



**JAMES W. LASH**  
(1929–2000)

# IN MEMORIAM

## James W. Lash (October 24, 1929–January 11, 2000)

James W. Lash, or Jay, as we all knew him, died on January 11, 2000, in his home in Woodstock, Vermont, of pancreatic cancer.

Born and raised in Chicago, Jay entered City Colleges in Chicago and after two years went directly into a zoology doctoral program at the University of Chicago, bypassing the entrance exams. At the University of Chicago he studied under Paul Weiss and received his Ph.D. in 1954 as quite a young man. He came to Philadelphia in 1955 to do postdoctoral research at the University of Pennsylvania School of Medicine and joined the Department of Anatomy as an instructor two years later. He once said that when he started at Penn Med., it was a time when a lot of ex-GIs were entering medical schools to get their degrees and he was teaching students that were many years older than he was. He rose through the ranks, becoming a full professor of anatomy in 1969 (renamed in 1992, partly through Jay's influence, the Department of Cell and Developmental Biology). Jay served as Acting Chair of the Department of Anatomy in 1987, Vice Chair in 1992–1993, and Interim Chair of the Department of Cell and Developmental Biology for one year (1993–1994). He retired in 1995. He served on and chaired numerous important university committees during his 40 years at the University of Pennsylvania. Throughout his years in Philadelphia, he would be seen riding his bicycle back and forth from campus to his home not too far away in West Philadelphia.

His research focused on cell and tissue interactions during early embryonic development. He was specifically interested in the role that cell-to-cell and cell-to-matrix interactions played in development, using the chick embryo as his primary experimental system. His research, however, encompassed many areas and his publications include work on marine organisms, such as urodeles to study wound closure and *Ciona* in his studies on tidal rhythms and tissue organization. He published six books and scores of journal articles. His contributions are many. He contributed to the emerging field of the extracellular matrix in the 1970s, specifically publishing numerous papers on patterns of proteoglycan and collagen synthesis in the early embryo and the response of embryonic cells to their microenvironment. In addition he served on NIH study sections and served on an advisory board to the National Institute of Child Health and Human Development. He served on a number of journal editorial boards. After a research award took him to the Marine Biological Laboratory in Woods Hole, Massachusetts, Dr. Lash became

a mainstay there for 30 summers, teaching in the embryology course, conducting research on the embryology of marine animals, and eventually serving as a trustee and executive trustee. Jay would pack up his station wagon for the trip up to Cape Cod with his wife's harpsichord on the roof. His laboratory enjoyed the many summer visits to Woods Hole. In those times were many intriguing notes pinned up on the lab walls written by Jay, such as "Andy, the Coast Guard is looking for you."

He traveled and worked widely in the world. He did research during many visits to Finland to collaborate with Lauri Saxen at the University of Helsinki. Together they put out a number of papers, including work on proteoglycans in organ cultures of the developing kidney mesenchyme and studies on thalidomide inhibition of chondrogenesis. He made extended visits to England to collaborate with Ruth Bellairs at the University College London. Together they published several papers on somitogenesis. Their collaboration led to their organizing NATO meetings on somites and on the formation and differentiation of early mesoderm and editing the books that resulted from these meetings. At the time that Jay was diagnosed with pancreatic cancer, he again was involved in organizing another meeting on somitogenesis in honor of Ruth Bellairs' retirement. He decided to remove himself from the organizing committee, after learning of his diagnosis, to conserve his energy for the chemotherapy that he knew he would soon be facing.

