

In Memoriam

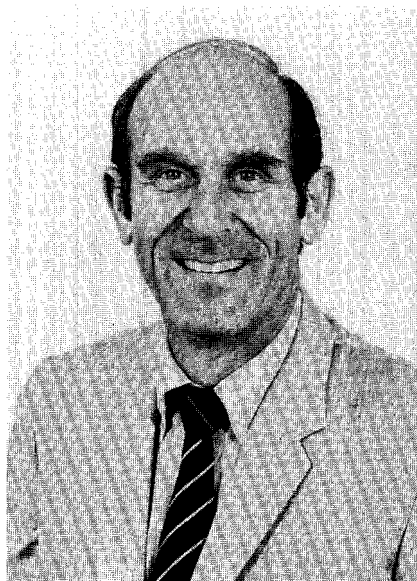
Richard P. Schuster
1925-1979

Robert W. Vaughan
1941-1979

The crash of American Airlines Flight 191 in Chicago on May 25 was a personal and costly tragedy for the Caltech community. Alumnus Richard P. Schuster (BS '46, BS '49), who was director of development for Caltech, and Robert W. Vaughan, professor of chemical engineering and chemical physics, were among those who died. Alumnus Terry E. Ernest (BS '63, MS '65) also lost his life in the accident.

A memorial service was held on campus on June 5 for Schuster, at which the speakers were his long-time friend James Bonner, professor of biology; Charles Newton, lecturer in English emeritus and former director of development; and Marvin L. Goldberger, president of Caltech. C. J. Pings, vice provost, presided.

On June 14 a memorial service was held for Vaughan. Harry Gray, chairman of the division of chemistry and chemical engineering, presided and spoke briefly



about Vaughan. In addition, short talks were made by his colleagues Sunney Chan, professor of chemical physics and biophysical chemistry, and John Seinfeld, professor of chemical engineering; one of his graduate students, Jeff Reimer; John Baldeschweiler, professor of chemistry and former division chairman; and Dr. Goldberger.

Below are brief biographies of Schuster and Vaughan and excerpts from some of the tributes offered at the memorial services.

Richard P. Schuster, 53 was born in Los Angeles and attended high school in Beverly Hills. After receiving his BS in electrical engineering from Caltech, he spent a year in the Navy and then returned to the Institute to earn another BS in applied chemistry. For two years he served as a production foreman at the Procter and Gamble Manufacturing Company in Long Beach, and for the next ten years he was plant manager of the Bray Chemical Company in Los Angeles. In June 1962 he joined the staff of JPL as a staff engineer working in the newly created Arms Control Study Group. In 1964 he came to the campus as director of the Industrial Associates program, was named director of foundation relations in 1976, and became director of development in 1977. He is survived by a son, Mark, and a daughter, Catherine.

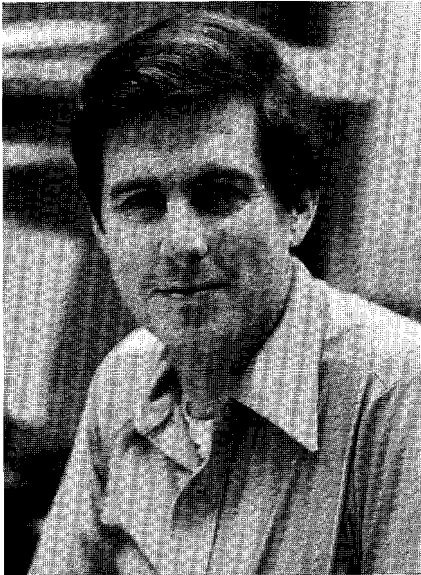
James Bonner: "Dick could do absolutely anything — electrical engineering, mechanical engineering, chemical engineering, or plumbing. He understood them all. Confidence was Richard P. Schuster's middle name. I have often thought that if I were marooned on a desert island the person I would like to have there with me to figure out how to build a boat and get away would be Richard Schuster."

Charles Newton: "I first got to know Dick when I was trying to persuade him to come down from the Jet Propulsion Laboratory and take charge of the Industrial Associates. At the end of three months of effort on my part, Dick made up his own mind. He decided it would be the right thing to do both from Caltech's point of view and his own. Dick believed in right and wrong.

"His job was a large part of his life, but it wasn't all. In 1964 Dick became a member of the board of directors of the Caltech Y, and he served on the board for years after that. He became an active alumnus, and in 1965 he was elected president of the nationwide Caltech Alumni Association. He was also a member of the Caltech Beavers, which was a considerably less formal group. He was physically active and energetic; almost every Sunday found him on the Athenaeum tennis courts, and at all times he was an endless and tireless hiker.

