

Texas A&M The Battalion

Vol. 83 No. 25 USPS 045360 10 pages

College Station, Texas

Monday, October 5, 1987

Earthquake's aftershock jolts California

LOS ANGELES (AP) — A sharp aftershock from last week's severe earthquake jolted Southern California before dawn Sunday, causing at least one death and dozens of injuries, damaging buildings, knocking out power and sending jittery residents into the streets.

The quake, centered in suburban Rosemead about eight miles northwest of downtown Los Angeles, registered at 5.3 on the Richter scale of ground motion, Don Kelly of the U.S. Geological Survey said.

At the California Institute of Technology the quake was measured at 5.5, according to a spokesman, Robert Finn.

The 3:59 a.m. quake was the 22nd aftershock registering more than 3.0 since Thursday's quake, which measured 6.1 on the Richter scale and caused six deaths and more than \$75 million in damage.

Sunday's shock, centered about two miles west of Thursday's, was felt 40 miles west of Los Angeles in

Ventura County and 100 miles south in San Diego. It was followed by three tremors measuring 3.0 or more within four hours.

43,000 homes suffered power outages, and many residents, some in bathrobes, gathered outside apartments and houses, waiting for more shocks. Others, camped out in a downtown parking lot, said they had been there since Thursday.

Mildred Robbins, 66, of Arcadia, was pronounced dead at 5:14 a.m. at

Arcadia Methodist Hospital after going into full cardiac arrest, administrative supervisor Terry Pisenti said. Efforts to revive her failed. The cardiac arrest was accredited to the shock the elderly lady received from the tremor that shook her home.

In suburban Whittier, where hundreds of homes were damaged and 30 buildings collapsed Thursday, residents who had been in overnight shelters were evacuated to a lighted baseball field. 500 people were

housed in eight of the available Red Cross shelters.

California Medical Center, about a mile south of downtown Los Angeles, sustained some structural damage and power to the complex was lost. The center was operating on emergency power, nursing supervisor Elizabeth Adams said.

The quake required that an "unusual event" be declared at the coastal San Onofre nuclear power plant, midway between Los Angeles

and San Diego, but the two operating reactors were not damaged, Southern California Edison spokesman Dave Barron said.

Chunks of concrete fell from a bridge over the southbound lanes of the Pasadena Freeway, closing two lanes. Small rockslides occurred elsewhere along the freeway that runs northeast from Los Angeles. The eastbound 91 Freeway was closed due to buckling of the roadway, the California Highway Patrol reported.

A&M scientists work on mind-controlled devices

By Marie L. McLeod
Reporter

In the futuristic film "Firefox," Clint Eastwood operates a high-tech fighter jet by using his thoughts instead of manual controls to manipulate an all-electric on-board system.

Realistically, such ideas exist only in laboratories or in the imagination.

Producers of science-fiction films get many of their ideas from projects researchers are working on and those ideas are not that far off in the future.

In fact, Texas A&M researchers are working on thought-controlled devices similar to the ones in the movie.

In a project called Advanced Technologies: Physiological Control Systems, researchers are trying to find an application of human performance technology that will enable them to produce a control system that utilizes physiological variables, says Dr. Charles Shea, chairman of the Elouise Beard Smith Human Performance Laboratories.

Funds for the project are awarded to the University from Advanced Technology Grants allocated by the Texas Legislature in two-year sets, Shea said.

The research program received \$20,000 for the first year and \$200,000 for the second, he said.

The funds are allotted to various facets of the research program through the bioengineering department's Human Systems Engineering Laboratory, he said.

"The research is a set of multidisciplinary projects," Shea said.

He and Dr. Bill Barnes, both health and physical education professors, are working in conjunction



Photo by Marie McLeod

Joe Signorile, left, and Jay Williams, graduate assistants in the health and physical education de-

partment, try to develop a robot that simulates human movement in response to a muscle signal.

with researchers from a variety of disciplines.

Barnes and Shea are studying the execution of simple commands to robots on the basis of eye movement and electromyography (EMG), an

electrical impulse resulting from muscle movement, he said.

Currently, the eye-tracking systems are expensive and require that the head be relatively stable or carefully monitored, Shea said. They

hope to eventually eliminate such constraints.

They also are studying ways of using eye positioning to get responses on a computer screen or to guide a wheelchair.

They are in the developing stages of designing an application that will enable handicapped people to use eye movement for flipping switches or turning pages of a book, Shea said.

Electromyography is utilized with prosthetic limbs and for simple controls that would be used on a number of different machines, he said.