Jay was a gifted teacher. At the University of Pennsylvania he won the Lindback Award for Distinguished Teaching in 1982, as well as many other awards for his inspiring, friendly teaching. He taught embryology and histology to the medical students. To graduate students he was involved in numerous courses, giving lectures in his area of expertise. Especially in embryology, it was a pleasure to hear his lectures on the history of embryology, which so often is not even dealt with in the present day. Jay was the Director of the medical embryology course from its inception in the early 1980s. His colleague and co-teacher in the course considered it a highlight every year to watch Jay lecture and draw on the board his beautiful pictures of the embryo and its growing multicolored layers of cells. Jay treasured most a note from a student, thanking him for his insight and instruction in her embryology tutorial, saying: "I had thought that I was completely desensitized from further impressions in science, embryology however shook everything up. In preparing for our discussions, I was like a child

at Christmas with each facet of development another present. Many a night I sat wide-eyed and amazed pondering the miracle of life. To be able to experience the joy of gaining new knowledge was fantastic and, as a result, I am permanently indebted to you." Before his retirement, he and several medical students at Penn began to work on an interactive computer program on the dynamic processes of development, entitled Basic Embryology Review Program or BERP. This he continued to work on after retiring to Woodstock. This revised project resulted in a self-study program called "Interactive Embryology: The Human Embryo Program" now commercially available.

Those of us who worked closely with him remember him not only for his accomplishments in developmental biology and science, but also for the interest he took in our development as scientists. Jay was the director of the NIH-funded Analysis of Development Training Program for almost 20 years. His style of interaction with his students and postdocs was to develop our independence early as scientists. When we entered his lab as students, we were expected to develop our own projects. After much reading and as we began to work out a possible project, it would be discussed with Jay. The project did not even have to deal with the model system that he analyzed, but had at least be in the general area of the interests of the lab. In retrospect this was quite a luxury for the students to be able to have this much freedom on a choice of system and topic. Once a problem had been mutually agreed upon, we were left to do our research with only occasional monitoring and usually only when we sought his advice. I think all of us who went through his lab remember the experience of writing our very first publication. The red pen would come out over and over again, as he taught us to organize our material, to tighten our arguments, and to write clearly. Not only did he provide a supportive research environment, but also he served as a role model. As Dr. Cris M. Cheney, a former graduate student, said: "What made [Jay] special was his automatic respect for and consideration for everyone he dealt with. He was always warm, courteous, considerate, respectful and gracious. His great talent as an advisor was that he somehow knew the time for nurturing and support and the time for pushing for one more experiment, one more redoing of the figure, for that extra effort to get it right." He was always tranquil and friendly, but had high expectations. Many who went through his lab were students with families. He was very understanding of the demands that a family can sometimes impose on one's

work. He was fair and generous. As we began developing our careers, he would continue to keep in touch even after his retirement. He will be remembered with respect and much affection and will remain as a model for what a teacher and advisor could be.

Jay was a well-rounded individual. He loved bird watching and watercolor painting. For several summer or fall vacations before his retirement, he would go to New England to develop these hobbies. One year he had an exhibit of his watercolors at the Faculty Club at Penn. It was during these trips that he found the place where he would eventually retire in Woodstock. When asked if he would miss science, he answered that it was time to let the young faculty begin developing their careers and for him to move on. He had already made plans to work with a museum in Woodstock on science programs, to give lectures at Dartmouth, to work on the revisions of the CD-ROM program on human embryology, to organize a somite meeting, . . . , and to spend time on his hobbies. To us who knew him, it did not seem that he retired at all, but just moved his office to Vermont. In a telephone conversation with Jay just before the new millennium he remarked that he had enjoyed his retirement in Vermont very much and that he was glad he had made that choice. He kept in touch with his colleagues in his old department via monthly and even weekly e-mails. He was particularly interested in the progress and promotions of those he had help recruit to Penn Med. His Penn colleagues were taken by surprise at his sudden death. His former colleagues and students celebrated his life and contributions with a series of public memories on Jay's life on April 3, 2000, at the University of Pennsylvania School of Medicine. In addition to his wife, Natalie, Jay is survived by his daughter, Rebecca, and two brothers. Jay's spirit lives on in his daughter, Rebecca Lash, who was a teacher of entomology during the summers at the Woods Hole Science School and is now a teacher in the town of Falmouth, of which Woods Hole is one of its villages.

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