"Dick gave many years of his life to Caltech. We are grateful to him for the energy and devotion he put into those years and glad he was with us."

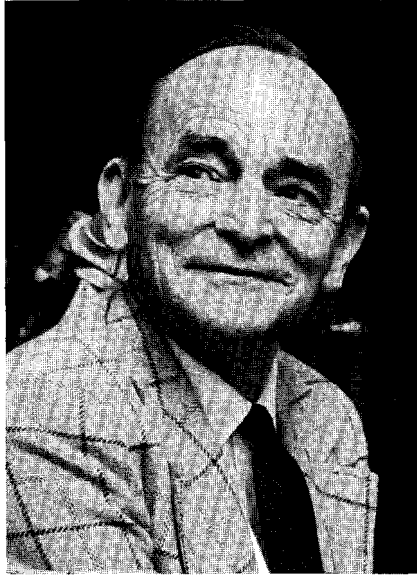
Robert W. Vaughan, 37, was a native of Oklahoma. He received his BS from the University of Oklahoma and his MS and PhD from the University of Illinois. He came to Caltech in 1969 after serving a tour of duty with the Chemical Corps of the United States Army, mostly at the Jet Propulsion Laboratory. Vaughan's research was in the general area of solid-state and surface chemistry and physics. He was the recipient of numerous awards, including an Alfred P. Sloan Research Fellowship, a Dreyfus Teacher-Scholar Grant Award, and the Fresenius Award of Phi Lambda Upsilon, a national honorary chemical society. He is survived by his wife, Sharon, and his daughter, Tena.



John Seinfeld: "Bob's thesis at Illinois was on the Mössbauer effect, which concerns the recoil-free emission of gamma rays by nuclei in crystals. The discovery of this effect earned the Nobel Prize for Rudolf Mössbauer, a German physicist. It was on that subject that Bob spoke at his first Caltech seminar in 1969.

"The seminar that day was characterized by the non-stop, rapid-fire delivery that we came to know as Bob's trademark. All through the talk a man sitting behind me kept asking Bob polite but penetrating questions, which Bob fielded easily and confidently. Afterwards, Bob was introduced to the man — Rudolf Mössbauer — who turned out to be quite impressed with the work Bob had done. Thus Bob Vaughan's career at Caltech began."

Jeff Reimer: "Despite his rank and position, Bob Vaughan was a man of humility and self-sacrifice. He was willing to come at any time into the laboratory, day or night, rain or shine, to help students with problems. Every student who ever worked with Bob can remember picking up the phone to call him at home at one or two o'clock in the morning when things weren't going right at the lab — and having him run down and help out. On his birthday, Bob and Sharon drove two hours each way to come to my wedding. He really cared about his students, and I regard the moments I worked with him side by side in the lab as very precious."



C. A. G. Wiersma 1905-1979

On May 19, C. A. G. Wiersma, professor of biology emeritus, died after a long illness. He was 73 and had been a member of the Caltech faculty for almost 45 years. Born in the Netherlands, he studied at the universities of Leiden and Utrecht and was invited by Thomas Hunt Morgan to come to the Institute in 1934 as a representative of the then relatively new science of comparative physiology.

Wiersma's doctoral thesis in 1933 was on the nerve-muscle system of crustaceans. He maintained an interest in this class during his entire scientific life, performing pioneer work first on the neuromuscular system, then on the central nervous system, and during the last few years on the visual system. His work provided an important link between neurophysiology and behavior. At the time of his retirement in 1976 his former co-workers — undergraduate students, graduate students, and fellows — presented a symposium in his honor.

In addition to his work at Caltech, Wiersma was from 1943 to 1950 a member of the attending staff of Los Angeles County General Hospital, making studies of the myography and treatment of poliomyelitis and the treatment of schizophrenia with electronarcosis.

He was a member of the Society for Neuroscience, the American Physiological Society, the American Association for the Advancement of Science, and Sigma Xi. In 1956 he became a correspondent of the Royal Netherlands Academy of Arts and Sciences, and he was recently elected a foreign associate of the National Academy of Sciences.

Wiersma is survived by his wife, Jeanne, who lives in Pasadena. A memorial service was held in his honor early in October at which tributes were offered by Donald Kennedy of Stanford University, and his colleagues in the Caltech Division of Biology, Antonie van Harreveld and Felix Strumwasser.



