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OBITUARY

In Memoriam, David Powell Hackett

1925–1965

The death of DAVID POWELL HACKETT brought to a tragic and early end the lift of a gifted plant biochemist.

Dr. Hackett was born in Kobe, Japan, on March 20, 1925. His father was the treasurer of Kobe College, a missionary working in an educational-administrative capacity. Until the 12th grade, young David attended the Canadian Academy in Kobe; then, because of the war, his family was compelled to leave Japan and return to the United States.

He spent his senior year at Newton High School in Newton, Massachusetts, and upon graduation entered Carleton College in Northfield, Minnesota. During the two summer months he worked in a canning factory. A bout of tuberculosis forced him to leave college during his sophomore year and to spend a year in a sanitarium in Rutland, Massachusetts. This period of illness changed the course of his life in many ways. While he was athletically inclined before, he now became interested in intellectual pursuits, reading widely and exploring the world of ideas and poetry. His favorite poets were Yeats and William Carlos Williams. After leaving the sanitarium, he spent six months in Washington, D.C. with his parents, where he attended George Washington University. The following summer he went to Vermont, his mother's birthplace. He liked the area so well that he remained there and entered the University of Vermont. In 1944 he met Sarah Ann Andrews, a fellow student. They were subsequently married in 1946 in Gloucester, Massachusetts, after his graduation and after her second year at the University.

During his student years at the University of Vermont, he was active in college affairs. He was elected Vice President of his class, was a good debater, defender of the "honor system," a member of the Boulder Society, and editor of the school paper. He was elected to the Phi Beta Kappa honor society, graduated Magna Cum Laude, was Valedictorian of the Senior Class at commencement, and was awarded the Kidder Medal for outstanding character, leadership and scholarship. In 1948 he received his M.S. degree in Biochemistry under Professor John Little from the University of Vermont, and in 1951 his Ph.D. degree under Professor K. V. Thimann from Harvard University.

During 1951–52 he remained at Harvard as a Postdoctoral Fellow. He then went for postgraduate study on a Lilly Postdoctoral Fellowship to King's College, London, where he worked with Professor T. A. Bennet-Clark, F.R.S. for a year and returned to Harvard for another year (1953–54) as a Postdoctoral Fellow. In 1954 he went to the University of Buffalo as an instructor with the Department of Biology. In 1958 he was promoted to the rank of Associate Professor. That year he left Buffalo to join the staff of the Department of Agricultural Biochemistry at the University of California as an Assistant Professor and later transferred to the Department of Biochemistry when the former department was abolished. In 1960 he was promoted to the rank of Associate Professor and in 1964 to Professor. He also held the title of Biochemist in the Agricultural Experiment Station. Professor Hackett was chiefly interested in the electron transport systems of higher plants and he achieved an

international reputation in the area of plant biochemistry. His researches are characterized by originality and a direct and clear-cut approach to the solution of problems.

He and his students showed that plant respiration is largely mediated by the cytochrome–cytochrome oxidase system, with some unique variations on this major theme. Their researches led to the discovery of several *b*-type cytochromes in plants and to the concept that the cytochromes participate in an alternative, inhibitor-resistant electron pathway to oxygen. They established the central role of mitochondria in plant respiration and concluded that the main electron transfer pathway is DPNH→FP→"*b*"→*c*→*a*→O_2. They also studied the phosphorylations associated with these oxidative reactions and discovered the uncoupling action of certain respiratory chain inhibitors. Later, they isolated and purified a blue pigment from mung bean seedlings which was shown to be a new copper-containing protein. Dr. Hackett was also interested in the mechanism of hormone action in plants. He found that Jerusalem artichoke tuber tissue is sensitive to auxin, showing striking stimulation of respiration.

