in scientific fact. Not only do they harp on the measurable physiological changes that occur during meditation (heartbeat, body temperature, blood lactate levels, skin resistance, and so forth) but they even strive to describe the state of consciousness in scientific terms. Thus meditation is described as a way to achieve "minimum entropy" which, as scientists know, is consonant with maximum order. As Wallace observes, superfluidity and superconductivity occur at temperatures near absolute zero. During TM, when mental activity is at a minimum, the brain achieves a state of superconductivity, so to speak, allowing the inner springs of creativity and truth to surge up through it. On such reasoning does Wallace base remarks such as, "it will not be very long before the neurophysiological standards for the state of enlightenment are firmly established," and "the widespread use of TM is a scientific basis for world peace."

However this may sound, the Maharishi approach does hammer away at one undeniable fact—that a student must become receptive to knowledge before he is to learn anything.

The people involved in MIU believe they have hit on an approach to learning that produces the results educators have for decades sought in vain. One proponent is John Lewis, professor of earth and planetary sciences at the Massachusetts Institute of Technology, who has taped lectures for MIU. Lewis explains that TM breaks down

Briefing

Future of Private Laser Fusion Research in Doubt

The chairman of KMS Industries, the only private company conducting experiments in laser fusion, died in Washington, D.C., on 14 March, following a stroke suffered the previous afternoon as he was testifying at a hearing of the Joint Committee on Atomic Energy.

The death of Keeve M. Siegel, who was president and chairman of KMS Industries, leaves the future of the company in question. KMS Industries, which is based in Ann Arbor, Michigan, has been almost continually short of money since it embarked on a program to demonstrate the feasibility of laser fusion for power production in 1971, and Siegel was the supersalesman upon whom the company relied to attract and hold financial support. In 1972 Siegel convinced Burmah Oil Co., Ltd., the huge British petroleum concern, to guarantee loans for $12.5 million devoted to ongoing research in laser fusion. This year he obtained a promise from the Texas Gas Transmission Corporation to fund half the cost of an $80-million pilot plant, which KMS proposed to finish by 1980, for the production of hydrogen and methane from laser fusion.

While the promises of the company for rapid commercialization of laser fusion technology have met skepticism from almost every quarter, the company's progress in the basic research associated with laser fusion has recently been acknowledged by scientists in many countries. The Energy Research and Development Administration had just awarded KMS the company's first government research contract (*Science*, 7 March). According to the information that is publicly available, KMS leads the national research efforts of both the United States and the Soviet Union in the number of fusion neutrons that it can produce from the compression of a fuel pellet by laser beams, and KMS alone claims to have a process for producing hydrogen directly from laser fusion, bypassing the step of making electrical power.

Along with representatives from other laser fusion research programs, Siegel was testifying before the JCAE in its hearings room on the second floor of the Capitol on 13 March. As he neared the end of a prepared statement, which requested $59.5 million over the next 3 years, he stopped speaking in midsentence. As a hushed audience in the hearing room waited for Siegel to continue, he uttered the word "stroke" and slumped forward. The hearing was immediately halted and Siegel was rushed to the George Washington University Hospital, where he died at 5 o'clock the following morning. The announcement of his death was made by R. A. Olsen, executive vice president of KMS Industries. Trading of KMS stock was suspended for 10 days in all over-the-counter markets.—W.D.M.

A Helping Hand for Saudi Arabian R & D

U.S. government officials and nongovernment scientists will assist Saudi Arabia in setting up its first national laboratory, to be called the Center for Science and Technology, according to a communiqué issued recently at the close of general talks between representatives of the two countries in Washington. Unlike so many other cases where the United States is supplying money as well as know-how to enhance other nations' scientific capabilities, Saudi Arabia will pay all the bills—even travel and time for American government and nongovernment participants in the effort.

Implementing the plan to establish a center will be a so-called "working group" for science and technology, which is now being appointed. The American chairman will be Alfred J. Eggers, assistant director for research applications of the National Science Foundation, and the membership will include Saudi and American scientists from industry, universities, and government.

The science working group is only one of four aiding the Saudis under the auspices of a Joint Economic Commission, which met in Washington on 26 and 27 February. The United States helped establish the joint commission last year with the aim of promoting long-term economic cooperation between the two countries—but obviously one unstated goal was to provide some security against the recurrence of another Arab oil embargo. Joint commissions of a similar sort, having science and technology as one of their thrusts, have also been set up in the last year with Israel, Iran, Egypt, Jordan, and India.

Saudi Arabia, richer than ever as a result of recent oil price increases, is about to start a 5-year modernization program estimated to cost $60 billion. What the Saudis want from the United States, according to U.S. officials who have participated in the recent meetings, is agricultural aid, assistance in improving their health care and educational systems, and even help in devel-

students' psychological barriers to learning and unblocks the natural pathways that conventional education fails to open.

