ties, says Hammond.

If similar effects turn up in other radioactive clocks that tick over hundreds of millions or even billions of years, however, they would loom large to geochronologists trying to work out the order of closely spaced geologic events in the distant past. Such fine distinctions matter, for example, to researchers who are using the decay of potassium-40 (half-life of 1.25 billion years) to sort out the mass extinction of 250 million years ago (*Science*, 15 May 1998, p. 1007). But, although potassium-40, like beryllium-7, decays by electron capture, its innermost electrons—the ones most likely to be snagged—are more strongly shielded from external effects. The potassium ion has two complete shells of electrons protecting its two innermost electrons, whereas the beryllium ion has none. Thus, researchers expect the effect of chemical form on potassium-40 to be far less than on beryllium-7.

But that won't stop Huh from trying to check the constancy of this clock. Even now, he is counting decay rates of rubidium-83. It has an electronic structure that provides even more shielding than does potassium-40, but its 86-day half-life will make experiments reasonably quick to perform. In a few months, he'll know if ancient days are even a tiny bit closer than we thought.

–RICHARD A. KERR

SCIENTIFIC MISCONDUCT

Shalala Takes Watchdog Office Out of the Hunt

The Department of Health and Human Services (HHS) has decided to downgrade the role of its Office of Research Integrity (ORI) in policing scientific misconduct. The change, in line with a new government-wide policy, strips ORI of the power to conduct investigations and, instead, asks it to teach universities how to prevent misconduct. It will continue to review the results of university investigations and propose sanctions. "ORI now goes into the oversight/recommendation role," says Chris Pascal, acting director of the office, which became notorious a decade ago for its dogged pursuit of allegations against a colleague of Nobelist David Baltimore.

Created in 1989 and assigned its present status in 1992, ORI has had responsibility for both investigating misconduct by HHS-funded researchers and imposing sanctions. But the agency's effectiveness was weakened by several instances in which charges against individuals were later abandoned or findings overturned on appeal. The decision by HHS Secretary Donna Shalala essentially adopts a 4-year-old recommendation by a congressionally appointed commission headed by Harvard reproductive biologist Kenneth Ryan (*Science*, 1 December 1995, p. 1431).

The new plan, formulated by an internal review panel headed by Assistant Secretary for Health (ASH) David Satcher, makes HHS dependent primarily on an institution's own investigation. ORI will review the findings and, if necessary, draw up sanctions, which it will send to Satcher as recommendations. "The ASH has no role right now [in that process]," says Pascal. Any additional investigation will be conducted by HHS's inspector-general (IG). Appeals will continue to be heard by a separate HHS panel of experts.

The eight scientist-investigators in ORI's investigative unit will concentrate on oversight and onsite technical assistance, Pascal says. HHS may also provide more direct support: It will soon launch a pilot project to assist institutions unable or unwilling to do their own investigations by offering them help from a consortium of experienced universities. The new scheme is consistent with the approach taken by the National Science Foundation, where the IG handles misconduct investigations and forwards its recommendations to the deputy NSF director. Pascal says ORI has been relying on universities to do most investigations since 1995, when it began to limit the number of cases it pursues. Barbara Mishkin, an attorney at the Washington, D.C., law firm of Hogan & Hartson, who has specialized in misconduct cases, says that ORI has improved its reputation in recent years by training investigators and "being much more selective" about choosing cases.

