

John P. Trinkaus

The late developmental biologist John P. Trinkaus, who in 1995 received the first SDB Edwin Grant Conklin Medal and whom the National Cancer Institute once named the premier authority on *in vivo* cell motility, spent his long career studying and elucidating cell migration during morphogenesis. Before his death on February 8, 2003, at the age of 84, Dr. Trinkaus completed his autobiography, *Embryologist: My Eight Decades in Developmental Biology*, which was published posthumously three months later.

Thirty-four years earlier, Dr. Trinkaus wrote his groundbreaking book *Cells into Organs: The Forces that Shape the Embryo*. It was the sole reference book at the time it was published in 1969 to emphasize cell and tissue movement during development and has become a classic in the field. In it, he wrote: "... I believe that it is precisely in the molecular structure of the cell membrane, in the dependence of this structure on the genome or indeed in its independence of the genome, and in its relations to various substrata during cell contact and movement that solutions to the problems posed by tissue and organ shape changes are ultimately to be found."

As an undergraduate student, the young Mr. Trinkaus studied biology at Wesleyan University, where he received his bachelor's degree with honors and high distinction. He later received his master's degree from Columbia University, and, in 1948, his doctorate from Johns Hopkins University. That same year, Dr. Trinkaus became a member of Yale's Department of Zoology, which later became the Department of Biology. This is where he remained for more than half a century. His other posts at Yale included director of Graduate Studies in the Department of Biology and, from 1966 to 1973, Master of Branford College, and professor emeritus and senior research scientist in molecular, cellular and developmental biology.

Among Yale's academic community, Dr. Trinkaus – "Trink," to those who knew him well -- was reputed to be an outstanding and extremely popular instructor. Throughout his many years at the university, Dr. Trinkaus was a magnet for a number of exceptional students, who have gone on to become principal scientists themselves.

In studies conducted at the Marine Biological Laboratory (MBL), Woods Hole, Massachusetts, and the Station Marine, Roscoff, Brittany, France, Dr. Trinkaus examined the migratory route of embryonic cells from their birthplace to their final adult location. With the aid of time-lapse videography, he was able to document these primordial journeys in sea-urchin and fish eggs, recording cell movement both inside and on the surface of the egg. Dr. Trinkaus recounts in his autobiography these and many other influential developmental studies. He also published his findings in the world's foremost scientific journals, and, in 1976, wrote *On the Mechanism of Metazoan Cell Movements*.

"Attracted by the exceptional clarity of transparent eggs and embryos like *Fundulus heteroclitus* [small saltwater fish], Trink's characteristic approach to science was to make discoveries on the hoof by keeping his eyes open," Charles B. Kimmel and James A. Weston, professor emeritus and professor, respectively, in University of Oregon's

Department of Biology, wrote in an essay published in *Developmental Dynamics* in 2003 about Dr. Trinkaus and his work.

John W. Saunders, Jr., fellow SDB-award winner and professor emeritus at the State University of New York at Albany, first met Dr. Trinkaus in 1941 when the two men were doctoral students at Johns Hopkins University. Years later, the two scientists renewed their acquaintance at MBL, where both spent many summers conducting research. “Trink’s relationship with his students and research associates [was] an example to all who teach, whether in the classroom or research laboratory,” Dr. Saunders wrote in another 2003 essay published in *Developmental Dynamics* commemorating Dr. Trinkaus. “With Trink and his associates, loyalty worked both ways, along with love and admiration. Trink truly loved his students and supported them throughout their careers.”

In 1987, forty years into his distinguished academic career, Dr. Trinkaus was one of a select group of American scientists awarded the first National Institutes of Health MERIT Award. This helped to fund his research after he retired from Yale in 1988, when he became professor emeritus.

Included among Dr. Trinkaus’ professional appointments were, in 1979, chair of the Gordon Research Conference on Cell Contact and Movement, member of NASA’s space biology advisory panel from 1976 to 1979, and summer investigator for numerous years at MBL. From 1959 to 1960, Dr. Trinkaus was a John Simon Guggenheim fellow at the College de France, Paris.

His memberships included the American Society of Zoologists, the American Society for Cell Biology, the American Society for Developmental Biology, and the International Institute of Embryology.

Each year since 1995, the SDB has awarded the Edwin Grant Conklin Medal to an eminent scientist with a significant research program in developmental biology and a strong commitment to mentoring young scientists. Edwin Grant Conklin (1863-1952) spent most of his distinguished career in the Department of Biology at Princeton University where, as chair for a quarter of a century, he played a key role in the department’s growth and development.