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physics from UCLA in 1954 and his PhD in electrical engineering from Stanford in 1957. He has been on the faculty at Stanford since receiving his PhD, and since 1986 has been Stanford's Burton J. and Ann M. McMurtry Professor of Engineering.

IN BRIEF

Charles Baltay, formerly a professor of physics at Columbia University, has moved to Yale University, where he is now the Eugene Higgins Professor of Physics.

Jerry Dolan has left the IBM Thomas J. Watson Research Center at Yorktown Heights to become a Trustee Professor in the physics department at the University of Pennsylvania.

W. Vernon Jones, emeritus professor of physics at Louisiana State University, has become chief of the cosmic and heliospheric physics branch of NASA's space physics division in Washington, DC.

Malvin H. Kalos, director of the Ultracomputer Research Laboratory of the Courant Institute of Mathematical Sciences, will be the new director of Cornell University's Center for Theory and Simulation in Science and Engineering, beginning in June. He succeeds Kenneth Wilson.

Prabhakar Misra, formerly a postdoctoral research fellow at Ohio State University, has become an assistant professor of physics at Howard University.

Robert A. Smith, formerly a research scientist at Science Applications International Corporation in McLean, Virginia, has been named associate professor of physics at the University of Iowa, where he will work in theoretical space plasma physics.

OBITUARIES

Henry DeWolf Smyth

In a free country like ours, such questions [the implications of nuclear weapons] should be debated by the people and decisions must be made by the people through their representatives. This is one reason for the release of this report. It is a semi-technical report which it is hoped men of science in this country can use to help their fellow citizens in reaching wise decisions. The people of the country must be informed if they are to discharge their responsibilities wisely.—Atomic



Henry DeWolf Smyth

Energy for Military Purposes (a book published in 1945 by the Princeton University Press, also called the "Smyth report").

Those are refreshing words indeed, in these days when it often seems that the intent is to confuse rather than inform the public about technical issues. The Smyth report was perhaps the first attempt ever made to make accessible to public understanding the technical components of an issue of public policy. Following the tradition started by this book, The American Physical Society has sponsored many subsequent reports intended to present the technical facts associated with issues of public policy. The most recent of these is the study on directed-energy weapons (see PHYSICS TODAY, May 1987, page 51).

Henry DeWolf Smyth, professor emeritus at Princeton University, died of cardiac arrest on 11 September 1986 at his home in Princeton, New Jersey, at the age of 88. After serving for 14 years as chairman of the physics department of Princeton University, Smyth was appointed to the Atomic Energy Commission by President Truman, and was subsequently appointed by President Kennedy as US ambassador to the International Atomic Energy Agency in Vienna.

Born on 1 May 1898 in Clinton, New York, Smyth moved to Princeton at the age of 7 when his father was appointed professor of geology. After graduating first in his class from Princeton in 1918, Smyth immediately undertook independent experimental research under Karl Taylor Compton. His first paper, published in July 1919, was accepted in 1921 as his PhD thesis. The following two years, which he spent at the Cavendish Laboratory in Cambridge, England, as a National Research Council Fel-

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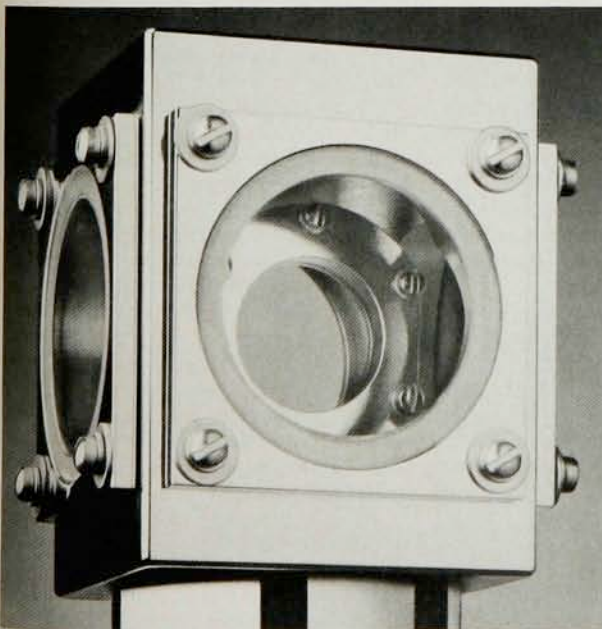
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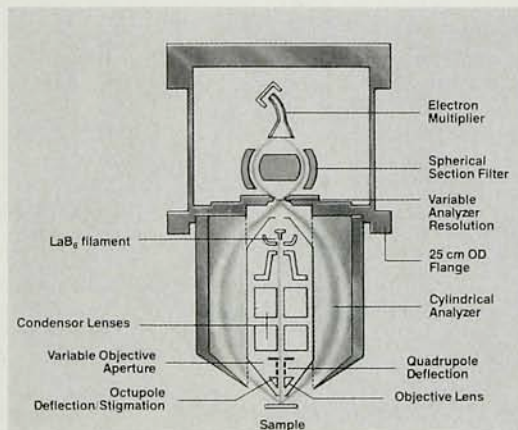
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low, led to his earning a second PhD. Smyth joined the Princeton physics department as an instructor in 1924, and proceeded to pursue a lifelong academic career there, becoming chairman in 1935.

