

THE MONTH

Success

THE 200-INCH PALOMAR telescope is now a thorough-going success. That's the official word from Dr. Ira S. Bowen, director of the Mount Wilson and Palomar Observatories. It comes as a result of recent tests of the seeing-power of the Hale telescope, which prove that its performance is up to the most optimistic hopes that were held for it in its planning period.

The telescope's performance was checked by Dr. William A. Baum, staff member of the Mount Wilson and Palomar Observatories, using a photon-counting photometer, a light-measuring device so sensitive that it could measure the light of a candle 15,000 miles from the earth. The photometer, developed by Dr. Baum, counts individual photons (the smallest packets of light) reflected from the telescope mirror. The photon pulses are amplified, separated from extraneous pulses, and counted electronically, at a maximum rate of 6,000 a second.

Dr. Baum's measurements indicate that the telescope has photographed stars and nebulae which are at least 6,300,000 times dimmer than the dimmest stars visible to the naked eye.

Electrical Engineer

DR. LESTER M. FIELD of Stanford University, who has been at Caltech as a visiting professor since last January, has now been appointed professor of electrical engineering here. His appointment becomes effective next January 1.

At Caltech Dr. Field has set up an electron tube and microwave laboratory, with support from private industry and the Office of Naval Research, and is continuing his research on microwave amplification and interaction processes. Increased understanding of these problems is expected to lead to new forms of vacuum tubes, ultimately useful for such things as microwave relay systems and television amplifiers as well as for the genera-

tion of very high frequencies for chemical and physical research.

A native of Chicago, Dr. Field is 35 years old. He graduated from Purdue University in 1939 and received the Ph.D. degree in electrical engineering from Stanford in 1944. For the next two years he worked at the Bell Telephone Laboratories in the field of magnetron development and electron dynamics and, with Dr. J. R. Pierce (Caltech '33, M.S. '34, Ph.D. '36) developed the first practical traveling-wave tubes. Some of his work at the Bell Laboratories during the war was directed toward devices for detection and location of enemy aircraft.

He joined the Stanford faculty in 1946 and four years later became its youngest full professor, at the age of 32.

The professional fraternity, Eta Kappa Nu, selected him as one of three outstanding young electrical engineers in the United States in 1949. He was cited for "his important contributions to the microwave electron tube art and his organization and direction of an outstanding research laboratory (at Stanford) in this field." Last year he was elected a fellow of the Institute of Radio Engineers in recognition of his "many technical contributions to the electron tube art."

Hixon Professor

DR. ROGER W. SPERRY comes to Caltech next month as Hixon professor of psychology.

He has been active for many years in the fields of neurology and psychology and comes to Caltech from the University of Chicago and the National Institutes of Health, Bethesda, Maryland. He joined the faculty at Chicago in 1946 as assistant professor of neuroanatomy and since 1952 has held a joint appointment as research associate in psychology there and as chief of the section on development neurology at the National Institute of Neurological Diseases and Blindness.

Professor Sperry studied at Oberlin College and the University of Chicago. He recently received one of the

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first distinguished alumni citations granted by Oberlin, which awarded him the B.A. degree in 1935 and the M.A. in psychology in 1937. The citation reads:

"In less than a score of years Roger Sperry has worked his way to the heart of some of the most complex problems in neurophysiology. With quiet and patient persistence he has developed delicate skills of surgery, planned and executed careful measurements of behavior that have shed light where light was needed."

His major investigations have been in the fields of the developmental patterning of brain pathways, the neural basis of perception and memory, and functional recovery following lesions of the central nervous system, as well as re-education following peripheral nerve regeneration, muscle transplantation, and eye rotation.

After Chicago awarded him the Ph.D. degree in zoology in 1941, he spent a year as a National Research Council fellow in biology at Harvard University. He then worked as a research associate at the Yerkes Laboratories of Primate Biology, Orange Park, Florida, for four years before joining the Chicago faculty. During the war he served as consultant to a government research project on the surgical repair of nerve injuries. He also conducted research at the Lerner Marine Laboratory in Bimini, British West Indies, and the Bermuda Biological Station.

The Hixon professorship, awarded for the first time to Dr. Sperry, is provided by the Hixon Fund established in 1938 by a grant to Caltech from the estate of Frank P. Hixon to support scientific endeavor which offers promise of increased understanding of human behavior.

History of Science

THE AIRSEARCH Manufacturing Company, a division of the Garrett Corporation, Los Angeles, has established a \$56,000 fund for the support of teaching and research in the history of science at the Institute. The fund will make possible two innovations at Caltech: a general course in the history of science, and a research project in the history of flight under pressurized conditions.

Dr. Rodman W. Paul, professor of history, will direct the three-year program which the new fund will support.

Dr. Thomas M. Smith, newly-appointed assistant professor of the history of science, will conduct the study and write the history as well as teach the new course when it is introduced next year. He comes to Caltech from the History of Science Department at the University of Wisconsin, where he has been completing his work for the Ph.D. degree. A 1946 graduate of the University of California at Los Angeles, he has long been interested in the history of science and aviation and has served as a technical writer in the aircraft industry.

The study of the history of pressurized flight is being made because of the desire of President J. C. Garrett of the Garrett Corporation to make available a scholarly analysis of this important phase of recent aeronautical development. The history will cover all phases of the development of pressurized flight and will not be limited to the contributions of any one company.

AUFS

ON JANUARY 11 Edwin S. Munger comes to Caltech to report to the students, faculty and friends of the Institute on current developments in Africa. He will be on campus until January 20.

From January 25 to February 23 Boyd R. Compton will arrive here to report on Indonesia. Al Ravenholt will be here from February 8-17, reporting on the Far East. And from February 22 to March 3 E. A. Bayne will be on campus, reporting on Iran.

All four men are representatives of the American Universities Field Staff, the organization set up in 1951 by Caltech and seven other educational institutions in this country to send qualified young men out as their correspondents in foreign areas. In addition to sending back regular reports to the sponsoring colleges and universities, each of these men returns home every two years to visit the campus of each of the sponsoring institutions to report in person on current conditions, problems, and personalities in the area he is studying.