minum was not observed in any of them. The researchers conclude that "we now believe that previous evidence that aluminium is involved in the aetiology of Alzheimer's disease should be reviewed to take into account the probable contamination of tissue by alumino-silicates present in most reagents."

Minorities in Medicine

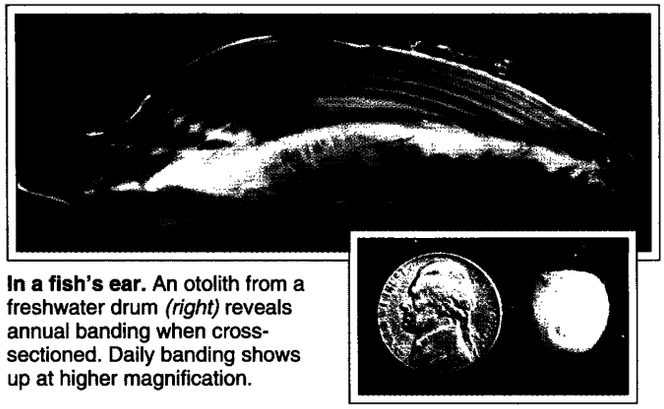
Some black researchers have voiced the concern that too large a fraction of biomedically inclined black students head for medical rather than research careers. But not many black males are going to medical school either, according to the latest figures from the Association of American Medical Colleges (AAMC).

The number of students from underrepresented minorities who entered medical school this fall crept to a record high—to 1827, or 11.2% of the total—says the AAMC. Minority women entrants, up by 20.4% over last year, led the way, but the number of black male entrants went up only slightly. Indeed, the number accepted into medical school has been static for some years (see chart).

The AAMC has been promoting a goal of 3000 entrants from underrepresented minorities into the nation's 126 medical schools by 2000. That would mean a 64% increase in 8 years. But over the past 8 years, the number has only gone up by 25%. As AAMC president Robert G. Petersdorf observes, "much work remains."

Minority Applicants Accepted to Medical School

	Males	Females
Black		
1986	524	534
1992	509	782
Chicano		
1986	192	101
1992	240	178
American Indian		
1986	36	24
1992	55	48



In a fish's ear. An otolith from a freshwater drum *(right)* reveals annual banding when cross-sectioned. Daily banding shows up at higher magnification.

TOP PHOTO: PATTERSON *ET AL.* INSET: BOB KALMBACH/U. OF MICHIGAN

Getting an Earful of Climate

Fish ears rarely make the news, but their contents have some fascinating tales to tell. Most fishes' ears contain stones called otoliths—lumps of calcium carbonate that can be as big as marbles and are thought to play a role in hearing and balance. Now a group of researchers from the University of Michigan has found that otoliths can serve another function—they offer clues to seasonal temperatures thousands or even millions of years ago.

What geologists William Patterson and K. C Lohmann and paleontologist Gerald Smith have discovered is a new twist on an old strategy. For several decades, geochemists have tracked ancient climates by analyzing oxygen isotopes in tiny fossils from seafloor sediments. Because the rate at which living things extract each isotope from water varies with temperature, the ratio yields clues to the temperatures of ancient oceans—and thus the prevailing climate.

Ocean sediments only reveal changes on very large time scales, and they couldn't help Patterson and Smith, who wanted to look at climate changes in the North American interior. But the scientists guessed that otoliths from freshwater fishes might give them a record of seasonal temperature extremes on land. Every day, a fish adds a whisper-thin layer of carbonate to the otoliths in its ears. By slicing open ancient otoliths—found in fossil deposits and among artifacts from Indian tribes, who collected them—counting these daily growth rings, and analyzing the oxygen isotopes at closely spaced intervals, the researchers thought they might trace shifts in water temperature over periods as short as a week.

After analyzing otoliths from modern fish to see how the isotopes vary with water temperature and composition, Patterson and Smith were ready to put their fish ear "geothermometer" to work. They've already found isotope fluctuations in 3.5-million-year-old otoliths from Florida and Idaho, says Patterson—the signature of seasonal temperature swings in long-vanished lakes—and they are now putting actual numbers on those extremes.

Patterson and Smith, who reported their findings last month at the meetings of the Geological Society of America in Cincinnati and the Society of Vertebrate Paleontology in Toronto, plan next to analyze a succession of otoliths a century or two apart to map the seasons in the Great Lakes region over the last few thousand years. But Patterson thinks that will far from exhaust the technique's potential. Fossil beds have yielded otoliths up to 150 million years old, which, he says, might offer a glimpse of a typical year for a dinosaur.

Coyote Research Facility Trashed

On 24 October, vandals burned down a field office at a Department of Agriculture research facility in Utah, liberated a handful of coyotes, and set off a small incendiary device in the office of USDA investigator Fred Knowlton at nearby Utah State University (USU). They thus became the first to violate a law passed last August that makes it a federal crime to vandalize research animal facilities.

The break-in occurred at the Millville Predator Research Facility run by the Animal and Plant Health Inspection Service. Local authorities estimate that damage to the field office may approach $500,000. Knowlton, a wildlife biologist who heads a project to find ways of alleviating coyote predations on livestock, says the damage to his office was minor.

Uncharacteristically, no one has claimed credit for the Utah performance, although a design spray-painted at the USU office suggests involvement by an animal rights group in the Pacific Northwest, says Barbara Rich of the National Association for Biomedical Research. Rich says the Millville episode is the first lab break-in since last February, when the Animal Liberation Front wrecked offices and burned files to protest a mink nutrition research project at Michigan State University.

So far, says Rich, only four cases involving lab break-ins have actually been prosecuted. But Knowlton says that five investigative agencies—local, state, and federal—are homing in on the Utah case. Among the penalties provided for by the new Animal Enterprise Protection Act is a 1-year jail term for anyone causing more than $10,000 worth of damage.

Correction

"Dodging the Needle in Health Care" (2 October, p. 34) stated that 2% of HIV-contaminated needle-sticks are expected to lead to infection with the virus. The correct figure is between 0.25 and 0.4%.