Robert D. Gray 1909-1979

Robert D. Gray, professor of economics and for 36 years director of the Industrial Relations Center at Caltech, became professor emeritus at the end of the last academic year, as reported in the May-June issue of *Engineering & Science*. On July 4, Gray died after a long illness. He was 69.

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For all the years he was at Caltech Gray devoted energy and enthusiasm to administering the Center and to teaching industrial relations and management to Caltech students. He was concerned for the well-being of those students and determined to prepare each of them for the problems likely to be encountered in industry.

As an administrator, Gray converted a fledgling Industrial Relations Section into the present Center with its enviable reputation in the industrial community. Thousands of professionals in Industrial Relations were given extra polish in the seminars and programs of the Center, and other thousands of line managers learned the techniques of supervising with emphasis on interpersonal relationships.

During World War II Gray served as adviser to the Railway Labor Board Emergency Panel, and then he organized a massive program of war training classes at Caltech.

He further served the Institute as chairman of the Insurance and Annuities Committee and of the Grievance Committee; he was an advisory member of the committee on the Industrial Relations Center; and he also was a member of the ad hoc committees on Compensation and Continuing Education.

He served an unprecedented 19 years on the California State Personnel Board; was chosen for the Governor's Advisory Council on the Department of Employment; served as chairman of the Labor-Management Council; and was a board member of the California State Employees Retirement System. His books and research publications require many pages for complete listing, and he has become a recognized authority in the fields of compensation and employee benefits.

Gray was the recipient of many awards and honors, and he was active in civic affairs. He was a member of the Twilight Club and the Rotary Club of Los Angeles. He was elected a director or officer of the Pasadena Chamber of Commerce from 1950 to 1956, serving as president in 1953-54. He also served on several committees of the Greater Los Angeles Chamber of Commerce.

Services were held for Gray on July 7 at St. Philip the Apostle Catholic Church. He is survived by his wife, Mary, his daughter, Mrs. Mary Belinda Lucey, and two grandchildren.



Ernest E. Sechler

1905-1979

Ernest Sechler, professor of aeronautics emeritus, died on August 14. He was 73. Born in Pueblo, Colorado, he entered Caltech as a freshman in 1924 and was the first person to receive an MS degree in aeronautics from the Institute. He also held a BS in engineering, an MS in mechanical engineering, and a PhD in aeronautics. Though his PhD was awarded in 1934, he actually began his career on the faculty as an instructor in 1930. He became a full professor in 1946 and was executive officer for aeronautics from 1966 to 1971. He became professor emeritus in 1976. Over the years he performed most of the admissions work for GALCIT — the Graduate Aeronautical Laboratories of the California Institute of Technology — a vital task in the success of the option.

Sechler devoted his professional life to teaching and research on the design of safe, lightweight structures — from airplane fuselages and the thin shells of rockets and boosters to the shell structures that cover the 200-inch telescope on Palomar Mountain and the Cooperative Wind Tunnel. He was a consultant for many facets of the aerospace industry, and he served as a member and chairman of

various national advisory committees for the Air Force and NASA. In recent years he was active in promoting windmills as a power source, and in 1973 he and his colleague Homer J. Stewart developed the course "Case Studies in Engineering," which introduced students to the problems of management of large engineering projects, including financing, customer relations, and long-range planning.

Sechler was a member of the National Academy of Engineering, the American Association for the Advancement of Science, the California Academy of Sciences, and the National Defense Preparedness Association, and was a fellow of the American Institute of Aeronautics and Astronautics.

He is survived by his wife, Margaret, his daughter, Lorraine Sechler Emery, and two grandsons. Memorial services were held at Caltech on October 12.

Beach Langston

1911-1979

A Tribute by Kent Clark

Probably no Caltech professor ever needed a biography less than Beach Langston. Although there are details like dates and places that might be supplied by a formal memoir, the really important things about Beach were obvious to everyone who knew him — that he was a gentleman in an age when gentlemen are rare, that he was a literary man to his fingertips, that he was devoted to his students, family, and friends, and that he created an atmosphere of warmth, goodwill, and affection. And so, although I like to think that I knew Beach better than any of his other friends did (we came to Caltech in the same year, 1947, shared an office for six or seven years, and got so we could complete each other's sentences), the Beach I knew was essentially the one everyone else knew; and what follows is not really for the record but only for the pleasure of recall.

