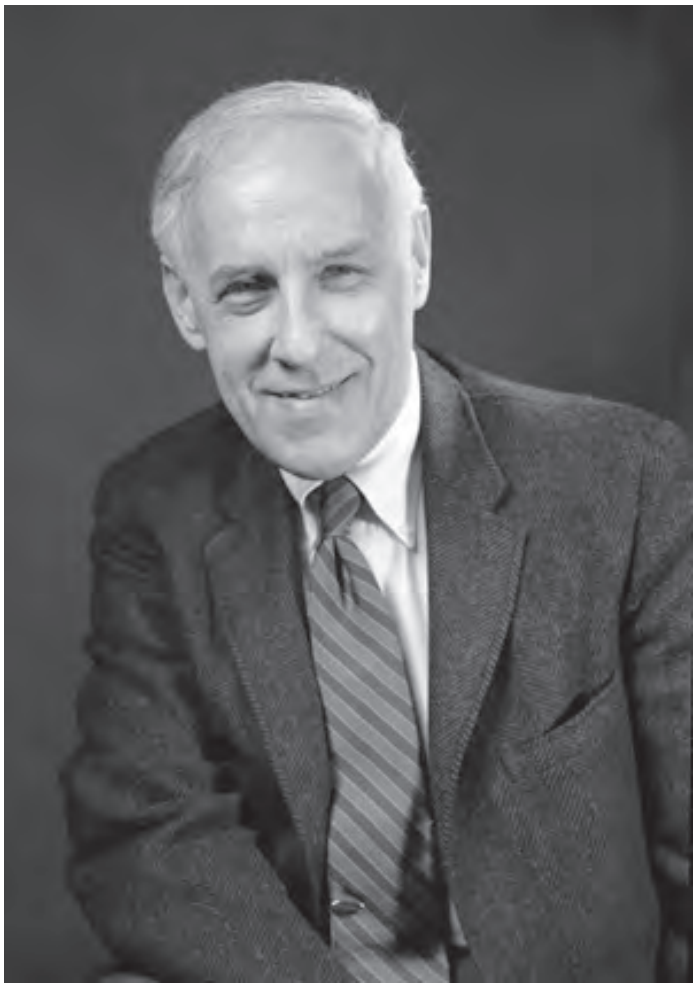
THE FACULTY OF MEDICINE
Harvard University

William Samson Beck



Physician, scientist, teacher, writer, and musician, Bill Beck's life gave zestful expression to his many creative talents.

William Samson Beck was born in Reading, Pennsylvania on November 7, 1923. After high school in Reading, he moved to the University of Michigan from which he received a Bachelor of Science degree summa cum laude and the MD degree from the University of Michigan Medical School. During internship and residency training in internal medicine at Los Angeles County and Wadsworth General Hospitals, he realized that above all he wished to pursue a career as a physicianscientist. His first employment started on July 1, 1950, the first day of existence of the new UCLA Medical School. He was assigned to the Atomic Energy Project by its director, Stafford Warren, the new dean, and there, for five years, he spent all of his time as a hematologist and physician to the UCLA contingent of the Nevada Bomb Testing crew at Camp Mercury and Yucca Flats. Among his patients were leaders associated with the nuclear bomb testing such as John von Neumann, Edward Teller, and Luis Alvarez. The other half of his time was spent in the laboratory where, as a selftaught biochemist, he discovered, with William Valentine, the low leukocyte alkaline phosphatase in chronic myelogenous leukemia and in paroxysmal nocturnal hemoglobinuria. This discovery served as the basis for a widely used diagnostic test for chronic myelogenous leukemia and was employed by the Atomic Bomb Casualty Commission in searching for cases of leukemia in Hiroshima. The years at UCLA had another highlight: Bill spent a year working closely with Hans Reichenbach, the philosopher of science. After Reichenbach's untimely death just before he was to deliver the William James lectures at Harvard, Bill helped Reichenbach's widow, Mia, edit the lecture material for the book, The Direction of Time.

It was Reichenbach who urged Bill to write his first book Modern Science and The Nature of Life. This was published in 1957 by Harcourt Brace, and was a huge success, receiving more than 400 (positive)

In tribute to their dedicated efforts to science and medicine, deceased members of the Harvard Faculty of Medicine (those at the rank of full or emeritus professor) receive a review of their life and contributions with a complete reflection, ***a Memorial Minute****.*

reviews in the US and many countries abroad. Among its many enthusiastic reviewers were Loren Eiseley, Charles Poore, and George Gaylord Simpson. Reinhold Neibuhr discussed this book in a lecture at Harvard and wrote Bill to congratulate him on it. The book was translated into eight languages and republished in three paperback editions. It led to an invitation to Bill to contribute an essay titled "The Riddle of Life," for a book Adventures of The Mind, published by Knopf. Other authors in this volume were Bertrand Russell, Aaron Copland, Jacques Barzun, Aldous Huxley, Paul Tillich, and other luminaries. Although Bill was tempted to pursue a literary career, he decided to devote himself to medical science and chose to seek further training and experience in biochemistry.

In pursuit of this objective, Bill joined Severo Ochoa in the department of biochemistry at New York University where he spent two productive years. There, with Martin Flavin, he discovered methylmalonyl CoA mutase and methylmalonate in the conversion of propionate to succinate. Elevation of methylmalonate in the urine became a diagnostic test for Vitamin B12 deficiency.

