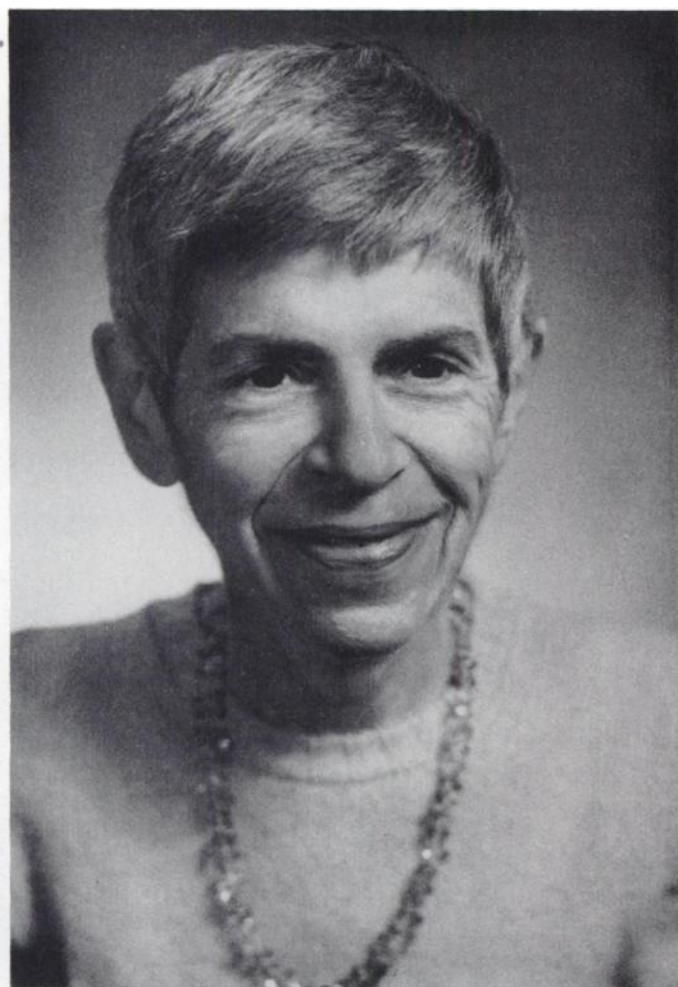


Biographical Article

Daphne Anderson Roe (1923–1993)

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Daphne Roe was one of the nutrition community's unique personalities. Her broad interests and life experiences enriched her subject, her colleagues, and her students. She was a physician, a nutritionist and a practicing dermatologist as well as a researcher, teacher, historian, and staunch advocate for the elderly. Although she had retired from Cornell University in 1993, she was embarking on a new career when an accident cut short her productive and full life.

Daphne Sophie Anne Anderson was born in London, England, on January 4, 1923. She entered the London School of Medicine for Women (Royal Free Hospital) in 1940, just prior to her 18th birthday, and

became qualified as a physician in 1945. She obtained her medical degree (M.B., B.S.) from the University of London in 1946 and a diploma in child health. In the next 4 years she qualified as a Member of the Royal College of Physicians and obtained her M.D. degree. Her medical training began as London was in the midst of the air war of World War II. She spent nights on fire watch on the roof of her hospital during the incendiary and V-2 attacks on London. Those who knew her can appreciate the enthusiasm and vigor with which she carried out these duties.

During her last year of medical school, she was chosen as an assistant to Lucy Wills, who was known for her studies of the anemia of pregnancy. The "Wills factor" was eventually identified as folic acid. During Daphne's study in her laboratory, Dr. Wills was responsible for overseeing the nutrition intervention for a group of New Zealand prisoners of war who had been sent to England after being in labor camps. Daphne continued to work with Dr. Wills after completing an internship at the Royal Free Hospital, when she became the A.M. Bird scholar in pathology. She worked on nutritional megaloblastic anemias and the management of extracellular fluid volumes of women with toxemia of pregnancy. She clearly admired Dr. Wills and later wrote a biography of her for *The Journal of Nutrition*.

