

say they could manage this year if Congress does not object to the agency diverting \$200 million from space-shuttle funding. But lawmakers at the hearing worried that such a move could endanger shuttle safety and violate the \$2.1 billion annual cap on station costs.

At the same time, NASA moved last week to reassure scientists that they haven't been forgotten. "We're saying we're committed to the users," says Robert Parker, director of space operations utilization in the space-flight office. "And we believe we can accom-

modate the costs." NASA officials told *Science* that adding at least two and perhaps three new scientific shuttle missions between 1998 and 2001 will reduce the pain of the growing delays in doing science on the station. Those would be in addition to a reflight of the shuttle microgravity mission that was aborted last week because of technical problems.

Parker's space-flight office would pay for the flight, and NASA's life and microgravity sciences office—which initially sought four additional shuttle missions—would finance

the research. Given its tight budget, the agency will emphasize reflying equipment and experiments, says Mark Uhran, a senior flight engineer in the sciences office. The goal is a dedicated flight for commercial products, microgravity research, and life sciences. NASA is now working on a new shuttle flight plan that includes a revised schedule for space-station construction.

—Andrew Lawler

*With reporting by Andrey Allakhverdov in Moscow.*

## CREATIONISM SUIT

### Australian Geologist Battles 'Ark' Claim

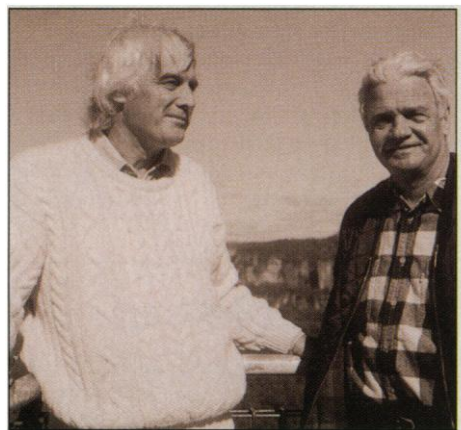
**MELBOURNE**—From the Scopes trial in 1925 to the present, U.S. courtrooms have periodically been the stage for battles between evolution and creationism. Typically, the arguments focus on the separation of church and state, and they revolve around what can be taught in classrooms. Now, Australians are getting into the act, but with a twist. Last week, in a federal civil court in Sydney, a geology professor went on the offensive against a creationist who has been promoting a geological site in Turkey as containing the remains of Noah's ark. The outcome of his fight—waged on commercial rather than constitutional grounds—could extend beyond the status of creation theory to other claims that most scientists believe have no basis in fact.

The case pits Ian Plimer, a professor of geology at Melbourne University, and David Fasold, a retired sailor from San Diego, against Allen Roberts, a pastoral elder of a creationist church in Sydney and founder of Ark Search Inc. Plimer argues that Roberts has violated the country's fair-trade laws by conducting a fund-raising and lecture tour based on claims that the site, in the Ararat mountains, has a Biblical significance. Fasold contends that Roberts violated copyright law by incorporating Fasold's drawings of the site into publications without obtaining his permission. (Fasold has since repudiated his belief that the site contains the remains of the ark.)

Plimer, who is seeking to stop Roberts's presentations as well as to obtain an unspecified financial award, says a victory would make it clear that questionable scientific claims can be prosecuted under the fair-trade laws. That could extend the significance of the case well beyond Roberts's conduct and creation theory. "The crystal healers will be next," Plimer says. Neil Francey, a Sydney consumer lawyer who says the court traditionally takes a broad view of trade practices, believes the issue would then be whether such claims are fact or opinion. Roberts declined comment, but a source close to his team rejects Plimer's claim and says the case "will be tried on narrow legal issues rather

than the hype that has been put out."

In another twist, a mainline creationist group has distanced itself from Roberts and has condemned his approach as unscientific. "We are not on trial—we have debunked the claims of Roberts in our own literature," says Carl Wieland, chief executive officer of the Creation Science Foundation, a Queensland-based organization. "Our geologist identified [the ark site] with certainty as something else." But Plimer says a favorable ruling should



**Biblical battle.** Plimer (left) and Fasold hope to strike a blow against junk science.

be equally applicable to Wieland's group.

The buildup to the case began in 1992, when Plimer attended a couple of lectures given by Roberts on the Akyayla site in Turkey. The site, exposed during an earthquake in the late 1940s, is geologically described as ophiolite, a slice of ancient ocean floor thrust up when Africa and Europe collided. Plimer challenged Roberts's claims to have detected traces of metal, animal hair, and coprolites (fossilized animal dung) and was thrown out of one meeting, triggering a running feud that includes a pending defamation suit brought by Roberts after Plimer denounced him on a radio program.

Enter one-time fundamentalist David Fasold. Fasold, a former merchant marine officer specializing in marine salvage, became

convinced that the site held the relic of Noah's ark. In 1985, he prepared a drawing as part of a report to the Turkish government that also appeared in his 1988 book, *The Ark of Noah*. Fasold contacted Plimer in 1992 after learning that Roberts was using his drawings without acknowledgment. "I want no part of these people," he says. "The lawsuit is about creationists turning my research into an evangelical tool and making big money."

In opening arguments last week, Plimer's lawyer, Steven Walmsley, said that Roberts had infringed on fair-trade laws by using his lectures to raise funds to support his research on the Akyayla site. Walmsley said that Roberts made false claims of having carried out research with other archaeologists and that he misrepresented findings about the site and his qualifications to conduct research. Walmsley also argued that Roberts breached copyright laws by putting Fasold's sketch of the ark site into a brochure.

Roberts's defense attorney, Alex Radojev, told the court that the sketches were drawn independently and were based on several sources. He also said Roberts's company could not be sued for deceptive practices because it was formed after the lectures were given.

Plimer says he hopes the trial also will draw attention to creationism in education. While some states, like New South Wales, have directives excluding it from the science curriculum, others have endorsed creationist teaching. A recent study of the growth of fundamentalism estimates that 8% of nongovernment schools, with 60,000 students, are Bible-based and teach creation theory.

Whether the verdict influences Australian science education, it already has had a major impact on Plimer's personal finances. He has spent \$310,000 on the case, largely from the sale of his home, and says that a defeat would leave him bankrupt. According to Australian law, the loser pays court costs.

The trial is due to run for 2 weeks, but a ruling from Judge Ronald Sackville is not expected for several weeks.

—Elizabeth Finkel

*Elizabeth Finkel is a science writer in Melbourne.*