

generations before David, “leftists and socialists.” In his thirties, we learn, Baltimore “hated Nixon,” and thought his “War on Cancer” a sham. At this period of his life (when he was doing his most exciting scientific work) Baltimore “disdained capitalist society” and declared himself “an anticapitalist.” When did his views change? Or have they?

One of the more interesting human subplots to the narrative is Baltimore’s impassioned resistance to the Vietnam War (had he been born five years later, Canada might have been able to claim him as its most distinguished scientist). Baltimore’s truly eloquent and idealistic outburst against the ineffable John Dingell during “the case” reminds one of nothing so much as those gallant dissidents who stood up publicly to denounce HUAC and McCarthyist purges, 40 years earlier. (Crotty, incidentally, handles this episode very effectively.)

The aspect of Baltimore’s intellectual character that emerges most clearly is that he is a loner. As a young scientist he was a self-made man. His alma mater will take no pleasure in Crotty’s book. Baltimore, perhaps its most famous living alumnus, is quoted as saying: “At Swarthmore the teaching of biology was poor—at best. The courses were really generally *bad*.” But perhaps genius needs to be left alone, to grow at its own rate in its own peculiar way. For students like David Baltimore, bad courses are the best courses. Would undergraduate education at Cambridge, MIT, or Caltech have crushed the original genius out of him?

Late-20th-century, laboratory-based science cannot be done at the highest level by “loners.” It costs too much. Few biologists are born

billionaires. Accommodations must be made: with institutions, with the state, and with “capital.” As a young scientist, Baltimore apparently believed that if funds were needed for his kind of science it should ideally be from the taxpayer (“the only way to do research was on government money”).

But when he made his pact with a large institution (with the ultracapitalist name, Rockefeller) did he have any twinges of “radical, leftist” conscience?

What went through Baltimore’s mind, in August 1980, when Jack Whitehead offered Baltimore a research institute? He who supps with the devil should use a long spoon? Or, this is the only way forward for research, such as that into molecular biology, which needs unimaginably large sums of money? These are questions that the reader (legitimately, I think) asks. This biography gives hints, but no answers.

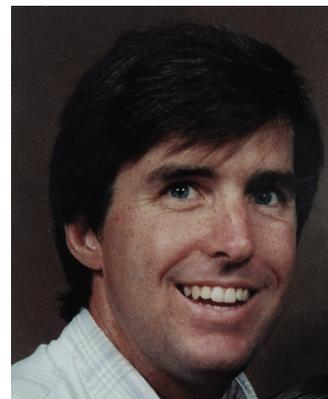
There is much to applaud in Crotty’s book. I found his expositions of Baltimore’s research for the layman (as a layman) admirably comprehensible. Crotty is good on the ethical problems raised by gene research, and Baltimore’s (sensible, one apprehends) thinking on the

Pandora’s box his genius has opened.

This is an interesting study of a fascinating and important man. But, as biography, Crotty’s book stimulates an appetite it signally fails to satisfy. There remain enigmas. For instance: the best prose in the book is Baltimore’s (I would point to the witty summary of his “education in irrationality,” in his inauguration address at Caltech, quoted here as epilogue). Baltimore is a brilliant scientist, yes. But he is also a highly cultivated man, with a love of theater, jazz, art, and literature. We do not learn from this book how he became that unusual man. The posthumous biography will doubtless tell us. And, by the time it comes along, there will, for a certainty, be much, much more for the biographer to record. □

John Sutherland taught at Caltech, in the Division of the Humanities and Social Sciences, from 1983 to 1992, and has visited quarterly since. He has written biographies of Sir Walter Scott and Mrs. Humphry Ward and is currently writing the authorized biography of the poet Stephen Spender.

JEFFREY SCOT BANKS 1958–2000



In 1996 Jeff Banks (right) received the National Academy of Sciences Award for Scientific Reviewing, presented by John Ferejohn, Munro Professor of Political Science at Stanford and senior fellow of the Hoover Insitute (Ferejohn taught at Caltech from 1971 to 1983). Banks's name appears on the wall with those of awardees from previous years.



Jeffrey Scot Banks, professor of political science, died December 21 at the age of 42 of complications of a bone-marrow transplant.

After earning his PhD from Caltech in 1986, Banks left to join the faculty of the University of Rochester and returned to Caltech in 1997. He taught and did research in the general field of political theory, including political economy, game theory, and social choice. He made significant contributions to a field of political science characterized by the use of formal mathematical and deductive methods to model political behavior—behavior such as strategic voting, bargaining, coalition formation, and jury decisions.

A conference in his honor was held on campus April 7; students and colleagues presented papers that drew on Banks's work on the role of incomplete information in models of political processes. Those colleagues, who had gathered from around the country, also joined friends for a memorial service in Dabney Lounge to remember and celebrate the life of Jeff Banks in a less scholarly fashion.

John Ledyard, professor of economics and social sciences and chair of the Division of

the Humanities and Social Sciences, likened the empty seat at the conference to the hole in a pilots' formation or the empty barstool. Ledyard welcomed everyone and introduced the other speakers—Banks's teachers, colleagues, and students, who offered remarks in roughly the chronological order in which each speaker had encountered his career. Ledyard was slightly out of chronological order himself, arriving as a professor at Caltech just as Banks was finishing his PhD.

Born in San Diego, Banks graduated from UCLA in 1982. Richard McKelvey, the Wasserman Professor of Political Science, recalled hearing of this "really smart UCLA student" who had applied to Carnegie Mellon for graduate school. McKelvey set about explaining to Banks why he should come to Caltech instead. He did, earning his PhD in 1986 with a thesis on "Signaling Games: Theory and Applications," with McKelvey as his thesis adviser.