However, characteristically, Daphne found pathology too divorced from patient-oriented clinical medicine, and she undertook postgraduate study in dermatology at the Institute of Dermatology of the University of London. She was awarded the Chesterfield Medal in Dermatology for outstanding performance, and was the first Royal Free Medical School graduate to enter this specialty. Daphne also took two years of training in applied physics and radiation therapy in dermatology, and received a diploma in Medical Radiotherapy (D.M.R.T. London) in 1952. She was then appointed first assistant in dermatology and radiotherapy at St. Johns Hospital for diseases of the skin.

In 1953, Daphne obtained a fellowship from the Royal Society of Medicine and became a research fellow in dermatology at the Massachusetts General Hospital where she worked with Irvin Blank. This

fellowship period eventually changed the course of her life and her career. When she was returning to England from study in Boston, she met Albert (Shad) Roe on the airplane. He was an art historian who had received his Ph.D. from Harvard in 1950 and was just beginning his academic career. They were married in 1954 and she began to make her career in the United States. Her husband held academic appointments at several colleges during the period from 1954 to 1961, and Daphne followed him with short-term appointments at Vassar College in the department of physiology, the Memorial Hospital in Wilmington, Delaware and then as a research associate in dermatology at the University of Pennsylvania.

Daphne came to Cornell following her husband's appointment as professor and chairman of the Department of History of Art at Cornell in 1961, where he stayed for the remainder of his academic career. She was first appointed a research associate without salary in the Graduate School of Nutrition and soon after became part of a research project that paid her a salary. She worked with Leo Lutwak, who was responsible for a clinical research unit in Cornell's student infirmary (Sage Hospital). For the remainder of her career she became more focused on issues of nutrition. Her appointment was changed to clinical assistant professor in 1963 as she volunteered to participate in the teaching program of the Graduate School of Nutrition. She was made associate professor with tenure in 1970 and later promoted to full professor in 1976.

She kept her association with medicine by having an appointment in the Department of Medicine at Cornell Medical College in New York City, and she was an adjunct professor at the State University of New York Upstate Medical Center in Syracuse, New York. She would give lectures there regularly during her Cornell years. During the time Daphne was a Cornell faculty member, she also maintained a private dermatology practice in Ithaca, spending two half days a week maintaining her contact with patients whom she valued so much. Daphne was like a family physician to her faculty colleagues and graduate students, as she was often consulted on some health concern her associates would have. She would prescribe appropriate medication or refer her colleagues to other medical providers.

Daphne Roe's research career progressed through a series of stages, still very much related to her training in medicine and dermatology. Her early papers dealt with diseases of the skin and arose from studies begun in London at St. John's Hospital and then further developed during her research fellowship at Massachusetts General Hospital and at the Dahring Laboratories at the University of Pennsylvania. Of particular interest were cutaneous diseases associated with abnormal keratinization. She published a large number of papers dealing with psoriasis, and while at Cornell she investigated the relationship of taurine

and dietary sulfur-containing amino acids to psoriasis. Patients with active psoriasis showed sensitivity to dietary taurine, and Daphne developed analytical methods for taurine in food and carried out taurine balance studies in subjects with psoriasis and with controls. She became interested in factors influencing the availability of sulfate for detoxification of some phenolic compounds, particularly indole. She was able to show that indole toxicity in protein-deficient rats could be overcome by additional dietary methionine and/or inorganic sulfate. This line of investigation stimulated her interest in drug-nutrient interactions that was to occupy her writings and investigations over the next several years.

The ideas she developed led to her book *Drug-Induced Nutritional Deficiencies* published in 1976. The book was primarily directed to physicians. She called attention to the fact that widely used medications such as anticonvulsants, antimalarials, antituberculosis drugs, and oral contraceptives can cause vitamin deficiencies. Mechanisms such as impaired absorption, increased excretion or decreased nutrient utilization were described for drug-induced nutritional deficiencies. The types of drugs and the mechanisms whereby the drug affected nutrient requirements were described in the book, which was well referenced. Daphne published an expanded and revised edition of the book in 1985.