One of the first things strangers noticed about Beach, besides the obvious fact that



he was about six feet four and had blond curly hair (latterly gray), was his soft, distinctive Southern accent. Sophisticated strangers, experienced with Southern rhythms, might have identified Beach's speech as basic Atlanta (where Beach was born in 1911) with a large element of Charleston, South Carolina, where he attended The Citadel and met his wife Catherine, a small touch of pre-war Florida (denatured Alabama) where Beach's father speculated briefly in the real estate boom, a significant flavoring of Chapel Hill, North Carolina, where Beach took his PhD, and trace elements of El Paso where he taught in what was then the Texas College of Mines. Beach's cadences and pronunciations, which sometimes made his colleagues sound like chattering neurotics, had some fine peculiarities of their own. Although he loved and taught poetry for many years, he could never pronounce the word, and he could not pronounce *Cooper*, Catherine's maiden name. (Philologists have not so far invented symbols to describe his rendering of the vowel sounds in either word.) The fact that Beach spent the last 32 or so years of his life with Yankees, Westerners, Techers, and other low types perhaps faded his native rhetoric a trifle, but it was still distinctive and it was still Beach.

It was also very deceptive. It conflicted so oddly with Beach's social and political views that it sometimes seemed as if he had set out deliberately to fracture every cliché about Southern conservatism and prejudice. Beach, as we all know, was a

liberal in a way that would put most hereditary Northerners to shame. The key to his liberalism was his empathy, his sensibility, and his lively imagination; it was no trouble for Beach to put himself in someone else's place, and he instinctively opposed any mode of oppression, no matter how elaborately packaged. He used to say, with a laugh, that one of his friends in El Paso had called him a bleeding-heart liberal and that his friend was probably right. If Beach's liberal politics were apt to come from his heart, there was nothing wrong with his head; he understood very well how political action works and he had firm principles. He left Texas College, for example, when the president tried to tell him what causes he should support. Beach was a one-man civil rights movement long before civil rights became a popular national issue, and it is an interesting and instructive fact that when the humanities division decided to offer a course in Black literature, it was Beach, born in the navel of the Confederacy, who taught it.

Beach's religion, like his politics, was a distinctive combination. Philosophically he might be classified as a Christian existentialist, something like W. H. Auden. In practice, and to Beach practice was almost everything, he was a Langston-style Quaker. Beach's personality fitted so well with the Friends' feelings for non-violence, persuasion, individualism, and social service, that if Quakerism had not already existed, Beach might have invented it. Anything but a fundamentalist and absolutely unconcerned with conven-

tional piety, Beach instinctively helped people. For this reason, I suppose, he did not need to be born again; he was born right the first time. Naturally, his willingness to serve meant that we all leaned on him and took advantage of his generosity, and he spent his life doing more than his share.

If all this sounds saintly, I should add that Beach was saved from anything like sainthood by his sense of humor, which kept him from taking himself and his good deeds too seriously, by his skepticism, and by an unblinking perception of character. Without an ounce of malice in his body, Beach recognized a certifiable creep when he saw one, and although you could probably count the people he actively disliked on the fingers of one hand, he disliked enough to save himself from a halo.

Professionally, Beach had the advantage of a Southern liberal-arts education, including Greek, and a remarkably wide reading background. He also had a variety of teaching experiences, which kept him from being narrowly specialized and which fitted with the variety of his personal experiences. In his early literary career, Beach concentrated upon Shakespeare and the Renaissance and his early publications were on things as recondite as the *ars moriendi* tradition in Elizabethan literature and the relationship between Shakespeare and the Romantics. As the years went by, however (and as we developed a need for specialists in American literature), Beach's interests drifted toward modern American writers. Since Beach was himself an anthology of modern American experience, since he had tried out a number of American value systems on his corpuscles, he was perfectly fitted for studying and explicating people like Hemingway, Fitzgerald, and Faulkner. Naturally Faulkner became his favorite, not only because they both knew the same South but also because they had been through the same emotional wars. Ironically, Beach probably knew too much about Faulkner for his own artistic good. He published his first studies of Faulkner in 1961, but his book on Faulkner, which he amended and revised endlessly, is still unfinished. A month or so before his

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death, he told me that he needed to do some major surgery on one of the chapters and a small amount of rewriting. Perhaps Jenijoy La Belle or I can finish it. From the point of view of his colleagues and his students, however, the publication of his Faulkner studies was irrelevant. We got the benefit of his wisdom on Faulkner and other literary and non-literary themes. I suppose that a few lines from Shakespeare, Milton, and Browning, delivered in Georgia accent, are still echoing in 301 Dabney.

