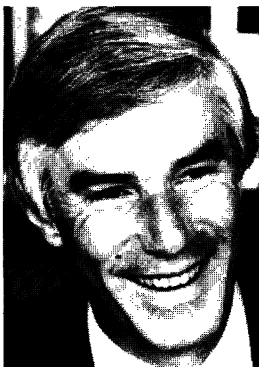


Briefings

edited by CONSTANCE HOLDEN

New Stanford Head

University of Chicago provost Gerhard Casper has been selected to replace Donald Kennedy as the next president of Stanford University. Casper,



Gerhard Casper

54, is a scholar of constitutional and comparative law who immigrated from West Germany in 1964 and began his U.S. career teaching political science at the University of California, Berkeley. He joined the Chicago faculty in 1966 and served as dean of the law school from 1979 until 1987. Stanford's Board of Trustees unanimously fixed on Casper from among 667 candidates as "the right person to lead Stanford into the next century."

Liver Transplants Good for Brains

A recent study by University of Pittsburgh researchers suggests that liver transplants for alcoholics can reverse some of the cognitive deficits that many professionals have assumed to be permanent.

Researchers already knew that both alcoholic and non-alcoholic liver disease create hepatic encephalopathy—cognitive deficits created by the buildup of toxins in the blood. But the prevailing assumption in the alcoholism treatment community has been that most of the damage to cognitive func-

tion is the result of what alcohol does to the brain.

That assumption has now been challenged by research on a group of alcoholics with liver transplants at the University of Pittsburgh's Western Psychiatric Institute and Clinic. A team of researchers followed up on 13 patients—who have to be sober at least 6 months to qualify for transplants—who had been given a battery of neuropsychological tests as part of their pretransplant evaluation, and compared them to age- and sex- matched controls. A year after they received new livers, all but two of the alcoholics showed "significant improvement" on tests covering psychomotor, visual, and perceptual abilities. The one capacity that did not improve was memory.

Pittsburgh psychologist Ralph Tarter, who co-authored the study with Amelia Arria, says, "I quite frankly didn't expect the magnitude of recovery" shown in the study, in which most of the measured cognitive functions had returned to "basically normal." Tarter speculates that the main exception, relating to short-term memory, might reflect the nonreversible effects of alcohol on the hippocampus—a brain structure involved in memory formation.

Tarter says the research, published in the December *Alcoholism: Clinical and Experimental Review*, demonstrates the need for "more aggressive management" of liver disease in alcoholics as a way of avoiding "chronic lowgrade encephalopathy." He also argues that the results support the use of liver transplantation for recovering alcoholics, who are the largest candidate population for the procedure.

A Voice for Bio-Engineering

Scientists have the National Academy of Sciences (NAS), engineers the National Academy of Engineering, and health policy types the Institute of Medicine. Now biomedical engineers have their own combination honor society/government advisory body. Last month, they established the American Institute of Medical and Biological Engineering (AIMBE) as an umbrella group for 40 organizations that span a range of specialties from genetically engineered drugs to artificial organs. Robert M. Nerem of the Georgia Institute of Technology is president of the new group.

According to Jerome S.

Schultz of the Center for Biotechnology and Bioengineering at the University of Pittsburgh, the main purpose of the group, which is headquartered in Washington, D.C., will be to supply advice to government agencies, much as the NAS does. And like most of the major engineering societies, the membership is made up of invited "fellows." But others will be able to get involved through AIMBE councils made up of representatives from professional societies and from industry.

First on AIMBE's agenda is the formulation of a response to the biomedical engineering aspects of the National Institutes of Health's "strategic plan." Schultz says it's too bad the new group wasn't in business a year ago—the debate over silicon breast implants is just the sort of thing to which AIMBE might lend its collective wisdom.

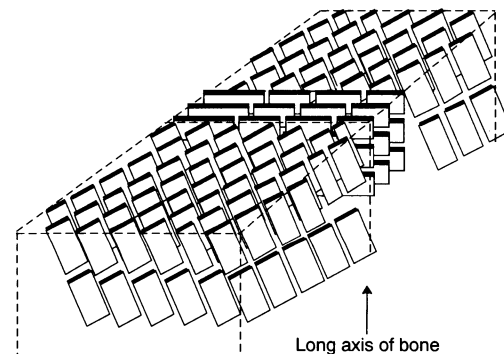
Red Ink at Harvard

Harvard Medical School, facing one of the worst budget deficits in its 213-year history, plans to eliminate some 40 administrative positions over the next 2 years.

By cutting the positions—8% of its administrative staff—the school hopes to save some \$2

Bone Like Plywood

Researchers at Israel's Weizmann Institute of Science say they have recently gained some clues as to why bone tissue is so tough and resilient. Looking at rat bones, structural biologists Stephen Weiner and Wolfie Traub and electron microscopist Talmon Arad found that the calcium phosphate crystals in the bones are aligned differently in alternate layers of protein fibers, much like a "rotated plywood" structure, as shown in diagram. This irregular structure halts the spread of cracks and fractures. The work also suggests that fractures are more likely to propagate along those bits of bone that have crystal plates all oriented in the same direction. According to University of Michigan biomechanics expert Steven Goldstein, "The Weizmann work offers an important insight into the structure-function relationships of bone tissue and helps to explain how mineral participates in providing mechanical integrity." The researchers, who reported their findings in a recent issue of the



Journal of the Federation of European Biochemical Societies, are now seeking to determine whether this type of structure is present in other animals' bones, and whether it is altered by disease such as osteoporosis. They also say that an understanding of a bone's molecular architecture may lead to the design of improved industrial materials.