Daphne also published several papers on nutrition and alcohol relationships. With her students, she showed that alcohol ingestion would induce riboflavin deficiency in hamsters, when dietary riboflavin was marginal. She became interested in fetal alcohol syndrome and published on aspects of prenatal alcohol exposure and development of gluconeogenic enzymes. With her student D. E. McLain, she developed a model for study of fetal alcohol syndrome in ferrets, carrying out several studies dealing with the use of ferrets as an animal model in biomedical research. Typically, Daphne extended her studies of alcohol by writing several general articles on alcohol and nutrition for dietitians and physicians, and she published a book in 1980 entitled *Alcohol and the Diet*.

In the late 1970s, the Division of Nutritional Sciences at Cornell refurbished a metabolic unit for outpatient dietary studies with human subjects. Daphne was named director of the Francis Johnson-Charlotte Young Human Nutrition Unit, and she conducted a number of collaborative human studies in the unit over the next few years. She served as the unit's physician and carried out all the screening and monitoring of the subjects herself. She enjoyed this work immensely and spent considerable time with the subjects of her studies, as well as with the graduate students involved. Projects in the metabolic unit involved investigations of dietary fiber on colonic function and effects of exercise on riboflavin requirement of young women. She became interested

in photodegradation of carotenoids in human subjects and the influence of ultraviolet light exposure on plasma carotenoid levels of individuals. She also collaborated in studies of human energy expenditure carried out in the unit.

By the mid-1980s, Daphne began to develop a major interest in work with the elderly. Her strong interest in drug-nutrient interactions and the use of prescription and nonprescription drugs by elderly patients seemed to naturally lead to her interest in nutrition problems of the elderly. She carried out a major evaluation of a home-delivered meals program for the frail elderly of New York State. This was done in association with the New York State Department of Health and the New York State Office of the Aging. She developed a strong interest in nutrition surveillance of the elderly, and she and her students were concerned with methods for developing indicators of nutritional health of the elderly. She was interested in programs that provided home services to the elderly so that they were not cared for in institutions. Working closely with service providers at the state and local level, Daphne helped to design programs to maintain the independence of elderly individuals who experienced health and mobility problems.

Daphne also had an interest in nutrition and health of poor nations. This arose from her close contact with graduate students from developing countries. She made several visits to countries in the Caribbean to work with graduate students. She also spent a sabbatical leave in Kenya as a visiting faculty member at the University of Nairobi. There she taught in a new course for master of science students, but also delighted her students by conducting clinical visits in the field.

Daphne Roe's research and teaching were highly integrated, and she involved her graduate students intimately in all aspects of her research program. She was a sought after graduate advisor. Her research programs involving human subjects, and emphasis on issues of clinical significance were attractive to nutrition graduate students. Daphne was also a sympathetic and supportive graduate advisor. During her time at Cornell, Daphne was chairperson of the graduate committee for more than 75 students, about one third of which were Ph.D. students. She was also an active undergraduate advisor.

She loved to teach and regularly taught courses in geriatric nutrition, clinical and public health nutrition, nutrition and the chemical environment and human metabolic studies. When a new course was considered, Daphne would often volunteer to teach it, even when she already carried a substantial teaching load. She was a faithful attendee of departmental and student seminars. Almost invariably she asked the first question after a presentation.

When Daphne was asked to write a paragraph on her philosophy of teaching, she wrote

Central to my philosophy of individual, seminar, and classroom teaching is the deeply

rooted conviction that I should always treat teaching as an adventure on which I accompany my students.... Treating teaching as a path of adventure also requires that I demonstrate my enthusiasm for the subject and impart this enthusiasm to the class.... In general, I abhor use of rehashed class materials from year to year. Instead, I redesign my courses each time I give them.