> **"I'm ecstatic about how this has come out."**
>
> **—Howard Schachman**

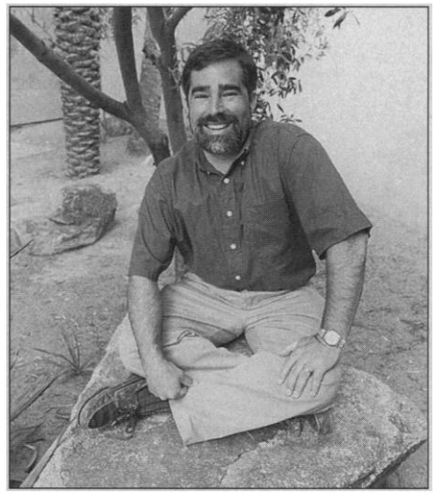
In announcing the changes at ORI, Shalala also said the department will adopt a newly proposed federal research misconduct definition that would limit misconduct to fabrication, falsification, and plagiarism (*Science*, 15 October, p. 391). University of California, Berkeley, biochemist Howard Schachman, speaking for the Federation of American Societies for Experimental Biology, says the new procedures recognize that universities have learned a lot about handling misconduct cases in the past 10 years. "I'm ecstatic about how this has come out."

–JOCELYN KAISER

SCIENTIFIC MISCONDUCT

Cleared of Misconduct, Geoscientist Sues Critics

Ronald Dorn, a prominent geoscientist at Arizona State University (ASU) in Tempe, has filed suit against the authors of an article, published last year in *Science*, who raised doubts about some of his work. Dorn is charging that statements made in the article, along with other comments by some of the authors, implied that he had doctored rock samples used to date ancient stone carvings.



CREDIT: JEFF HAVIR/ASU

Hard words. Ronald Dorn says critics of rock-dating technique defamed him.

Earlier this month, two investigations concluded that Dorn did not commit scientific misconduct, and last week Dorn finished officially informing the eight scientists that he is suing them for defamation. Both sides are staying mum about the suit, but some observers worry that the litigation could deter potential whistleblowers and chill public discussion of scientific controversies.

The suit is based on a 4-year-old controversy that revolves around a dating technique that Dorn developed in the mid-1980s but abandoned as flawed in 1996. To date stone carvings and geological features such as old shorelines, Dorn used acid to extract microscopic quantities of organic material, including plant remains, from beneath a thin layer of natural varnish on rock surfaces. He then sent the material to an accelerator mass spectrometry (AMS) laboratory to measure the amount of radioactive carbon-14, which decays at a known rate, that was present in the samples. The technique became controversial after it yielded ages for some stone artifacts from the southwestern United States that were several thousand years older than those accepted by many archaeologists.

In 1996, geoscientist Warren Beck of the AMS laboratory at the University of Arizona,

Tucson, discovered that a sample of Dorn's that he was processing contained coal and charcoal grains of vastly different ages. Those variations, he and co-authors later wrote in *Science*, made the dates obtained by the technique "ambiguous" (*Science*, 26 June 1998, p. 2132). They also noted that they were unable to find the grains in samples that were not prepared in Dorn's lab. Beck, geochemist Wallace Broecker of Columbia University's Lamont-Doherty Earth Observatory in Palisades, New York, and other researchers co-authored a paper that was eventually submitted to *Science*, which published it last June as a Technical Comment accompanied by a response from Dorn.

Although the authors did not accuse Dorn of misconduct, several shared their findings with officials at ASU and the National Science Foundation (NSF), which had funded some of Dorn's work. Both organizations began investigations of whether Dorn had manipulated the ages of his samples by adding the carbon grains.

This month ASU and NSF cleared Dorn. A faculty panel established by ASU concluded that "the evidence did not support allegations that Dorn added coal or charcoal to rock varnish samples" and that studies showed the materials occurred together naturally. In June, even before the finding was released, however, Dorn moved to file suit against the authors of the *Science* paper, charging that their statements were "published with an 'evil heart.' " His amended complaint, filed on 5 October in Maricopa County Superior Court, cites remarks attributed to Beck and Broecker by the *Arizona Daily Star*, and letters from Broecker to ASU and NSF, that deal with the feasibility of doctoring samples. In the complaint, Dorn says such remarks "clearly implied professional misconduct" and "seriously damaged" his ability to win grants, although the suit claims no specific amount for damages. In addition to Beck and Broecker, Dorn is suing Douglas Donahue, A.J.T. Jull, and George Burr of the University of Arizona's AMS Laboratory; Broecker's employer, Columbia University; linguist and rock art researcher Ekkehart Malotki of Northern Arizona University in Flagstaff; and Georges Bonani and Irka Hajdas of the Swiss Federal Institute of Technology in Zurich.

