

cial claims tribunal in the Hague.

Two Supreme Court cases that Meserve was involved in concerned the presentation of scientific and technical evidence. In the early 1990s, he represented the National Academy of Sciences in *Daubert v. Merrell Dow Pharmaceuticals Inc.*, which involved claims that a drug intended to appease morning sickness in pregnant women caused birth defects. The question was, he says, "What standards should govern the admission of scientific testimony that the drug could cause birth defects?" Later, he represented the National Academy of Engineering in *Kumho Tire Co v. Carmichael*, which involved an alleged design defect in car tires. "The cases ultimately provide a safeguard to insulate juries from shoddy science," says Meserve. "Now judges will typically have 'Daubert hearings' to decide whether scientific evidence is sufficiently reliable and relevant to be heard."

Joining the law firm was part of a long-range strategy, says Meserve. "I hoped that an interesting job in science policy might come along in the future—and that's easier if you are already in Washington." In 1999, after 17 years at Covington & Burling, one did come along.

Nuclear resurgence

"The call came out of the blue," says Meserve of the offer from the Clinton White House to chair the NRC, the agency that regulates civilian uses of nuclear materials. "It fit my strategy of trying to use law and science together. And it was an interesting job in any event." Over the years, Meserve had chaired a host of committees for the National Academy of Sciences—dealing with, among other matters, control of weapons-grade nuclear material in Russia, the Chernobyl accident, and fuel efficiency of cars. He credits those studies with making him visible to the White House and, ultimately, landing him the top job at the NRC.

Nuclear energy, Meserve predicts, will play an increasing role in powering the US, which currently gets 20% of its electrical energy from 103 nuclear power plants. "There has been a resurgence in interest in nuclear power that I did not anticipate—I don't think anyone anticipated," says Meserve. Safety, waste, and proliferation are the concerns related to nuclear power, he adds. "I believe that all of those problems are solvable. Every energy source has its disadvantages and its costs." During his tenure, the NRC extended the operating lifetimes of some power plants from 40 to 60

NOVA Creates String Theory Miniseries

An ambitious three-hour NOVA television miniseries starring Columbia University string theorist Brian Greene will present one of the more complex and controversial fields of physics, superstring theory, to a broad, non-science audience. The program, based on Greene's book, *The Elegant Universe* (Vintage Books, 2000), relies heavily on the multitalented physicist to explain in fairly simple terms not only superstring theory but quantum mechanics and general relativity.

Greene, who also has a background in theater, makes clear that string theory has yet to be tested experimentally and that it could, in fact, be entirely wrong. The show includes longtime string theory skeptic Sheldon Glashow of Boston University. In a background interview on the NOVA Web site (<http://www.pbs.org/wgbh/nova/elegant>), Glashow said, "The string theorists have a theory that appears to be consistent and is very beautiful, and I don't understand it."

Greene notes that string theorists have reached the point where they "can make some rough predictions for things that might happen at the future accelerators that are now being built, in particular the . . . Large Hadron Collider. If some of the predictions . . . are borne out through experiment at that accelerator, then I think it's quite possible that string theory would be as accepted as general relativity."

The first hour, "Einstein's Dream," airs in the US on PBS stations on 28 October from 8 PM to 9 PM, Eastern Standard Time. It focuses on the incompatibility between general relativity and quantum mechanics. The second hour, "String's the Thing," immediately follows from 9 PM to 10 PM EST. It shows how string theory developed and describes its apparent mathematical ability to bring together general relativity and quantum mechanics. The final hour, "Welcome to the 11th Dimension," airs 4 November from 8 PM to 9 PM EST, and details how Edward Witten of the Institute for Advanced Study in Princeton, New Jersey, united five versions of string theory into a single M-theory.

In addition to Greene, Witten, and Glashow, other physicists featured in the program include the University of Maryland's S. James Gates; David Gross of the University of California, Santa Barbara; Joe Lykken of Fermilab; Amanda Peet of the University of Toronto; and Steven Weinberg of the University of Texas at Austin.

Jim Dawson



The Calabi-Yau shape shown here is a two-dimensional visualization of the six additional spatial dimensions that string theory requires. Those dimensions, according to string theory, can be folded up in plain sight without our noticing.

years and certified designs for new reactors. "The next generation of reactors will have inherent safety features that don't exist in the currently operating fleet of plants," he says.

As NRC chair, Meserve took heat for the agency's handling of the Davis-Besse nuclear plant near Toledo, Ohio. In late 2001, the NRC granted the reactor operator a six-week extension before shutdown for an inspection required for all reactors of its type. When the inspection was carried out, an area of corrosion the size of a pineapple was found on the reactor's pressure vessel head. Critics pointed accusing fingers at Meserve and the

NRC for granting the extension and for the agency's internal handling of the incident. For his part, Meserve says "it was a very serious incident. But it was not an accident—nothing happened." Given the information available at the time, he adds, granting the postponement was the right thing to do. "In retrospect, had [the NRC commissioners] known, they would never have let this plant continue." The Davis-Besse reactor has not started up again because of ongoing repairs.

The biggest issue facing the NRC is Nevada's Yucca Mountain, says Meserve. When the Department of