Following her death, many of her former students returned to Cornell in June 1994, for a symposium honoring their former mentor and teacher.

Daphne was a prolific writer and synthesizer. She published more than 200 papers, many of them in medical or dietetic journals where she attempted to provide advice for practitioners on a wide variety of nutrition issues. She wrote more than 60 book chapters on a broad range of subjects, and published nine books as sole author. One of her books, *Geriatric Nutrition*, went through three editions. She edited a new journal, *Diet-Nutrient Interactions*, for several years, was a reviewer for a broad range of journals, and was a contributing editor for *Nutrition Reviews*. When she first came to Cornell, she edited a regular section of the *New York State Journal of Medicine* entitled "Nutrition Excerpts." The production of so much written and review material is even more impressive, given that Daphne suffered from extreme near-sightedness and had significant problems with her eyes throughout her career.

Daphne also was in great demand from various community groups throughout New York State for public talks on nutrition and health issues. She regularly worked on programs with Cornell Cooperative Extension, and she frequently spoke to senior citizen groups, dietetic organizations and local medical groups. She was always willing to work with these groups as she was a strong believer in providing nutrition information to the public in useful and understandable ways. Her medical background gave her great credibility in these endeavors.

Daphne and her husband had many friends among historians and she, perhaps through these associations, developed a strong interest in nutrition history. Her first book, *A Plague of Corn: The Social History of Pellagra*, was published in 1973. In the preface, Daphne described her long interest in medical bibliography and how she had seen pellagra in a group of elderly women during a visit to Pavia, Italy in 1951. The book describes not only the social history of pellagra, but gives detailed accounts of how the disease originated and how, through human and animal studies, its cause was eventually understood. She also interviewed a number of individuals who had been involved in work on pellagra when it had been endemic in the United States. She was a frequent

contributor of biographies of nutritional scientists to *The Journal of Nutrition* and was active in the History of Nutrition Committee of the American Institute of Nutrition.

Professional honors came to Daphne as she received the Lederle Award for Human Nutrition Research from the American Institute of Nutrition in 1986 and the Joseph B. Goldberger Award in Clinical Nutrition from the American Medical Association in 1987. She was a Fellow of the Royal College of Physicians, London, and of the American Institute of Nutrition. Cited in her awards were her writing on drug-nutrient interactions, a subject on which she became a principal authority.

The achievements of her life outlined here can only hint at the enormous energy that those who knew Daphne Roe recognized. She was a little more than 5 feet tall and weighed less than 100 pounds, but had a booming voice that carried through Savage Hall as she lectured or spoke with her colleagues. She seemed to be tireless, working long hours seeing patients or on a research project, carrying an enormous pile of journals home at night to use as she worked on her book manuscripts, or spending time with her students. She and her husband, Shad, ran a welcoming home, had house guests, and gave informal dinners for colleagues, visitors, and students. To her colleagues, it seemed as if she never slept.

She and Shad raised three children, David, Laura and Adrian. Shad died in 1988, and, in the years following his death, Daphne seemed to raise her level of activity even higher. She was active in the community, the local medical society, and particularly, the Episcopal Church on the Cornell campus. During her last sabbatical leave from Cornell in 1991, she studied at the Harvard Divinity School and following her retirement from Cornell on June 30, 1993, she was planning to attend the University of Rochester

Divinity School with the aim of being ordained as an Episcopal priest and undertaking a ministry to the elderly.

She died on September 22, 1993 from injuries suffered in an automobile accident near Ovid, New York. Her life was unfortunately cut short while she still had unbounded energy and plans for a future new career. She had great influence on nutrition at Cornell, and she enriched the lives of her students and colleagues.

NOTE BY BIOGRAPHICAL EDITOR

Dr. Daphne Roe was truly indefatigable. She wrote several biographical sketches for *The Journal of Nutrition*. Probably most exciting was her biography (*The Journal of Nutrition*, 1978) of Lucy Wills, who discovered folic acid.

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