In 1957 Bill was invited by Walter Bauer to establish a new hematology unit at the Massachusetts General Hospital and was appointed as an Assistant Professor of Medicine at the Harvard Medical School. A confident autodidact, Bill undertook training himself in hematology while continuing with biochemical research. His interest in Pernicious Anemia led to his research on the role of Vitamin B12 in DNA synthesis. He demonstrated the cobaminedependance of ribonucleotide triphosphate reductase in Lactobacillus, and he collaborated with Peter Reichard of the Karolinska Institute on a cobamineindependent ribonucleoside reductase. Subsequent studies in this field have shown that E. coli and mammalian ribonucleotide reductases use ribonucleoside diphosphates as substrates and are cobamineindependent. Bill's findings, that thiaminestarvation could increase the expression of these enzymes, greatly facilitated their purification and study.

Bill was an enthusiastic and stimulating teacher. In 1958, he was appointed Tutor in Biochemical Sciences in the Harvard Faculty of Arts and Sciences. As a member of the Board of Tutors, he met with individual undergraduate students who had chosen Biochemical Sciences as their field of concentration. Bill's devotion to the tutorial system is well reflected in his memoir "A Tutorial on ras" published in Perspectives in Biology and Medicine 38, 85105, 1994. Under Bill's guidance, his tutees prospered and achieved a very impressive record of honors at graduation from Harvard College: of his 38 tutees, six graduated summa cum laude, and "there were quite a few magnas and the rest were cums."

Bill found serving as a tutor and member of the Faculty of Arts and Sciences a very satisfying experience. His wide ranging intellectual interests favored a closer integration of medical education and general university education. This orientation was also fostered by Bill's appointment as Associate of the Senior common Room and then Senior Fellow of Quincy House. As an active and devoted member he enjoyed stimulating relationships and warm friendships with distinguished faculty members with a wide range of interests. Bill gave dozens of talks in the Senior Common Room on topics such as "The Nature of Life", "The Nuclear Bomb Tests" and "Problems Plaguing Medical Education" among a number of others. He delighted in another Quincy House activity, playing jazz piano in the swing band led by Harvey Cox of the Divinity School. Bill and his wife Hanne hosted many soirees at their home where he enthralled guests with his encyclopedic command of the great American songbook.

Bill loved teaching, at which he excelled. His lectures and seminars were marked by mastery of the subject matter, by clarity, and felicitous expression, and by wit and good humor. Starting in 1961, he directed the HMS hematology course and, after the establishment of the HarvardMIT Program in Health

Sciences and Technology (HST), he also became director of the HST Hematology course. For eight years he directed both courses and then continued with direction of the HST course until 1995, for a total of 35 years. The student syllabus that he prepared (Hematology, MIT Press) underwent six editions and has been used in many American medical schools.

Bill was one of the Founding Fathers of HST. He was an active and enthusiastic participant in curricular development and for 11 years, he chaired the Admissions Committee. He had an eye for quality and he was especially delighted when his selections were proved prescient by the subsequent careers of those chosen. He was a strong supporter of the HST principle of interdisciplinary approaches that seek to engage the universities' broad scientific strengths in medical education and research.

Bill's writing career, which began with the remarkably successful "Modern Science and the Nature of Life", was followed by "The Riddle of Life" and continued with a textbook "Life, an Introduction to Biology", coauthored with George Gaylord Simpson. This book, of which 100,000 copies were sold, influenced many universities to combine their separate departments of zoology and botany into a single department of biology. A later edition of the book written by Bill alone after Simpson's death, was a succès d'estime; it was more scientific but less successful commercially. He also was the sole author of "Human Design", a popular college textbook of human physiology. His writing extended to service on the editorial boards of Perspectives in Biology and Medicine and of Chemtracts: Biochemistry and Molecular Biology. He also served as an editorial consultant to various scientific book publishers. He was much sought after as a reviewer for book manuscripts, journal articles and grant applications, and his critiques were noted for sound scientific judgment and lively literary style.

As a leading member of the American Society of Hematology, he served on its Executive Committee and chaired its Public Information Committee. On many visits to Capitol Hill, he testified on behalf of the NIH budget for research. He served on the NIH Hematology Study Section and on the Advisory Council of the National Institute of Arthritis, Metabolic and Digestive Diseases. He also served as advisor to the Environmental Protection Agency on radiation and chemical pollution.

Bill's academic qualifications were recognized by his promotion to tenure in 1971 and to full Professor of Medicine at HMS and Physician at MGH in 1979. He reached Emeritus status in 1996 but continued his academic activities until his terminal illness in 2002. Among his awards and honors, one should note the WennerGren prize of the N.Y. Academy of Sciences (1954), election as Fellow of the American Association for the Advancement of Science (1996), and appointment as Austen Weisberger Professor and Weisberger Lecturer a Case Western Reserve University (1996).

Bill's family was a source of pride and comfort for him. With Helene whom he married in 1947, he had two sons: Tom, an internist who is an executive in the biotechnology industry, and Peter, a scenic designer for the theater. With his second wife, Hanne, whom he married in 1964, he also had two sons: John, a movie industry executive, and Paul, a teacher. Bill was justifiably proud of his sons and their accomplishments. It is interesting to note that the varied careers of his sons reflect Bill's own wideranging talents. When he learned that he was suffering from pancreatic cancer and he knew the prognosis was poor, he was determined to fight hard for survival. He underwent vigorous chemotherapy. Although rapid progress of the disease weakened him greatly, he was determined to deliver a lecture as scheduled. But it was not to be. He succumbed to his illness, but he achieved his goal of working to the very end.

Bill Beck's patients and generations of medical students, house officers and postdoctoral fellows as well as colleagues at Harvard, MIT and other universities are deeply indebted to him.

Respectfully submitted,

Irving M. London, MD, Chairman
Thomas Beck, MD
H. Franklin Bunn, MD
Morton N. Swartz, MD