Maharishi's global organization is—just like the universe—in constant flux. Last year it seems the idea was to develop 3600 Maharishi International Universities around the world. Now the emphasis is in the direction of external degree programs. The Maharishi people put high priority on the development of teaching materials and videotapes that can be disseminated to their centers as well as to other universities (courses in SCI are available off and on at various colleges around the country). A global television network is planned so that peoples in the far corners of the earth can achieve enlightenment. An MIU station is now being constructed in Los Angeles which, says Lewis, will transmit lectures over the local educational television station.

The backbone of Maharishi's movement is made up of young people, most of them volunteers, who are ardently devoted to the guru and his principles. MIU tries to give the impression that it has the endorsement of great minds in scholarship and science, many of whose names are scattered about the catalog. But such is not quite the case. Chemist and Nobel prizewinner Melvin Calvin of the University of California at Berkeley says he addressed one of the SCI symposia, but he considers use of his name in the catalog as coming "perilously close to false advertising."

Briefing

oping energy technology. The Saudis have said they would like to process methane, which they now burn as waste when it emerges from their oil wells.

The planned Center for Science and Technology would eventually have a staff of 1000 persons. It would work on applied problems related to national needs, such as arid lands and desalinization of water, as well as on basic research. It would also provide work space and equipment for graduate students at the country's three universities, but would not be part of the university system.

U.S. officials estimate that some 1000 Saudi Arabians are studying in the United States. One of the Saudi government's problems is that it doesn't know the composition of the work force within its own borders. Last year, the government conducted its first national census; it has now asked the United States for assistance in methods of statistical analysis so it can learn more about its people.—D.S.

Social Scientist Nominated NSF Deputy Chief

Richard C. Atkinson, chairman of the psychology department at Stanford University, has been nominated by President Ford as the new deputy director of the National Science Foundation (NSF). Atkinson would fill the vacancy left by Raymond Bisplinghoff who left to become chancellor of the University of Missouri at Rolla last November. At the age of 46, Atkinson is a member of the National Academy of Sciences and the National Academy of Education and has worked primarily in the fields of cognition theory and computer-aided instruction.

If his nomination is confirmed by the Senate, as seems certain, he will be the first social scientist to hold one of NSF's two top jobs. This in itself is of some consequence for an agency primarily devoted to the support of the physical sciences and whose funding of social sciences has been criticized most frequently vocally by Senator William Proxmire (D–Wis.), who oversees the NSF budget from an appropriations subcommittee (*Science*, 16 August 1974). Proxmire, peering at NSF's social science budget request of last year, announced that "the American taxpayer would get a better return on his money if he put it into White Russian bonds." Presumably, one of Atkinson's jobs would be to counter such barbs.

The NSF also has acquired a new assistant director for national and international programs—Robert E. Hughes, a physical chemist who was formerly director of the Cornell University Materials Science Center. Both the Atkinson and Hughes appointments differ from those of a few years back, which drew on the engineering and aerospace community for filling NSF's top posts.—D.S.

EPA Grants Reprieve on Auto Emissions

As expected, Environmental Protection Agency (EPA) administrator Russell Train on 6 March granted auto makers a 1-year suspension of emission standards scheduled to go into effect in 1977.

More significant were the recommendations Train made covering the subsequent 5 years. EPA has decided that the potential health hazards of sulfuric acid emitted by cars equipped with catalytic converters are great enough to warrant substantial delays in implementing the emission standards mandated for hydrocarbons (HC) and carbon monoxide (CO). With the oxidation catalysts now in use, the more efficient the catalyst, the more sulfuric acid is formed. Train therefore recommended that current interim standards for HC and CO be extended through 1979, with a reduction in 1980 to conform with standards now applicable in California (*Science*, 7 March). The statutory standards for 1977 would not go into effect until 1982, if Congress can be prevailed upon to amend the Clean Air Act.

Train, who called his decision "the most unhappy one" he has made as EPA administrator, made it clear that his agency had moved somewhat rashly in compelling auto makers to adopt catalysts before the sulfuric acid problem had been properly assessed. Although the hazards of that substance have still not been determined, EPA plans to set an emissions standard for sulfuric acid starting in 1979. A tight standard would probably mean the demise of catalyst technology, said Train. In any case, his proposals are designed to encourage the phasing in of noncatalyst technology.

Train's proposals were criticized by a public interest lobby group, the Clean Air Coalition, which contended that sulfates could be reduced by blending and eventual desulfurization of gasoline. This, they said, would lead to an immediate reduction in sulfuric acid emissions and permit currently mandated standards to stand unchanged.—C.H.