Jean-Paul Revel

Circumstance and chance led Jean-Paul Revel to the United States and a career as a scientist. Born in France, Revel was raised in Strasbourg and was always strangely curious about the nature of things. Revel remembers playing with a lighter in his room, not intent on setting his home on fire, but wishing that he was small enough to get inside the lighter to determine how it worked.

After receiving his B.S. from the University of Strasbourg, Revel came to the United States in 1953, encouraged by a friend of his father who was an attorney from Boston. The father had met the attorney during the war, where the senior Revel was a physician in an underground hospital. The attorney sent applications on young Revel's behalf to schools around Boston and Revel chose to apply to Harvard after reading a paper by the renowned lipid biochemist, Jordi Folch-Pi.

Revel's father had wanted his son to become a medical doctor. His decision to favor science over medicine was influenced by Paul Mandel, later a well-known French biochemist. Revel began to study biochemistry when he pursued graduate studies with Eric Ball at Harvard Medical School.

While at Harvard, Revel was broke and in desperate need of a job. Fortunately for him, professor George Wislocki in the Anatomy Department had a little money and a job to offer. Revel had done well in Wislocki's courses and had written an extensive paper on the Golgi apparatus. So Revel taught histology to medical students and in the process began to learn about microscopes as a means of "making oneself small enough" to see how things tick. During this assignment, Revel met the late H. Stanley Bennett, the "inventor" of the Glycocalyx, and Helen Padykula and Don Fawcett, both of whom would, like Revel, become ASCB presidents.

In the late 1950s, Fawcett, who had learned electron microscopy from Keith Porter at the Rockefeller Institute, was Chairman of Anatomy at Cornell and Revel went to study with him as a postdoc.

Revel's first task was to identify dense particles found by Fawcett in the turtle heart. They turned out to be glycogen. With Susumu Ito he also worked on the ultrastructure of phospholipid bilayers as models for cell membranes.

When Fawcett was asked to return to Harvard as the Chairman of Anatomy, one of the people whom he asked to join him was Revel. Together with Elizabeth Hay, also a future ASCB president, Revel started a collaborative study of heart development in the chick. Revel recalls that the project was doomed from the start when he spilled a bottle of glutaraldehyde on himself. He also tells of the time when the bats he was working on escaped and flew around the Medical School one evening while he and Ito tried to capture them. When not chasing bats, Revel worked with Hay devising approaches to autoradiography at the electron microscope level and applied the technique to the study
of DNA synthesis in the nucleus. The two also worked on the synthesis of cartilage matrix components and of the basement membrane in amphibian skin. With Morris Karnovsky, yet another ASCB president, he showed the existence of gap junctions as distinct from tight junctions in non-excitable cells. It was Revel who introduced Dan Goodenough, who has served the ASCB in many capacities, to the beauties of gap junctions.

Revel was Professor of Anatomy at Harvard Medical School when, in 1971, he moved to CalTech where he is now the Albert Billings Ruddock Professor of Biology. His work has increasingly focused on molecular approaches. For many years he collaborated with Barbara Yancey who first worked for him as a Post-doctoral Fellow. Revel, Yancy, and graduate student Bruce Nicholson contributed much early work to the characterization of gap junction proteins.

More recently, Revel has become involved in atomic force microscopy, particularly of gap junctions. At CalTech, Revel teaches courses in Introductory Molecular and Cell Biology as well as advanced courses. Revel feels that efforts need to be strengthened to encourage students inclined toward physics and mathematics to consider biology, especially at a place like CalTech, which is famous for its graduate programs but in fact attracts excellent undergraduates as well. That his efforts have been appreciated is reflected by several teaching prizes.

Revel served as President of the ASCB from 1972-1973. During his tenure, he was committed to enhancing the activities of the Public Affairs and Education Committees. His other professional interests and contributions include service on numerous advisory committees for the NSF and NIH, such as the NSF Developmental Biology Panel, NSF National Ad Hoc Advisory Group for Biology, the National Electron Microscopy Advisory Committee at the NIH, and the NIH National Advisory Research Resources Council. While President of the Electron Microscopy Society of America, he worked for the change in its name to the Microscope Society of America to reflect the broader interests of the membership.

When not teaching at CalTech, Revel enjoys painting with watercolors, although he claims to be an unexceptional artist.