



Frederic Lawrence Holmes

Obituary

FREDERIC LAWRENCE HOLMES
1932–2003

Frederic Lawrence Holmes, Avalon Professor of the History of Medicine at Yale University, died in New Haven at the age of seventy-one on 27 March 2003 after a year-long illness.

Born in Cincinnati, Larry received his BS in quantitative biology from the Massachusetts Institute of Technology in 1954, and took special satisfaction from rowing his MIT at Henley. He then began graduate work in History at Harvard, study interrupted by two years in the Air Force. He received his MA in 1958, but on returning to Harvard he transferred to History of Science, where he received the PhD in 1962.

In 1964, after two years teaching at MIT, he became an assistant professor in Yale's Department of the History of Science and Medicine, and in 1968 was promoted to associate professor. He left in 1972 to become professor and department Chair at the University of Western Ontario. In 1977 he returned to Yale as a full professor and Chair of the Section of the History of Medicine in the School of Medicine. He became Avalon Professor in 1985.

Not long before learning of his illness Larry had decided to step down as Chair and to begin half-time phased retirement. In the face of illness, he poured himself into two major projects. In spring 2002, he stood back from his focused case studies of scientific creativity—ranging from Antoine Lavoisier in eighteenth-century France to Seymour Benzer in the twentieth-century United States—to venture generalizations about the nature of the scientific enterprise, past and present. His draft manuscript was the foundation for a symposium honouring him, convened at Yale in September 2002, and his book *Investigative pathways: patterns and stages in the careers of experimental scientists* will be published in 2004.

The metaphor of the “investigative pathway” was a key organizing tool in Larry's historical investigations of the life sciences. One fortuitous turn in his own investigative pathway came in 1963, a year after he finished his dissertation on Claude Bernard and the “internal environment”. At a conference in France, the young Holmes met Mirko Grmek, who was cataloguing a large cache of Bernard's manuscript materials, newly available at the Collège de France. Using Bernard's early laboratory notebooks, from 1842 to 1846, Larry began a meticulous reconstruction of the day-by-day investigations that resulted in the demonstration of the glycogenic function of the liver. This historical project led in 1974 to the prize-winning book *Claude Bernard and animal chemistry*.

In the process of analysing Bernard's laboratory notebooks, Larry had developed the historiographic method that would become his distinctive hallmark: the fine-grained reconstruction of the investigative pathways of experimental scientists. Through detailed reconstructions of technical and cognitive work at the bench, he was able to reveal what he came to call “the fine structure of scientific creativity”. This level of resolution disclosed pathways that are continuous but not linear, rooted in small steps and deviations, with occasional triumphs.

Obituary

It was only after the Bernard study that Larry began to consider the “fine-structure” approach as a generalizable method. Tentatively exploring the possibility of an historical study on Hans Krebs’ biochemical researches on the citric acid (“Krebs’”) cycle, he discovered that Krebs had kept *all* of his laboratory notebooks. In 1976 Larry also began a series of detailed interviews with Krebs, and oral history joined scrutiny of laboratory notebooks in constructing a nuanced account of workaday scientific practice.

In the midst of writing his magisterial two volume study of Krebs—*The formation of a scientific life, 1900–1933* (1991) and *Architect of intermediary metabolism, 1933–1937* (1993)—Larry took a detour back to the eighteenth century that makes sense only in the context of the contingencies of his continuous but hardly linear pathway and the patient persistence that characterized his intellectual style. Struggling to understand the distant historical background for Krebs’ studies of intermediary metabolism, what might have been a few pages of stagesetting for the Krebs volumes became instead another foundational book that used Lavoisier’s surviving laboratory notebooks in *Lavoisier and the chemistry of life* (1985).

More recently Larry returned to the twentieth century—both to laboratory notebooks and to interactions with living scientists—in *Meselson, Stahl, and the replication of DNA* (2001). During the final months of his life, he was intent on attempting to finish his study of Seymour Benzer and molecular biology, and those who visited him at the Yale Health Service Clinic recall a room filled with books, papers, a laptop, and a scholar eager to talk about ideas. He completed the final chapter two weeks before his death, and *Between molecular biology and the classical gene: the pathway of Seymour Benzer into the rII region* will be published by Yale University Press. “Working with Larry”, his historical “subject” Franklin Stahl recalls, “was as deeply rewarding as was the collaboration with Matt Meselson that motivated that project. . . . We miss Larry—we will always miss him, and we will forever treasure his gift to us.”

Larry was awarded the History of Science Society’s Pfizer Prize (1975) and Sarton Medal (2000); the American Association for the History of Medicine’s Welch Medal (1978); and the American Chemical Society’s Dexter Award (1994). He was President of the History of Science Society in 1981–83, and became a Fellow of the American Academy of Arts and Sciences in 1994. He was a scholar of sturdy intellectual convictions that were not swayed by the breezes, or gale force winds, that have criss-crossed our field, yet he was unstinting in his encouragement for students and colleagues whose intellectual passions led them off on a different course. A leading contributor to history of science and medicine for two generations, what comes first to the mind of anyone who knew him well was his gentle modesty.

Larry’s wife of many decades, Harriet Vann Holmes, passed away in 2000. He is survived by three daughters and by his partner, Petra Gentz-Werner of Berlin.

John Harley Warner