, an economics professor at the University of Southern California, went further: "The single biggest problem is that most colleges and universities are trying to do too much—providing too many course and degree offerings for too few students. When the scope is so broad, it becomes very expensive to provide higher education at a reasonable cost."

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