are talking about a 25-m optical telescope.

Among astronomy officials at NSF, there is concern about the growing public perception that a great many large-aperture telescopes are in the works, which could easily lead politicians to ask why the US government should fund construction of instruments when American astronomers can just as well work at somebody else's facility. Needless to say, the same kind of thinking could infect private donors and foundations as well.

In addition to the new very large telescope projects, plans for several large telescopes also are being developed, and this too could affect public perceptions. Astronomers at the University of Texas have been trying hard for some time to raise money for a telescope using a 7.5-meter Angel mirror. It is generally assumed that the University of Arizona will be very eager to build a large Angel telescope as well.

All these plans are likely to be affected for better or worse by the progress Caltech and the University of California make in satisfying the conditions set by Keck. If California proceeds successfully with construction, some donors undoubtedly will be inspired to support competing or complementary proposals, while others may conclude that additional support would be superfluous.

In any event, construction of the California telescope will realize a dream California astronomers have had for some 20 years. The University of California began to explore prospects for a large new optical telescope in 1965. In 1970, the Regents allocated $0.5 million for the development of a proposal for a telescope that was to be built on Junipero Serra Peak in the coastal ranges near Monterey. The site of the proposed telescope was changed to Mauna Kea in 1978, and in 1980, the decision was made to proceed with construction of a segmented-mirror prototype. Frazer says that the University of California has spent nearly $7 million already on the development of an advanced telescope concept.

No doubt, the University of California astronomers and physicists would have preferred to take the lead in constructing the 10-meter telescope, but after the difficulties encountered last fall, they are relieved and pleased to be included as equal partners. Speaking at the press conference in Pasadena on 3 January, David P. Gardner, president of the University of California, said that "our collaboration with Caltech represents a unique combination of institutional and scientific talent of two distinguished centers of learning, one public and one private, joining together to accomplish what neither could have effectively accomplished alone." —ws

AIP Corporate Associates in St. Louis

McDonnell Douglas Corporation in St. Louis, Missouri was the host for the 1984 Corporate Associates meeting of the American Institute of Physics. The two-day meeting, held 23–24 October, was attended by 190 leaders of industry, heads of graduate physics departments, government officials, and officers of AIP member societies.

McDonnell Douglas has 90 000 employees in 38 states of the United States. The meeting participants were given a tour of the corporate research facilities, including labs for solid-state nuclear magnetic resonance and electron spin resonance spectrometry, mass spectrometry, and metal physics. They were shown experiments in internal, shear and jet flow; jet impingement and jet noise; and facilities for flight simulation, molecular-beam epitaxy and microelectronics fabrication. Immediately following the meeting, many participants toured a final assembly line and saw the Air Force F-15 Eagle, Navy F-18 Hornet and the marine AV-8B airplanes being fabricated.

The physics of high-performance materials was the meeting theme: Raymond Orbach (UCLA) discussed fractals and dilation invariance, explaining their application to amorphous materials and percolation networks. He applied fractal concepts to excitations in glasses and amorphous semiconductors. Bhakata Rath (Naval Research Laboratory) discussed rapid solidification processing, its scientific bases and technological advantages. For example, rapid quenching of metals and alloys can be used to make refined and novel microstructures by varying cooling rates and the alloy composition. Maurice Gell (Pratt & Whitney Group, United Technologies) discussed the development of single-crystal superalloys. For the last two years single-crystal turbine blades have been in commercial service and have flown over 750 000 hours. These giant crystals are formed by dendritic growth during directional solidification. A single crystal is obtained by use of a helical grain selector. Sanford Sternstein (Rensselaer Polytechnic Institute) discussed matrix-dominated mechanical properties of composites. One can adjust the failure mode, he said, by tailoring the properties of the matrix material.

On matters of policy, Hatten Yoder (Carnegie Institution of Washington) discussed strategic and critical minerals. He is concerned that the US access to these minerals is lessening with time. He mentioned many factors underlying potential world shortages, such as geochemical limits, increased energy consumption in extraction of lower-grade ore, and especially the extensive lead time in discovery and development. Alvin Trivelpiece (DOE Office of Energy Research) discussed fusion policy in the wake of Congressional cuts in the FY 1985 budget. (See PHYSICS TODAY, November 1984, page 57.) He cited some of the technological fallout from the fusion program. For example, he said, particle currents of neutral atoms for directed-energy weapons in the kiloamp range grew out of the "Alice" neutral-beam heating experiment at Livermore. The National Magnetic Fusion Energy Network, established a decade ago, has turned into a model for other computer networks.

