lish a religion in the science classroom. And on the third he suggested that teachers' good faith could be assumed in the fair presentation of material: no monitoring of the classroom would be necessary.

On the other side, Topkis stated that "The Creationism Act is intended and is perceived to convey a message of endorsement for a particular belief about the origins of the universe." Moreover, he said, "The Act does not serve, instead it subverts, the stated legislative purpose of advancing academic freedom."

On the Lemon test, said Topkis, the law becomes impaled on the first prong, that of legislative purpose. The legislative history reveals its religious motivation, argued Topkis, beginning with a statement by the act's drafter, Ellwanger, to a state senator. "I view this whole battle as one between God and anti-God forces," Ellwanger had said. This same sentiment is to be seen throughout the legislative history, noted Topkis, and as a result, "The unadorned words of the Creationism Act betray its religious purpose." In the earlier court rulings, the law had indeed fallen on this point.

The Supreme Court justices have several options, one of which is simply to affirm the lower court ruling against the act. Such a decision would be a decisive defeat for the creationists. Second, it could reverse the lower court's decision, which would finally give the Louisiana creationists the full trial they want. This would essentially produce a replay of the Arkansas Creationism trial of December 1981, which ended with the state's balanced treatment law being struck down. In a repeat performance the creationists would have an opportunity to avoid some of the more damaging testimony that hurt them last time.

A third possible decision, whose effect could be similar to the second, is based on a long-established doctrine of the Supreme Court, the Pullman abstention. This holds that the Supreme Court should not rush to decide matters of state law. In this instance, the case would be referred back to the Louisiana courts for resolution, but is procedurally messier than a simple reversal. The Pullman abstention has not yet been applied to an Establishment Clause case, but Justice Antonin Scalia—the newest justice on the bench—pursued this line of argument during the hearing and is known to favor the doctrine.

A fourth, theoretically possible, but unlikely, outcome would be a declaration that the Louisiana law is indeed constitutional. Such a decision would represent a substantial intervention in the state's laws, and has not even been requested in the state's presentation. ■ **ROGER LEWIN**

Use of Berkeley Reactor Questioned on Military-Related Research

A University of California, Berkeley physics professor has charged that use of a nuclear reactor on campus to test radiation effects on Trident II missile components contradicts university officials' assurances that the reactor is used only for research and teaching. Charles Schwartz has also raised the question of whether university rules against classified research have been violated.

University officials say that the work was done under a long-standing program of providing service to industry. They deny that use of the reactor breaches university rules.

Schwartz says he became aware of a potential issue when the Nuclear-Free Berkeley Committee obtained a copy of a list of experiments performed on the reactor. One is titled "Radiation effect on electronic components," and is being done for a group of military contractors: TRW, Hughes Aircraft, Motorola, and Ford Aerospace. Another, for Lockheed, is on "electric components testing."

The Nuclear-Free Berkeley organization sponsored an initiative declaring the city of Berkeley a nuclear-free zone, which was passed in the 4 November election. The organization has been concerned about radiation hazards posed by the research reactor, which is situated on the fringe of the Berkeley campus. The reactor, with a power rating of 1 megawatt, is a version of the TRIGA research reactor used on a number of campuses for research and teaching. It has operated on the Berkeley campus since 1966.

Schwartz pursued the matter and learned that the work for Lockheed involved the Trident. He then plied university officials with a series of questions about use of the reactor.

A response by College of Engineering dean Karl S. Pister notes that university policy prohibits teaching, research, or public service work that is classified or restricted in any way. He said, "The sponsors' purchase orders contain no classification restrictions, nor do they contain restrictions on publications, or on access to specimens or records related to any of the work."

On a query from Schwartz as to whether the tests have an ultimate military purpose, Pister's comment is that, "The relationship of the work done for a particular sponsor to a major defense contractor was not questioned because there is no University policy precluding work that may have ultimate military application."

George Leitman, a professor of engineering science and associate dean for ac affairs, said the work consisted of irra electronic components or materials s with specified doses of neutrons fr reactor.

In a letter to Schwartz, Leitman "Work to be done on the reactor is sp in terms of desired irradiation level, than the end use of the informatic tained. A recent purchase order from heed bears a title which implies that heed may use the results in suppo defense contract. We do not know i way Lockheed will use the results, a do not know how similar test resu used by others. All of the work perf on the Berkeley reactor is unclassifie

A spokesman for the university sa when Berkeley faculty voted against p ting classified research on campus in t 1960s the question of barring resear might be put to military use was dis but it proved too difficult to fashion that would cover the matter effective

Schwartz notes that half the runnin of the reactor has been devoted to c work and has raised the question of w operation of the reactor, "is justifi academic grounds, or is a job sh industry." University officials say th availability of the reactor fulfills a service purpose and that the outside keeps use of the reactor at a level more efficient and economical for i demic use.

A university report on reactor u 1986 showed that the percentage o for the military contractors in questic 23%. The percentage for teaching an demic research for Berkeley was 48%

No stranger to controversy, Schwa a sustained record as an activist invol the long-term campaign against Uni of California management of the Liv and Los Alamos nuclear weapons l tories and in a variety of other efforts t Berkeley on the academic straight an row.

Schwartz continues to press the iss says that he has so far received no r his urgings to Berkeley chancellor I. M Heyman to terminate existing serv industry contracts with military in tions, appoint a campus commission t sider whether operation of the r should be continued, and join him in ing a seminar next term on the social r sibility of the reactor program. ■

JOHN W