Naturally, Beach's professional life spilled over into his private life (if *private* is the right word), and students, colleagues and friends were apt to find themselves co-opted into his family. People who were not totally depraved were apt to find themselves honorary Langstons — almost as much a part of the family as the Langston daughters Kitty, Louise, and Dottie. (Beach used to say that like King Lear he had three daughters but on the whole his were better behaved.) Of these honorary Langstons there were certainly dozens and perhaps hundreds, and we all benefitted from a certain warmth and informality and from a level of manners that Yankee families simply cannot achieve. Perhaps it should be added, while we are on the subject, that if Beach's social and political views would have appalled his ancestors, even Jefferson Davis would have loved his manners. In a sense, the odd combination of radical thought with conservative decorum helps to define his character.

Integer vitae, says the poet, and if we want to use two words to describe Beach, those two will do as well as any, although they suggest more stoicism and less fun than he actually had. As for Beach's friends and Caltech in general, we can be described with one word, *lucky*. We had Beach as a pure gift; and as with all great gifts we did not have to do a thing to deserve him. □

Kent Clark is professor of English at Caltech. His affectionate memories of Beach Langston quite properly are not concerned with dates, but for the record, Dr. Langston died on April 10.

Winchester Jones . . . continued from page 27

the board, he sought a much closer relationship, but as long as Allan Balch was chairman, the trustees and the faculty just didn't have much to do with each other. We were represented — Earnest Watson, as far as I know, and of course Millikan, sat in. The rest of us just didn't bother much with the trustees, and they didn't bother us, and it was no loss to us or to them. The much closer relationship now, where they have division representatives to the trustees and so on, is new since my retirement.

MT: But socially you didn't see them either? They didn't move in the same circles?

WJ: No, not at all, unless you happened to know them in a different way. The only time we ever mingled socially was at the Associates' dinners, where the members of the faculty who didn't feel too awkward in black tie were asked to come and be nice.

MT: Did any faculty members do fund raising?

WJ: Not as far as I know. The Executive Council, perhaps, although the Executive Council as such, I believe, met only about four times in Millikan's entire career. I don't think it ever had anything to say about anything. Millikan ran the show, you know, though I think Munro had a good deal of influence on him. You see, Millikan was a great believer in democracy, provided it didn't interfere with getting what he wanted done. He never would take the title of president, because he said, "All right, we will do this in a democratic way. We'll have an Executive Council, and we will decide things in that. No one man's going to dominate." But, as I say, I don't think the Executive Council met very often. Max Mason, who was on it, told me he'd been on it for four years and he had never been to a meeting, so for sure it hadn't met in that length of time.

One thing I do have to say for Millikan. Sure, he was a dictator, in spite of all his talk about democracy. But we needed one

then; we had to have one. Times were tough, and he was the greatest money-raiser that ever came down the pike. But he gave you a job and he let you alone. He never interfered. He'd gather it indirectly if you were not doing a good job, or if it were in academic administration, he knew darn well the faculty would take care of you if you weren't doing a good job. You'd come in to lunch at the faculty club and they'd say, "What the heck were you doing when you admitted this class, for heaven's sake?" So there wasn't any way you could backslide very much. And nobody wanted to.

Millikan knew that he had dedicated people there, people who wanted to do their jobs and who were good at it. He didn't need to interfere — although there were occasions, particularly in admissions, when a good deal of pressure was brought on him. I'll never forget when we turned down the son of one of the members of the United States cabinet. The cabinet member got hold of Giannini, who was head of the Bank of America, and Giannini said, "Well, I know all those trustees; your boy is as good as in." And said to Millikan, "Let that boy in." And Millikan said, "You go to Jones; I have nothing to do with it." And I think we lost some money. But Millikan wasn't going to interfere. He knew it was wrong to let that boy in when he didn't deserve it. He knew the committee knew what it was doing. No, we never had any trouble that way.

MT: Do you think things would have been different if Millikan had been president, instead of having the Executive Council?

WJ: No. There wouldn't have been any difference at all. I don't mean the members of the council and Millikan didn't talk to each other, but there wasn't any formal meeting where they voted on this or that. Sure, Millikan would ask Mason what he thought about this and he'd ask Munro, and Munro would go to Millikan and see about this or that, but it wasn't a formal meeting once a month where somebody made a motion and kept minutes. That just didn't happen. □