The electrical activity in the muscle would give off impulses. Then the machinery would sense it, do a signal process and transfer the impulse to something else, such as an artificial limb, a wheelchair or a computer screen, he said.

A lot of their research is done through the use of teleoperated machines, Shea said.

"A teleoperator is a general-purpose, dexterous, man-machine system that augments man by enhancing and projecting his neural-muscular capabilities across distance and through physical barriers," Shea said.

A simple example of this type of machine is an automobile, because man must use his senses and cognitive abilities to react to any given situation, he said.

On the other hand, the automobile aids man with its strength, power, speed and endurance, he said.

"A robot can be much stronger or it can be 1,000 times smaller than man," Shea said.

Machines can function in adverse conditions because they are stronger, steadier and adaptive in size, he said. Therefore, they may be valuable in microsurgery or in exte-

mely adverse conditions in which man can not survive.

Others involved in the research include Dr. Gerald Miller of the Human Systems Engineering Laboratory.

Miller and the lab assistants are concerned with the use of voice control, Shea said.

A computer can detect and make use of words enabling it to elicit some sort of response such as manipulating a computer screen and hopefully, someday moving a wheelchair, the researcher said.

Finally, Drs. Bill Klemm and Steven L. Peterson of the College of Veterinary Medicine and the College of Medicine, respectively, are studying the electrical impulses elicited from the brain during interaction with a control device, he said.

Through the use of an electroencephalograph, a machine that records brain activity, they are able to determine a person's thought process and cognitive state of performance, Shea said.

A computer program is limited to repeating only functions that it has been programmed to do, he said, whereas, with the use of physiological electrical activity, the robot can be watched and movements can be altered.

"Man needs the machine's size, strength, endurance and resistance to hostile environments, while the machine is brought to life by man's perceptual and cognitive ability to provide flexible and adaptive control," he said. "It's a symbiotic relationship."

Study provides statistics on enrollment

Student numbers rank highest at A&M

By Lee Schexnaider
Staff Writer

Texas A&M had the state's largest increase of enrolled students from 1977 to 1986, according to a report released last week.

The report, presented at the Texas Higher Education Coordinating Board meeting Friday afternoon, shows that between the fall of 1977 and the fall of 1986, 21 Texas universities had an increase in enrollment, while 10 universities experienced a decrease.

A&M's enrollment increased 21 percent over the nine-year period — from 28,848 in 1977 to 34,940 in 1986. These figures do not include enrollment in the veterinary and medical graduate programs.

The growth of 6,092 students at A&M represents the largest number increase in the state, but not the largest percentage increase. The largest percentage increase was 71 percent for Lamar University at Port Arthur, where enrollment increased from 845 to 1,448 students.

Enrollment at the University of Texas increased from 41,660 to 46,140 in the nine years — an increase of 11 percent. The average increase for universities was 28.3 percent, according to the report, which was presented by Dr. Bill Sanford, the board's assistant commissioner for university and health affairs.

Universities that showed only a

small increase or decrease were classified as stable, said Janis Monger, the Coordinating Board's director of public information.

"As a preparation for doing that (enrollment caps), the board asked us to first report to them on the trends that we could observe in the enrollment patterns in higher education."

— Dr. Bill Sanford, assistant commissioner for university and health affairs

The "stable" figures included six universities, where increases ranged from a 5 percent increase for Texas Tech University to 1 percent decreases for East Texas State University at Texarkana and the University of Houston at University Park.

Of the 10 institutions classified in the enrollment decrease category, Texas A&M at Galveston had the smallest decrease at 8 percent — its enrollment dropped from 572 to 524 students.

Sanford said the study was done because of provisions in House Bill 2181 that indicate the Texas Higher Education Coordinating Board may put enrollment caps on senior institutions in Texas.

"As a preparation for doing that (enrollment caps), the board asked us to first report to them on the

trends that we could observe in the enrollment patterns in higher education," Sanford said.

Monger said the board's staff also

is going to contact other states with capped enrollment to find out how they went about it.

"In the near future the Commission of Higher Education is going to appoint an advisory committee with representatives from the different institutions of Texas," Monger said. "They will recommend to the board what criteria to consider and what timetable to consider when approaching the whole issue."

Sanford said he has received information regarding enrollment from Massachusetts and Maryland but has not yet analyzed the information.

"We will be definitely talking to those folks and find out how they did it," he said. "We want to see if our plans or our thoughts about how we might do it track their experiences."

He said studies on enrollment forecasts are done every few years and the present figures he is using are from 1986 and will be updated in 1988.

"We will have up-to-date forecasts, which I suspect will change somewhat since the economy has changed," he said.

