edited by ANDREW LAWLER

L.A. Quake Lessons Relearned in Japan

It doesn't take a great earthquake to wreak devastation in modern cities, as has been driven home twice in a year: first by California's Northridge temblor of January 1994, and last week, by the largest quake to strike a Japanese city in almost 50 years. The second, a magnitude 6.9 quake, clobbered Kobe and Osaka.

Both the Kobe and Northridge quakes were set off by the collision of tectonic plates, yet were far from the plate boundaries where seismologists traditionally have focused their attention. Each occurred on one of many secondary, infrequently ruptured faults that crisscross the regions of major plate boundaries. And just as the Northridge shock struck far from the infamous San Andreas fault, last week's seismic activity took place 200 kilometers from the Japanese equivalent—the treacherous offshore Nankai Trough.

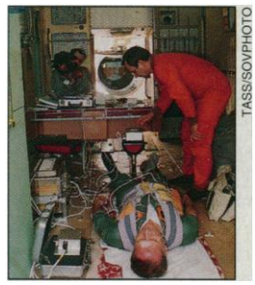
Secondary or not, the fault that ruptured near Kobe devastated the region: More than 1500 people died, nearly 4000 buildings were destroyed, and hundreds of fires raged. Such damage should not be surprising, says seismologist Hiroo Kanamori of the California Institute of Technology: "Earthquakes are the same," although "our living environments have changed" as more and more people live in danger zones. "In that way, the hazard has been increasing."

Varmus Selects Adviser

National Institutes of Health (NIH) Director Harold Varmus has picked a new "emissary" to advise him on clinical research. His guru of bedside medicine will be Lawrence Shulman, recently retired chief of the National Institute of Arthritis and Musculoskeletal and Skin Diseases. Shulman declined comment, but will serve as liaison to the clinical community in the same way that Howard Schachman, University of California professor emeritus, represents the basic science community. Shulman has been a leader in connective-tissue research and community health at the Johns Hopkins University School of Medicine.

Physician Sets Human Space-Flight Record

Astronauts and cosmonauts often are regarded as space jocks, but the record for the longest human space flight has now been broken by a medical researcher. Valeriy Polyakov, a Russian doctor, has spent more than a year aboard the Mir space station, conducting life science experiments and keeping an eye on the health of the other two crew members.



TASS/SOVPHOTO

Record-breaker. Polyakov at work.

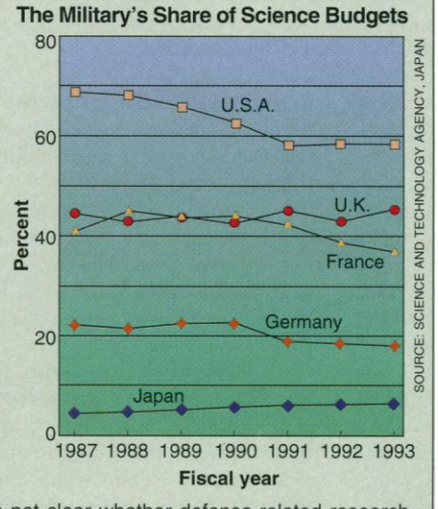
Polyakov shattered the old space-flight record of 365 days, set in 1988 by veteran cosmonauts Vladimir Titov and Musa Manarov, on 9 January. The doctor-cosmonaut, who also recently surpassed the career space-flight record, plans to remain in orbit until March.

Polyakov is overseeing experiments involving his two colleagues that measure physiological reactions to exercise and the effect of microgravity on vision. He also prescribes time in the Chibis, a pneumatic vacuum suit that simulates the effect of Earth's gravity on blood circulation. During his year in space, however, Polyakov has spent as much time keeping the station in shape as doing science. Mir, launched in 1986, is growing old. The crew has been forced to spend large blocks of time fixing faulty computers, reinstalling solar arrays, and replacing the gyrodynes that orient the Mir facility.

Japan Bucks the Trend

Japan stands alone among industrial nations in having a rising proportion of its research and development budget devoted to defense-related science.

A recent white paper from Japan's Science and Technology Agency (STA) (see table) notes that the end of the Cold War has led to a shift in research spending from the military to the civilian sectors in many countries, most notably in the United States. In contrast, Japan's military spending, although a much smaller part of the overall science budget, has been growing faster than its civilian counterpart.



An STA official says that defense's share of the government R&D pie has been bolstered by the FS-X fighter plane, a project launched in 1988 that so far has cost $3.27 billion. And that is double the original estimate for the total program. Now, he won't reveal what the final cost will be. But he says it's not clear whether defense-related research spending will return to its traditionally low levels when that project is completed toward the end of the century. "Japan already spends very little on defense," the official says, "and there is a lot of pressure on Japan to increase defense spending."

Congress Deep-Sixes Gallo Report

Now that the Republicans have forced Representative John Dingell (D–MI) to relinquish his role as head of the House subcommittee that investigates scientific misconduct, it appears the National Cancer Institute's (NCI's) Robert Gallo will be spared a final assault on his reputation.

Dingell's investigatory staff had long been preparing a report on Gallo and his lab's role in the discovery of the AIDS virus. But with the turnover in Congress and the resulting changes in the House Commerce Committee, the report will never be formally released, say congressional staffers.

According to the 8 January edition of the *Chicago Tribune*, however, Dingell's staff concluded in a draft that the U.S. government was involved in a "cover-up" to protect Gallo and the patent he shares with the government for the AIDS blood test. But the *Tribune* also noted that the draft did not resolve what it called "the central, original issue": whether Gallo's lab had "misappropriated" the AIDS virus it claimed to have discovered in 1984. That charge was first raised by France's Pasteur Institute, which in 1983 gave Gallo's lab samples of HIV that turned out to be identical to ones used to make the blood test.

Tribune coverage of Gallo's lab starting in 1989 triggered the investigations by Dingell's committee as well as one at the Department of Health and Human Services, which ultimately was handled by the Office of Research Integrity.

For Gallo, who maintains that the French samples simply contaminated his, this brings to a close 5 years of intensive government investigations, none of which ultimately found him or others in his lab guilty of wrongdoing. "I'm looking forward to the future tremendously," says Gallo, who last year announced that he intends to leave NCI. "I feel like I've got a lot of lost time to make up for."