Lawyers say Dorn's case may rest on whether he can show that the authors went beyond normal academic discourse in criticizing him. Gilbert Whittemore, whose firm, Stalter & Kennedy in Boston, is not involved in the case, says the possibility of such litigation could prompt researchers to avoid future controversies. "Scientific disputes normally get worked out by a rip-roaring debate in the literature," he says, not in the courtroom. **–DAVID MALAKOFF**

MEXICO

Student Strike Engulfs Research Activities

A student strike that has gripped Mexico's main university for 6 months has now spread to the school's research institutions. Faculty members have already been hampered by months of delays at student-controlled checkpoints, thefts of equipment, and other hassles, and last week some scientists spent hours negotiating for the right to keep their labs open. "The damage ... will be difficult to repair," says Jaime Urrutia, director of the Institute of Geophysics.

CREDIT: J. L. MAGANA/AP

Striking out. UNAM students have taken their protest from the streets to labs on campus.

The protests at the Mexico City campus of UNAM—the 260,000-student National Autonomous University of Mexico—began on 20 April when student activists protested a proposed hike in tuition from pennies to about $150 a year. In June the university abandoned that plan, but the strike has continued, with students now demanding an end to all fees, looser admissions and graduation standards, and much more power on UNAM's governing council. More turmoil could lie ahead if university workers follow through on a threat to strike for higher wages. The school's 2000 researchers publish about half the papers by Mexico's scientists, and hundreds of faculty members have signed a letter asking the government to enforce the law and restore order. But Mexican President Ernesto Zedillo so far has refused to intervene in apparent fear of stirring public opposition in an election year.

Although students have occupied schools and teaching buildings for months, it was not until 18 October that they began to invade some of the 24 research institutes and centers, shutting down parts of the geography, geology, and geophysics buildings. Physicists and applied mathematicians convinced the activists to keep their buildings open, however, and several geophysicists told *Science* by e-mail that their colleagues had argued successfully that work such as monitoring of the nearby Popocatépetl volcano should go on. The geosciences, says Urrutia, "are particularly important because of the [recent] earthquakes, eruptive activity, and flooding of the past months."

Even though most research labs are still functioning, scientists say the prolonged shutdown of much of the campus has impeded their work. "The major inconvenience [for us] is traffic and communication problems," says Fernando Lopez-Casillas of the Institute of Cell Physiology. Each day researchers must pass through student-controlled gates, where they face verbal harassment. The strikers have also made it difficult to leave campus with equipment, including new seismographs for monitoring Popo. Overnight deliveries can only be picked up off-campus. The strikes have also touched off a wave of vandalism and robberies, including reported thefts of computers and several vehicles used by scientists.

An open letter from UNAM faculty and many international colleagues calls on the Mexican government to impose the "rule of law" (www.ibt.unam.mx/sos). The letter says that complying with strikers' demands, coupled with proposed cuts in UNAM's budget, "would leave us with a totally devalued institution, putting at grave risk one of the most ambitious and successful public and national university projects in Latin America." But Zedillo, according to Jose Antonio Zabalgoitia, a spokesperson at the Mexican embassy in Washington, D.C., "will not order any police or public force to drive the strikers out without strong evidence from the university community itself that they are not supporting the strikers and they want the strike over." Some scientists say they may have to hunker down until the political climate is more favorable: "We hope the problem will clear up once the primaries are over" next month, notes UNAM seismologist Cinna Lomnitz.

Meanwhile, Lopez-Casillas says he plans to take a computer home to write papers on his work characterizing the transforming growth factor–β receptor if his institute is closed. But labs working with higher animals, such as a colleague's highly regarded