Sanford said many Texas institutions are probably going to grow rapidly, while at the same time others will decline in enrollment. That pattern, he said, causes the state some problems.

"Institutions that are growing rapidly ask the state for a lot of additional money, millions of dollars in additional money, for new buildings and resources to support those new students," he said. "At the same time those (institutions) that are declining are having to mothball existing buildings and get rid of faculty members and other folks they can't support."

Sanford said he does not know all the reasons for changing enrollments, but not enough information is available to decide on how the Coordinating Board should act.

"We have something of a jump in enrollment on a lot of campuses this year, which is probably related to the economy," he said. "Because it is a traditional pattern that when the economy is bad and people are out of work, many of those folks will go back to college. But that doesn't

mean they will stay there . . . we don't know if the numbers are going to be a trend."

A few reasons why some of the schools are losing students is simply because of where they are located, Sanford said. Population shifts in the state have shuffled college students away from some campuses and toward others, so some institutions are straining at the seams.

"There has been a lot of growth in campuses in the state over the last several years and we are overgrown," Sanford said.

The problem of the disproportionate enrollment in universities was addressed by the Select Committee for Higher Education, Sanford said.

"The Select Committee for Higher Education was the blue ribbon committee that operated in the interim period between the last two legislative sessions," he said. "They took a very hard look at that (enrollments). But when they proposed to close some campuses, the political and citizen response was so strong against it they backed off from that and did not take to the Legislature any recommendations to close any specific campuses."

"So I would have to guess it is very difficult to close a campus. I personally would predict that they probably will not be closed. If they are closed it will probably not come from actions at the state level because the pressure is simply too great."

Judge acquits 97.7 percent of accused drunken drivers

HOUSTON (AP) — During a six-month period this year, a judge acquitted 97.7 percent of all the accused drunken drivers who appeared before him after opting to waive trial by jury, records show.

Forty-three defendants chose to be tried by the judge alone and 42 of them were found innocent in proceedings the police call "mock trials," the *Houston Chronicle* reported.

In many of the 43 trials, prosecutors were denied the option of calling witnesses, the newspaper said. Intoxilyzer tests, regardless

of how strong the findings, were disregarded by the judge, whose verdicts are based almost exclusively on videotapes made of defendants after their arrests.

In September, County Court-at-Law Judge Bill Ragan not only acquitted a man who flunked an intoxilyzer test after leaving the Astrodome, he criticized the arresting officers for "killing (the) American tradition" of drinking beer at a ball game, the *Chronicle* reported.

Criticism of Ragan's novel approach to settling DWI court trials doesn't faze the judge. He has faced considerable heat on numerous subjects during his 22 years of presiding over such misdemeanor cases.

Of 72 people who opted during the March-August period to be tried by juries in Harris County's 14 misdemeanor courts, only 10 were convicted.

No other court-at-law judge comes close to Ragan's record. Compared to his 42 acquittals, only Court-at-Law Judge Don Hendrix

approached the record with 18 acquittals and no convictions.

The Houston Police Department's 14-member DWI Task Force calls Ragan's court proceedings "mock trials" and "moot court competition."

The breath-test strikes Ragan as such an odious instrument that, he said, he tries to disregard it altogether at DWI trials, preferring instead to rely on videotaped images of the defendant's actual behavior.

Congress: Publicity jobs for Contras were illegal

WASHINGTON (AP) — An office within the State Department engaged in an illegal, covert "white propaganda" effort to generate support for the Reagan administration's policies in Central America, according to congressional investigators.

Since it was created in 1983, the department's Office of Public Diplomacy for Latin America and the Caribbean at times arranged news media interviews for leaders of Nicaragua's Contra rebels and generated opinion articles opposing Nicaragua's leftist Sandinista government for placement in major media outlets while carefully concealing its own role in the publicity effort, according to investigators for the General Accounting Office, Congress' investigative arm.

For example, a March 11, 1985 opinion column in the *Wall Street Journal* on the offensive threat posed by Soviet attack helicopters in Nicaragua was attributed to Rice University Professor John F. Guilmartin Jr. GAO said Guilmartin's status as a paid consultant to the public diplomacy office and the office's collaboration on the article apparently were not disclosed to the newspaper for the article.

The GAO concluded that the activities "were misleading as to their origin and reasonably constituted 'propaganda' within the common understanding of that term," and violated a legal ban on use of federal money for propaganda not authorized by Congress.

The six-month GAO investigation also turned up documents seen by investigators as relevant to Congress' Iran-Contra probe, but which were not turned over by the White House under a sweeping request for all documents that could have a bearing on the Iran-Contra investigation.