

we hear that

Watson, formerly of Cornell University, is a new assistant professor in physics and astronomy. Recent promotions at Illinois include **Peter G. Debrunner**, to professor, **Myron B. Salamon**, to associate professor, and **Frederick K. Lamb**, to assistant professor.

Fritz Herlach, formerly with the Illinois Institute of Technology, has been appointed professor of physics and head of the research team on pulsed magnetic fields at the Katholieke Universiteit Leuven, Belgium.

At Swarthmore College **Wulff D. Heintz** has become chairman of the department of astronomy, and **Sarah Lee Lippincott** has been named director of the Sproul Observatory.

Formerly of the University of Western Ontario, **Paul W. Zitzewitz** has been named a Corning Research Fellow in physics at the research and development center in Corning, New York.

Nobel Prize winner **Alfred Kastler** will serve on the advisory scientific board of the optical physics laboratory at the University of Miami.

Hsin-i Wu has recently been promoted to associate professor in the department of physics at Southeast Missouri State University in Cape Girardeau.

George T. Rado, head of the Naval Research Laboratory's magnetism branch, has been elected chairman of the magnetism commission of the International Union of Pure and Applied Physics for a three-year term (1972-75).

Kenneth L. Franklin has been named chairman of The American Museum-Hayden Planetarium. He succeeds **Franklyn M. Branley**, who is retiring.

Raymond Gold, formerly of Argonne National Laboratories, has been appointed resident director of the Joint Center for Graduate Study in Richland, Washington.

The newly appointed chairman of the department of physics at St John Fisher College in Rochester, New York is **Joseph Martinez**.

A. M. Heiser has been promoted to director of the Arthur J. Dyer Observatory of Vanderbilt University.

At Lawrence Livermore Laboratory **Richard Briggs** has been named head of the Astron controlled thermonuclear reaction research project. He succeeds **Nicholas C. Christofilos**, whose obituary appears on page 109 of this magazine.

Michael Hart of the University of Bristol has been appointed British co-editor of the *Journal of Applied Crystallography*.

Benjamin S. P. Shen has been named Reese W. Flower Professor of Astronomy and Astrophysics at the University of Pennsylvania.

Recently joining the staff at Dartmouth College as assistant professor of physics and astronomy is **P. Bruce Pipes**, formerly of Louisiana State University at Baton Rouge.

C. V. Berney, formerly of the department of chemistry at the University of New Hampshire, has joined the staff of the Air Force Rocket Propulsion Laboratory, Edwards, California, as NAS-NRC senior research associate.

RCA Laboratories has named **Edward J. Bentz**, formerly a visiting research associate at the Niels Bohr Institute, Copenhagen, to the staff of the physical electronics research laboratory in Princeton, New Jersey.

obituaries

Harlow Shapley

Harlow Shapley, director emeritus of the Harvard College Observatory, died in Boulder, Colorado, on 20 October, two weeks short of his 87th birthday. In science as in politics, he never hesitated to oppose the mainstream of scientific or political thought whenever he felt morally or intellectually obliged to do so. His achievement in deriving the size and shape of the Galaxy and in

locating the solar system far from its center was perhaps the most revolutionary development in cosmology since the time of Copernicus. Yet astronomy was only one of the many ways in which he expressed his love for nature and its inhabitants; for example, his classical studies of the behavior of ants and his rescue operation in behalf of refugee scientists were two others. It was as easy to be awed by his professional accomplishments as it

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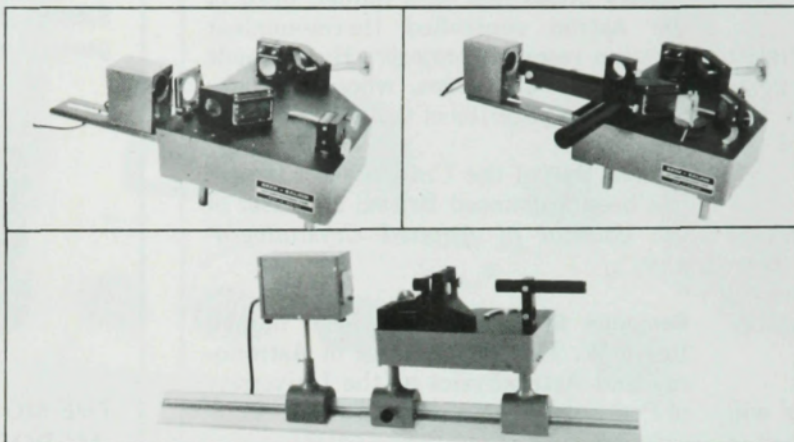
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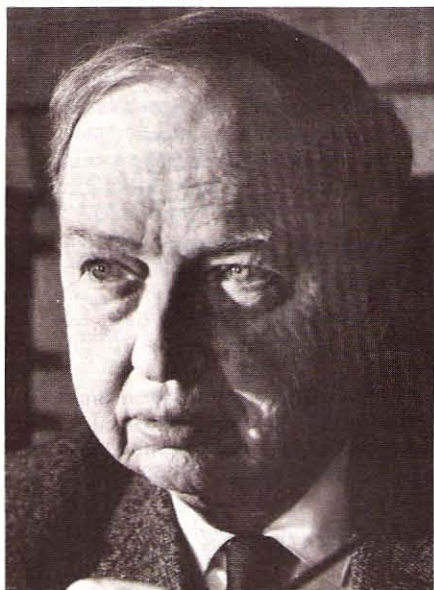
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we hear that