William Brinkman (Sandia), who heads the National Academy of Sciences Physics Survey Committee, said that the subpanel reports are complete and that the overview report will stress progress in the last ten years and future opportunities. "We have not emphasized priorities in the sense of one subfield over another. You've got to support them all. We will give a general set of recommendations regarding the needs of physics as a whole."

Kenneth Wilson (Cornell) discussed cooperation with industry on supercomputing. Because today's computer market is $4 billion/year for VAX-level computers and graphics and only $100 million/year for supercomputers, the discrepancy in money makes computer companies declare, "We don't need high-performance computers." Wilson argues that you have to have the supercomputer to figure out what you can do with it. "We all need infinitely upgradable hardware," he believes, which can be obtained with mass-produced chips running in parallel to yield lots of performance at low price.

Alan Heeger (University of California, Santa Barbara) discussed semiconducting and metallic polymers, ranging from solitons to storage batteries. Polymer batteries, he said, have high current and power density, and are rechargeable; however, the systems are not yet sufficiently stable. Conducting polymers might also be applicable to electrochromic displays, transparent conductors and synthetic metals.

Boyce McDaniel (Cornell) discussed the Superconducting Super Collider. He expects that by October 1985 the magnet style will be selected and that by April 1986 the final conceptual design will be finished. Only a few

months ago, SSC workers showed that with improved superconducting materials, the magnets can pass 20% higher currents in the same cross section.

The banquet speaker was Howard Berg (Caltech), who spoke on "the physics that every bacterium should know." At the banquet the AIP–US Steel Foundation Science-Writing Award was given to George Greenstein (Amherst College) for his book, *Frozen Star* (see PHYSICS TODAY, December 1984, page 65).

AIP is offering for sale or rental, hour-long videotapes of the talks, which include all slides and projection shown during the lectures. Tapes may be rented for two weeks at $85/tape and may be purchased for $200/tape. A 25% discount is available for four tapes, for either the rental or sale prices. Orders may be placed with David Kalson, AIP, 335 East 45th Street, New York, NY 10017. —GBL

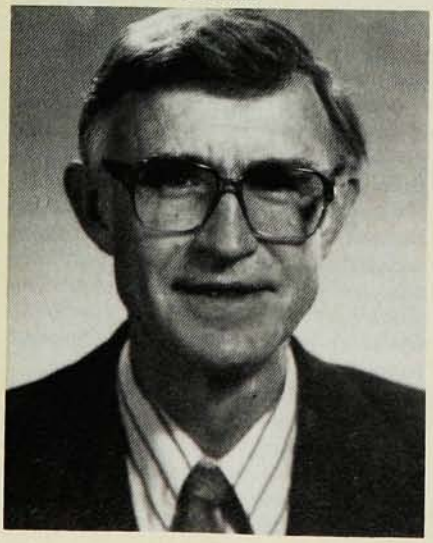
Education

Donald Holcomb elected new vice-president of AAPT

Donald F. Holcomb has been elected vice-president of the American Association of Physics Teachers for 1985. He is chairman of the physics department at Cornell University. Holcomb will succeed Robert Beck Clark of Texas A&M University, who becomes president-elect for 1985, while Anthony P. French of MIT takes office as president.

Holcomb received his AB from DePauw University in 1949 and his PhD from the University of Illinois in 1954. He has been a faculty member at Cornell since 1954, and he was director of the Laboratory of Atomic and Solid State Physics at Cornell from 1964 to 1968. His main current research interests are in experimental condensed-matter physics, especially spin resonance experiments and metal–insulator transitions.