Professor Hackett was always alert to the development of new ideas and techniques in related areas of science applicable to the solution of problems in his own field of interest. He was planning to spend his Sabbatical year 1965–66 in France where he expected to gain a broader perspective on the general problems of development and differentiation in higher plant tissues and to carry out specific biochemical and cytological investigations on plant growth. He also hoped to become familiar with the techniques and the scope of electron microscopy, with the purpose of applying these techniques to the elucidation of the cytological changes which result from cutting thin slices of storage tissues.

Being an excellent lecturer and an authority in his field, he was constantly asked to participate in various national and international biochemical and botanical meetings. In 1959 he attended a symposium at the International Congress of Botany in Montreal, in 1961 the 5th International Congress of Biochemistry in Moscow and in 1964 the International Congress of Botany in Edinburgh, Scotland. He was looking forward to returning in the summer of 1965 to Japan, where he spent his childhood, to present a paper at an international meeting in Tokyo.

Dr. Hackett belonged to a number of professional scientific societies. He was a member of the American Association for the Advancement of Science, American Society of Plant Physiologists, Society of General Physiologists, Society of Experimental Biologists (Great Britain), and American Society of Biological Chemists. He served on the Editorial Boards of the Journals *Plant Physiology* and *Phytochemistry*.

Dr. Hackett was an outstanding teacher who imparted carefully integrated information, ideas and, above all, a spirit of enthusiasm to his audience. He not only attracted many students to his graduate course in Plant Biochemistry, but also many faculty members from several biological departments.

Dr. Hackett's qualities as a superb teacher, friend and inspirational guide can be appreciated from the following excerpts of a tribute to him written by a group of his graduate students:

> "When you met Dr. Hackett for the first time you were invariably impressed by the man's vitality and youth, by his interest in science and his passion for understanding his students"
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> "Dr. Hackett was a rare human being. A superb teacher, one who took pains to listen to you, to guide you gently along reasonable paths; he loved students and tried to understand their needs and interests. He would work for days in the library preparing the

lectures for his course in Plant Biochemistry. His attention to the details of the science and his eloquence in presenting his lectures with the broad view of Biochemistry in the foreground earned him the immediate respect of his students and colleagues. That he was one of the best teachers in the department was clear to all. That he was an indispensable guide to the students of the Biochemistry Department in his capacity as Student Advisor, especially to the newly-entering graduate students, can be attested to by the many, many times students would seek his advice on courses, on careers, on personal problems. That he was loved by all and needed by all was evidenced by the stunned silence and shock that greeted his death."

For Dr. Hackett, teaching and research were more than an occupational interest. He was a perfectionist who had a passionate devotion and felt a profound duty to his profession. He constantly strove for improvement, so as to perform at the highest possible level. He often indulged in self-criticism and self-analysis, contemplating the meaning and purpose of matters that so deeply concerned him. This attitude is revealed in some excerpts from his personal journal.

"The power and superiority of the scientist is that at least in one area he is seriously engaged, towards the truth essentially. The inadequacy is simply that he has restricted his field and his methods. The human truth is not entered. But since most people never become involved in either, the 'inadequate' scientist seems superior. Of course the really dedicated scientist... has his own unselfconscious internal *human* truth, essentially that of the *creator*. In that sense he becomes a truth rather than an existence, a being seeking it."

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"The question, the problem should be rephrased: not, what is the relationship between Science and Poetry, but, finding yourself committed to scientific work and teaching, how do *you* keep in touch with the Muse? As you go about your work, do everything to keep the quiet center alive, listening to the Voice. Don't let your public conversations drown out the Private Conversation. Find in the science, the teaching, the essential interest which makes them delightful. The bringing together must be done inside you."

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Dr. Hackett's intellectual and cultural versatility was unique. He loved music and literature, and was highly sensitive to the beauty and nuances of the fine arts. As a colleague he was a splendid person to be associated with.

On the evening of January 21, 1965, on the way to his suburban home, he was brutally murdered by an unknown assassin for an unknown reason.

Professor Hackett is survived by his wife Sarah and four children: Paul, Martha, Susanna and Nathaniel.

W. Z. Hassid