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104 PHYSICS TODAY / MARCH 1980

obituaries

ate student in the summer sessions in 1915 and 1916 at Cornell University. There he came under the sponsorship of Floyd K. Richtmyer. Tyndall was teaching in Richmond when he was suddenly offered an assistantship at Cornell in December 1916; he quit his job and left at once for Cornell.

During World War I, Tyndall worked at the Bureau of Standards in Washington, D.C., returning to Cornell for completion of his graduate studies in 1919. He completed his PhD work in 1922 and took a job at the Bell Telephone Laboratory in New York City. But his interest in teaching and university research led him to leave the Laboratory after two years to take a job at the University of Iowa.

Tyndall's research was divided roughly into two parts. In his younger years, he carried on experiments in optical properties of materials. Abstracts and publications show numerous papers in the optical properties of metallic compounds and of numerous organic materials, including dyes. The major part of the research of Tyndall was solid-state physics—begun by him at Bell Telephone. There he carried out some work on Barkhausen noise in ferromagnetic materials. By 1930 he was beginning to develop a program of research in elastic and plastic properties of solids at Iowa.

Tyndall's research was "low-budget physics." The average graduate student had less than \$1000 of new money for the research. Ted was a great believer in the optical lever, and his laboratories were full of mirrors, optical sources, telescopes, gratings and the like. One of his students, an accomplished musician, used his clarinet to determine beat frequencies for measurements of elastic constants. I remember spending many days making a reliable frequency-dividing system using multivibrators for measurement of the

TYNDALL



resonant frequency of a composite oscillator.

Physics was fun for Tyndall, and it was also fun for his students. The fondness of Ted for university teaching became so evident to all of us, that many of us went into careers of teaching—I can count at least 15 of his students who became college and university teachers.

Tyndall was a gentle man, a patient teacher of small as opposed to big physics. A great many of us teachers might wish to have the products of our teaching permeate so many research laboratories, small colleges and large universities as did Tyndall's.

CHARLES A. WERT

University of Illinois at Urbana-Champaign

Laurence O. Brockway

Laurence O. Brockway, professor emeritus of physical chemistry at the University of Michigan, died on 17 November 1979 at the age of 72.

He was a pioneer in the field of electron diffraction; under his leadership this experimental approach was developed into a precise method for determining molecular structure and one that is widely practiced today. In the course of analyzing the structures of a great many types of molecules, he established the characteristic configurations and dimensions of a variety of important structural groups. This work, which was initially carried out in collaboration with Linus Pauling, played a significant role in subsequent advances in chemistry and molecular biology. Brockway's contributions to structural chemistry won him the American Chemical Society Award in Pure Chemistry in 1940. Subsequently his interests broadened to include the study of surface phases and adsorbed films. During World War II he applied his expertise to defense projects as a consultant for the Naval Research Laboratory, the National Advisory Committee for aeronautics, and the General Electric Company.

Brockway helped to found the American Crystallographic Association (formed by the merging of two earlier societies) and was elected president in 1953. He was appointed to the executive committee, division of physical sciences of the National Research Council and served for several years as chairman of the NRC National Committee for Crystallography. He was active in the International Union of Crystallography in many capacities and twice served as chairman of the Commission on Electron Diffraction of that organization.

Brockway received his bachelor's and master's degrees from the University of Nebraska in 1929 and 1930 and his doctoral degree from Caltech in 1933. Fol-

lowing a four-year appointment as senior fellow in research at Caltech and a year as a Guggenheim Memorial Foundation Fellow at Oxford and the Royal Institution, he joined the faculty of the University of Michigan in 1938.

Having quickly won acclaim in scientific research, he applied himself with dedication to education and became a distinguished teacher. Although he remained active in both areas throughout his life, his emphasis changed steadily from the technical to the human side of science. In his later years he became a student counselor whose warmth, enthusiasm, and unflinching common sense inspired many a discouraged student to continue and succeed. Two years after his retirement in 1976, he was called back to teach a special seminar course for highly motivated undergraduates. This experiment was so successful that the administration asked him to continue despite his retirement. Brockway's extraordinary vitality and zest for life made him a brilliant teacher and stimulating colleague. He will be long remembered by those whose lives he touched.

L. S. BARTELL
University of Michigan

Thomas A. Scott

Thomas A. Scott, professor of physics at the University of Florida, Gainesville, died on 29 October 1979 at the age of 49. He was born in Tremont, Louisiana, and raised in rural Alabama. As a high-school senior, he won a state-wide competition for a four-year science scholarship and was able to attend the University of Pennsylvania; he received the BA (with distinction) in 1952.

Scott then entered graduate school at Harvard University, assisted by a National Science Foundation Fellowship. His doctoral research was in nuclear

SCOTT



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