Until the 1930s research at Princeton was chiefly in atomic physics and optical spectroscopy, and Smyth's work was primarily in the study of ionization by electron impact and critical potentials, a field he surveyed in a lengthy article published in 1931 in *Reviews of Modern Physics*. By 1935 his 30 published papers established him as a leading experimentalist in that field, but his interests began to shift to nuclear physics after Sir James Chadwick's discovery of the neutron and the subsequent accelerator developments by John Cockcroft and Ernest Walton, and by Ernest O. Lawrence. Three of Smyth's last research publications, published in 1934, dealt with the mass spectrographic and optical detection of H^3 and He^3 produced by a 10-mA discharge at 75 keV in a deuterium-filled canal ray tube. During his tenure as chairman, the first and second cyclotrons at Princeton were built in 1935 and 1946 by Milton G. White and his associates.

Smyth believed firmly in the importance of integrating teaching and research, and he devoted considerable effort, before and after becoming department chairman, to reorganizing the large introductory physics course. He introduced the extensive use of lecture demonstrations, and he wrote, with Charles W. Ufford, *Matter, Motion and Electricity*, which was perhaps the first beginning text that attempted to cover the most recent physics in addition to the classical material.

In the spring of 1940 Smyth cut short a sabbatical in Berkeley and returned to Princeton to initiate and oversee wartime research programs for the National Research Council and the Office of Scientific Research and Development. Two particular projects he oversaw were related to nuclear fission, and workers in one project were not allowed to talk to those in the other. Smyth liked to point out that as the person in charge of both, he was not permitted to talk to himself. He continued to run the physics department throughout the war, coping as best as he could with a diminished teaching staff.

From 1943 to 1945 he served as a consultant to the Manhattan Project and was assistant director of the Metallurgical Laboratory at the University of Chicago. In early 1944 he had suggested the need for an official

report on the atomic bomb, arguing that if the bomb worked it would usher in a new age in international relations. In April of that year General Leslie Groves asked him to prepare such a report. The resulting book, *Atomic Energy for Military Purposes*, was essentially completed in June 1945. Considering how slow procedures usually are in such matters, it was perhaps a miracle that the book (appropriately updated) was declassified and released to the press on 12 August 1945, only three days after the destruction of Nagasaki.

In the years that followed the report's publication, Smyth vigorously pursued the reconstitution and expansion of the Princeton physics department, but in May 1949 he became a member of the Atomic Energy Commission and had to give up his chairmanship of the department, leaving behind standards of excellence and scholarship for future chairmen to emulate.

Smyth's role on the AEC is not in the domain of public knowledge. However, there is one event we are all familiar with: the "Oppenheimer hearings" in 1954, during the height of the McCarthy era. Indomitably on the side of sanity, Smyth was the only member of the commission to vote in favor of retaining J. Robert Oppenheimer's security clearance. Stating that a security system must be realistic, he declared that an objective reading of the entire record could result only in a positive conclusion as to Oppenheimer's loyalty, trustworthiness and future value to the United States.

Although he had been appointed by President Truman to an additional five-year term in 1951, Smyth resigned from the AEC in September 1954. He then began his ten years as chairman of the Princeton University research board, which oversaw the development of the plasma physics laboratory, the Princeton-University of Pennsylvania 3-GeV accelerator and the present cyclotron laboratory. He was president of The American Physical Society for 1957.

In 1961 he took on the new and very important role of US ambassador to the International Atomic Energy Agency in Vienna. His efforts and dedication contributed significantly to the development of nuclear safeguards and to the Non-Proliferation Treaty of 1970, the year in which his appointment was terminated by the Nixon Administration.

He was the chairman of the board of the Universities Research Association, which operates Fermilab, and he also served as a trustee of the

Associated Universities Inc, which operates the Brookhaven National Laboratory and the National Radio Astronomy Observatory.

Smyth's great interest in both physics and world affairs continued until his very last months. In 1985, on the occasion of the 40th anniversary of the Trinity test, he defended his involvement in the Manhattan Project but recommended that the United States initiate a bilateral reduction of nuclear weapons. With characteristic bluntness he remarked, "Let us, for heaven's sake, stop making faces at each other." On the same occasion, he said that the Strategic Defense Initiative would enlarge the arms race and would not work unless it could be made 100 percent effective.

Those who knew Henry Smyth ("Harry" to his friends) felt privileged to have his company, and he was accorded many honors during his lifetime. At a memorial service for him in Princeton, his old friend I.I. Rabi spoke: "So one thinks of a supreme moment in a person's life, when he stood out against great odds and did the right thing. That was Harry Smyth's fortune and Harry Smyth's greatness."

ROBERT H. DICKE

VAL FITCH

RUBBY SHERR

Princeton University
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Heinz R. Pagels

Heinz R. Pagels, the eminent theoretical physicist, author and scientific administrator, died tragically in a mountain climbing accident near Aspen, Colorado, on 23 July 1988. He was 49 years old and at the height of his career in each of his chosen fields.

Heinz was born in New York City in 1939. He attended Princeton (AB, 1960), and then Stanford, where he got a PhD in physics in 1965. His thesis work, done with his adviser Sidney Drell, involved a calculation of the anomalous magnetic moment of the electron. The two men devised an ingenious method that attempted to include a number of higher-order effects by a simple extension of the known formula to order e^4 . Soon after publishing his thesis, Heinz wrote a paper in which he applied this method to the calculation of baryon magnetic moments.

Following a postdoctoral year at the University of North Carolina, Heinz went to Rockefeller University in 1966. He spent the next 16 years as an associate professor there, working on a wide variety of topics in the theory of