HOLCOMB



In the same AAPT election, Howard G. Voss of Arizona State University was re-elected secretary and A. David Allen of Ricks College in Idaho was chosen as two-year college representative for the Executive Board. Voss has an MS from Purdue University and an MNS from Arizona State University. He taught secondary school in Michigan and Arizona from 1958 to 1963, and he has been director of the physics service course facility at Arizona State since 1980. Allen has a BS from Utah State University and an MS from Oregon State University. He taught high school in Portland from 1967 to 1968 and has been at Ricks College since then.

Search committee established for Physics Today editor

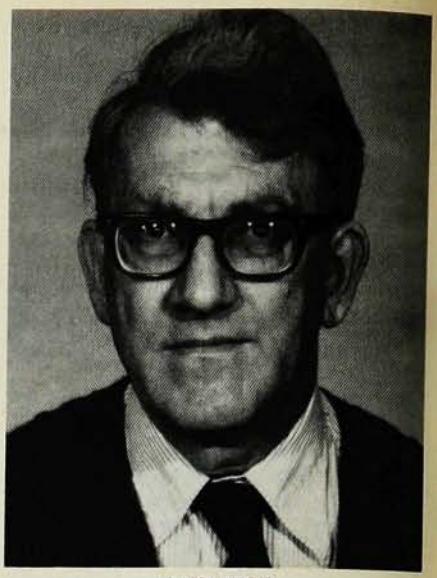
At the end of 1984, the tenure of Harold L. Davis as editor of PHYSICS TODAY came to an end. He has left the American Institute of Physics to pursue other interests. AIP director H. William Koch noted that during Davis's 15-year stint as editor, PHYSICS TODAY became an important vehicle for communication among physicists and astronomers and reached a larger public as well. The magazine, he said, has earned its reputation as authoritative, accurate and responsive to the needs of the science community it serves.

A search committee has been named by Koch to advise him on possible candidates for the editorship. The chairman is Theodore H. Geballe (Department of Applied Physics, Stanford University). The other members are S. C. Abrahams (AT&T Bell Labs, Murray Hill), Charles P. Bean (General Electric Corporate R&D, Schenectady), Mildred Dresselhaus (Department of Electrical Engineering and Computer Sciences, MIT), Roger H. Stuewer (School of Physics and Astronomy, University of Minnesota) and Gerald F. Wheeler (Physics Department, Montana State University).

The acting editor of PHYSICS TODAY is Gloria B. Lubkin, who has been with PHYSICS TODAY since 1963 and has been senior editor, in charge of news coverage, since 1970.

Singleton is president-elect of American Vacuum Society

The American Vacuum Society has elected Jack H. Singleton to be president-elect in 1985. He will succeed the new 1985 president, Donald M. Mattox of Sandia National Labs.



SINGLETON

Singleton is an advisory scientist in the Vacuum Laboratory of the Westinghouse R&D Center in Pittsburgh, Pa. His research interests include adsorption–desorption processes, vacuum pumping and gauging techniques, and electrode phenomena. He received his BSc in 1947 and his PhD in 1950, both from the University of London.

Other AVS election results are as follows: William D. Westwood of Bell-Northern Research in Ottawa, Canada, is the new secretary; new directors for two-year terms are Leonard J. Brillson, Senior Member of the Technical Staff at Xerox Research Center in Webster, N.Y.; H. Frederick Dylla, research scientist at the Princeton Plasma Physics Laboratory; and Donald L. Packwood, staff member of the Microwave Semiconductor Division at Hewlett-Packard Corporation in San Jose, Cal.; new trustees are William C. Brown, manager of the Chemistry Laboratory at General Electric in St. Petersburg, Fla., and H. Harry Wieder, professor of electrical engineering and computer sciences at the University of California, San Diego.

Westwood has a PhD in solid-state physics from the University of Aberdeen, Scotland, and has taught at Flinders University in Australia. Brillson has an MS and PhD in physics from the University of Pennsylvania and has been a visiting scientist at the Stanford Synchrotron Radiation Laboratory and the Synchrotron Radiation Center at the University of Wisconsin, Madison. Dylla earned his BS, MS and PhD at MIT and worked in atomic physics at MIT from 1970 to 1975, when he moved to Princeton to work on plasma physics. Packwood, whose PhD in physics is from the University of Missouri, Columbia, worked as a staff engineer at the National Semiconductor Corporation before moving to Hewlett-Packard. □