David Porter, currently on the staff of the Economic Science Laboratory at the University of Arizona, first met Banks as a fellow graduate student. "When I think about the wonderful qualities of Caltech, namely, cutting-edge research, innovative

thinking, honesty, and cleverness, I think of Jeff," said Porter. "And if you worked with him, you knew you were in for a lot of laughs and fun."

In addition to numerous academic papers ("It's remarkable how much he accomplished in such a short span of time," said McKelvey), Banks coauthored a book, *Positive Political Theory I: Collective Preference*, with David Austen-Smith. Austen-Smith, now professor of political science and economics at Northwestern University, spoke of Banks's "evangelical zeal" for political science. "To Jeff, doing research was sheer pleasure." He also noted Banks's easy disposition and enthusiasm and his ability to introduce lines from the movie *This Is Spinal Tap* into seminar presentations.

In 1986, Eric Hanushek (now at Stanford's Hoover Institution) was chairman of the economics department at the University of Rochester and found himself for the first time in competition with the political science department for a faculty appointment. This led to Banks's unique appointment and ultimately tenure in two departments.

"He was a natural success at Rochester," said Hanushek. If it hadn't been for his illness

and return to Caltech, he claimed, Banks would have substantially changed political science and political economy at the university. "There are some people with whom everyone identifies as a friend," he said. "Jeff was one of those people."

John Duggan, PhD '95, who followed Banks's path to the University of Rochester, where he is now associate professor of political science and economics, described him as a "really deep thinker, a careful and rigorous thinker, and he challenged you to be also."

"He just loved research so much," said Duggan. "His energy and enthusiasm were infectious, and that made working with him so much fun." Banks was productive even when he was ill, Duggan added, and left several papers that will be published posthumously. "In the profession, our debt to him is great."

Banks received numerous awards and recognition for his work. From 1989 to 1994, he was a National Science Foundation Presidential Young Investigator, and received the National Academy of Sciences Award for Scientific Reviewing in 1996. In 1996 he was also elected a fellow of the Econometric Society.

“Jeff was my teacher and my thesis adviser,” said Daniel Diermeier, who studied with him at Rochester. Diermeier explained that the German term for thesis adviser is *Doktorvater*. “There’s truth in this concept,” he said, “which, as a father and a teacher now myself, I appreciate more. Teaching is about creating someone who is then creative in turn. We grow into our research.”

Diermeier, who is now the IBM Professor of Regulation and Competitive Practice at Northwestern University, also appreciated the American informality he met at Rochester. “All my previous teachers had the same first name: *Professor Doktor*. And now here was ‘Jeff’ in his sneakers.” Two qualities made him unique, said Diermeier: “the deep joy” that radiated from him and his deep commitment to research.

Banks was diagnosed with leukemia in 1995 and underwent a bone-marrow transplant in the summer of that year. In 1997, he returned to Caltech as professor of political science. He became executive officer for the social sciences in 1999, a post in which his dry wit and calm, easygoing nature, as well as his knowledge of voting theory, helped smooth many meetings.

Professor of Economics Matt Jackson came to Caltech at the same time that Banks returned. “He wanted everyone to enjoy life,” Jackson said. “He could always see the humor in a situation.” In his professional life, he taught others to “sweat the details; details matter.” And even when his health deteriorated, “he came in, taught his courses, met with graduate students, and kept doing the day-to-day things, no matter how difficult. He made a big difference in the small things

as well as the big ones.”

On behalf of Banks’s family (which includes sons Bryan, 15, and Daniel, 13), his wife, Shannon, thanked all those who had come that day “not just to mourn his passing but to celebrate his life.” She thanked the anonymous bone-marrow donor “who allowed the extra time” and also all those in the audience who had signed onto the bone-marrow registry because of her husband’s illness. “He fought long and hard to stay with us.” She also presented to Ledyard and to Larry Rothenberg, director of the Wallis Institute at the University of Rochester, framed copies of Banks’s Presidential Young Investigator Award and a photo of him receiving the National Academy of Sciences award.

In closing, Ledyard stated that the new seminar room in Baxter Hall would be named in Banks’s memory and also announced the creation of the Jeff Banks Memorial Seminar Fund. Contributions to the fund may be sent to Susan Davis, Caltech 228-77, Pasadena, CA 91125. Checks should be made out to the California Institute of Technology. □

HONORS AND AWARDS



Professor of Biology Pamela Bjorkman is one of 72 American scientists elected this year to membership in the National Academy of Sciences (NAS). She's the first woman out of a total of 67 living Caltech faculty members elected to that honor. Bjorkman, who is also executive officer for biology and an investigator with the Howard Hughes Medical Institute, has been a member of the Caltech faculty since 1988. Her research focuses on molecules involved in cell-surface recognition, particularly molecules of the immune system.

John Abelson, the Beadle Professor of Biology, has been elected to the American Philosophical Society.

Paul Bellan, professor of applied physics, has received one of two 2001 SPD Popular Writing Awards, given each year to a professional scientist and to a science writer or journalist by the Solar Physics Division of the American Astronomical Society.

Roger Blandford, the Tolman Professor of Theoretical Astrophysics, was named the Tetelman Fellow at Yale for 2001; he delivered the Tetelman lecture in mid-February. In June, he traveled to Munich to give the Siemens Lecture.

Mory Gharib, professor of aeronautics and faculty member in bioengineering, was invited by the American Association for Thoracic Surgery to give the Honored Speaker address to the 81st AATS conference on May 8 in San Diego. He discussed the challenges and rewards of applying bioengineering principles to space exploration.

William Goddard, the Charles and Mary Ferkel Professor of Chemistry and Applied Physics, has been selected by the Southern California Section of the American Chemical Society to receive the Richard C.