Ruth Schwartz

October 9, 1924 – September 19, 2012

Ruth Schwartz was born in Berlin Germany, October 9, 1924, and in her early life endured the disruption that devastated Jewish families in Nazi Germany. Her father, from Kiev in the Ukraine, served as a Russian soldier in WWI, and was captured and imprisoned by the German army. He chose to stay in Germany after that war was over, to start a small cigarette factory and a family with his Polish wife, thinking that Germany would be safer than Russia after the Bolshevik revolution, but after Hitler came to power his business was shut down and he was deported to Czechoslovakia. Ruth stayed in Berlin with her mother and younger brother under steadily deteriorating conditions. The family finally separated in 1939, when Ruth was chosen for the Kindertransport (officially the "Refugee Children Movement"), through which Jewish children who were considered the most imperiled by the Nazi regime were brought to England in the nine months prior to the outbreak of World War II. She never saw her parents again. As Ruth found out later, her mother died on a train to Siberia after being sent by the Nazis to Russia following the start of the war, and her father was killed when he attempted to return to Russia from Czechoslovakia. Her brother was saved by others on the train to Siberia, and finally made his way to Israel in 1947. Because Ruth was over 14 when she arrived in England, she was initially placed in training for domestic service. After two years of training, she was assigned as an 'au pair,' a job at which, she claimed, she showed no promise. But the family saw promise in her intelligence and spirit, so the mother of the family became her champion, battling the authorities to allow her to attend an academically oriented school. There she earned the equivalent of today's 'A' levels in biology and chemistry. This accomplishment allowed her to enter the University of London, where she received a B.S. in chemistry and physiology in 1947.

In 1951, she became an assistant to R. F. A. Dean, a pediatrician who established the Infantile Malnutrition Unit sponsored by the UK Medical Research Council at Mulago Hospital in Kampala, Uganda. This assignment made her a participant in the most critical studies of childhood malnutrition of that era. This group became well known for research on kwashiorkor, a form of severe malnutrition common in very young children in East Africa at that time. With Dean, Ruth published several papers on clinical and laboratory observations of children with the

condition. During this period Ruth also spent some time as a WHO fellow in Guatemala at the Institute for Nutrition in Central America and Panama (INCAP), where she collaborated with investigators from INCAP and Washington University in St Louis on further studies to characterize the biochemical changes observed in children with kwashiorkor. She remained in Uganda until 1957 when she returned to the UK. On the basis of her work in Uganda and in Guatemala, she was awarded a Ph.D. in Nutritional Biochemistry by the University of London in 1959.

From 1960 to 1963, Ruth was a lecturer at the London School of Hygiene and Tropical Medicine. She came to the United States in 1963 as a research associate in the Department of Nutrition and Food Science at the Massachusetts Institute of Technology. After two years at MIT she joined the faculty in the Department of Nutrition of the University of Connecticut. In 1970 she was recruited to the Department of Human Nutrition and Food in the College of Human Ecology at Cornell and later became a member of the Division of Nutritional Sciences when it was formed in 1974. She was promoted to Professor in 1979, and retired on September 1, 1993. She was named Professor of Nutrition Emeritus in 1998.

Ruth was a pioneer in the use of stable isotopes in the study of mineral absorption, retention, and excretion in both humans and experimental animals. A major question for nutritionists at the time concerned the ways in which diet composition affects nutrient availability, and how availability affects nutritional requirements when viewed in terms of food. In particular, Ruth was fascinated by magnesium, a mineral that had caught her attention through her work with kwashiorkor. Balance studies of this important mineral in malnutrition were (and still are) inconclusive, while refeeding regimens were designed to provide large amounts of the mineral in the belief that an important cause of pathology in kwashiorkor is magnesium deficiency. Ruth recognized the need for careful balance studies in both healthy young individuals and the elderly, as well as the need for a better understanding of the consequences of magnesium deficiency for gut and pancreas function, both of which are affected in malnutrition.

To this end, Ruth worked closely with colleagues at the US Plant, Soil and Nutrition Laboratory (now the Robert W. Holley Center for Agriculture and Health) on the Cornell campus. With these colleagues she grew vegetables that incorporated a stable isotope of magnesium, ^{26}Mg, that were then fed to experimental subjects, human and animal. For her studies with human subjects she collaborated with Herta Spencer-Laszlo at the Loyola University Medical School in Chicago.

Ruth's research interests were not confined to magnesium, however. One of her first graduate students at Cornell, Elizabeth Mitchell Wien, carried out studies on iron availability for her dissertation before continuing to work with Ruth for many years on magnesium. Ruth also investigated the absorption and retention of calcium, zinc, copper and manganese in human studies. In later work, she studied the relationship of bone density to dietary protein and calcium intake in a population of Chinese women. Ruth's work was funded by grants from the National Institutes of Health, The National Science Foundation and The United States Department of Agriculture. She spent a sabbatical leave at the National Institute of Dental Research in Bethesda, Maryland and she was awarded a Residency at the Rockefeller Foundation Bellagio Center in Bellagio, Italy in 1984. Her work was published in the Journal of Nutrition, American Journal of Clinical Nutrition, Analytical Chemistry, Journal of Micronutrient Analysis, and

Biological Trace Element Research. She was a member of the Nutrition Society (Great Britain), American Institute of Nutrition, American Association for the Advancement of Science, New York Academy of Sciences, Society for Environmental Geochemistry and Health Sigma Xi, and American Chemical Society.

At Cornell, Ruth taught courses in the nutrition, physiology and biochemistry of the mineral elements, in laboratory methods, and in metabolic regulation. She was active on many University and departmental committees during her years at Cornell. In particular she served for 15 years on the University Committee on Human Subjects (now the Institutional Review Board for Human Participants), where her absolute integrity, coupled with her deep love of both science and humanity, served her and the university well.

Ruth was a private, but very kind and caring person, of remarkable inner strength. Her love of nature led her to spend considerable time hiking the many trails around Ithaca—she was an active member of the Cayuga Trails Club and the Finger Lakes Trails Conference. Her appreciation of natural beauty is reflected in her strong yet delicate watercolors of flowers and landscapes—her love of painting was rekindled in her retirement.

Ruth maintained contact with her brother Jehuda in Israel and her nephew Doron and their family over the years. She also stayed close to her friends and foster family in the UK. In her later years, she felt fortunate to find her heart's companion in Seymour Smidt, Professor Emeritus of Finance, who survives her.

Malden C. Nesheim, Kay Obendorf, and Virginia Utermohlen