was to be charmed by his warm, almost boyishly friendly personality, and by his delightfully pointed wit and good humor.

Shapley was born and raised on a farm in Missouri. He attended a one-room country schoolhouse and worked as a newspaper reporter for several years before enrolling at the University of Missouri, where he was attracted to astronomy by F. H. Seares. In 1911 he arrived at Princeton to study and work for the PhD with H. N. Russell, in time to assist him in fashioning elegant

PHOTO: CHRISTIANE GALLET



SHAPLEY

and definitive mathematical methods for deriving the elements of eclipsing binary-star orbits from observed light curves and to publish a volume of results that established him as a leading authority on double stars.

In 1914 Shapley was appointed to the staff of the Mt Wilson Observatory and launched almost straightaway into the work on stars in globular clusters, which revealed in 1918 that the size of the Galaxy was ten times larger than the generally accepted value, and that the sun was not central but far out on the periphery of the Milky Way. Six years later, when E. P. Hubble began to establish the scale of the universe, he used precisely the same techniques for measuring the distances of galaxies that Shapley had invented to determine the distances to globular clusters.

In 1921 Shapley became director of the Harvard College Observatory, at the beginning of the decade that was to see the discovery of the expanding universe of galaxies, the derivation of the ionization equation, the birth of quantum mechanics, and the emergence of astrophysics as a quantitative science.

He soon transformed the Observatory from a relatively isolated bastion of 19th-century classical astronomy, lacking a PhD program, into a busy and thriving international center for research and education in almost every aspect of modern astronomy, in which his own researches of the distribution of galaxies and of variable stars in the Milky Way and in the Magellanic Clouds were central.

Graduate work at the Observatory in the 1930's was an exciting, intellectual experience, and great fun besides. A young and brilliant faculty, supplemented by a steady stream of famous visitors, and Shapley's administrative skill and charisma, created a remarkable feeling of unity and camaraderie among the staff and students. The Hollow Squares over which he presided were memorable occasions at which one might learn the latest news of astronomy, from the discovery of a dwarf galaxy in Fornax to the latest theory of the identification of the coronal lines. Shapley enjoyed working with his associates, and he also liked to play with them; there was volleyball on Saturday afternoons, softball at picnics, and an incredibly abundant and varied menu of hospitality offered by the Shapleys at the Observatory residence.

In the postwar period, Shapley was in the forefront of successful political activity that led to civilian control of atomic energy, and to the establishment of the National Science Foundation and UNESCO. He was ardently internationalist in science and in his passionate belief in the essential unity of the human race. He had the courage, after World War II, to speak out against the Cold War and its proponents, and it is only now, 25 years later, that we perceive that he was opposing policies that may have led to the Vietnam disaster.

After retiring from the directorship of the Observatory in 1952, Shapley remained at Harvard as a professor until 1956 and continued to lead a busy and active life as a writer, lecturer and world traveler until two or three years before his death.

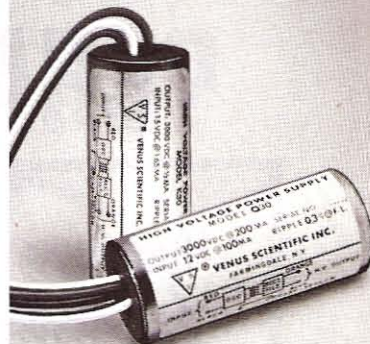
LEO GOLDBERG

Kitt Peak National Observatory

Nicholas C. Christofilos

Nicholas C. Christofilos, one of the most original thinkers in physics, died of a heart attack 24 September, at the age of 55. He leaves a legacy of ideas and inventions in the diverse fields of particle accelerators, controlled fusion and military applications. At the time of his death he headed the Astron controlled fusion experiment at the Lawrence Livermore Laboratory.

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PHYSICS TODAY / JANUARY 1973 109