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Leland Hartwell

Growing up in Los Angeles, Lee Hartwell worked for his father, who made neon signs. He further satisfied his desire to know how things work by hanging out in the public library, collecting bugs, and disassembling and reassembling radios; he had a special passion for electricity. Despite these broad interests, Hartwell started high school without distinction or a particular intellectual interest and admits to being a bit of a carouser with a spotty academic record.

Following high school, Hartwell attended junior college where he took some science courses. He demonstrated potential there, and a counselor introduced him to a recruiter from the California Institute of Technology. Hartwell was accepted at CalTech, but he modestly insists that it was "only because the recruiter had to fill in the sophomore class which was depleted by the drop-outs after freshman year." However he got there, "being accepted to Cal Tech was a turning point," Hartwell acknowledges. At first he wanted to be a physicist, but after exposure to some very good classes on DNA, he switched to become one of only six biology majors in his class. At CalTech he was able to do research for much of his junior and senior years.

In graduate school at MIT, Hartwell studied under Boris Magasanik, where he was given the freedom to "do nothing but research." Upon completion of his Ph.D., Hartwell took a postdoc at the Salk Institute in its very early days mostly because, "Renato Dulbecco had moved there and I wanted to study with Renato." He describes the Salk at that time as a "series of trailers" — quite a contrast to the architectural treasure which is the Institute today. Although few others populated the Salk at that time, Hartwell explains that he "knew I wanted to work on the control of cell division and from the literature that I had read, Renato was preeminent." Despite the cramped research quarters and sparse staff, Hartwell says, "it was terrific working with Renato and Marguerite Vogt. It was an intense time when I learned a lot."

But Hartwell was soon frustrated by work with mammalian cells which led him to search for a new organism and an assistant professorship at UC Irvine, another brand new institution at that time. At a crossroads, Hartwell depended again on his boyhood companion, the library, where, after reading a great deal, he made the then radical decision to study yeast. While yeast work today is common, at the time he was taking a risk because so few others used yeast for their work.

Hartwell used yeast mutants to identifying genes that controlled protein synthesis and other cellular processes, contributing substantially to the understanding of cell division and indeed to the emergence of the field of cell biology. His work has had a profound effect on the field not only directly, but also by attracting outstanding others to the field. While at UC Irvine, Hartwell collaborated with Calvin McLaughlin, who describes Hartwell as an "exceptionally brilliant person" and equates him with Nobel Prize winners he has known over the years. Paul Nurse, Director-General of the Imperial Cancer Research Fund, says, "Lee Hartwell does not follow trends but rather initiates them. He combines a passionate curiosity with intellectual honesty and a fine biological intuition. It is these qualities which led to his pioneering work on both the cell cycle and the understanding of cancer."

Hartwell chose as his home the Department of Genetics at the University of Washington because "it was the premier genetics department, and I had not received any formal genetics training." He is known not only for the excellence of his work but also for the small scale of his environment, keeping his lab to about eight people and husbanding a single research grant most of his career.

In 1996, Hartwell joined the Fred Hutchinson Cancer Research Center, another pioneer institution to which he was attracted by a core of like-minded intellectuals, including 1990 Nobel Laureate E. Donnall Thomas and the late Harold Weintraub. Hartwell is now Director of "the Hutch."

One of Hartwell's postdocs at the Hutch, Andrew Emili, says, "I think [Lee] views his work as a means to an end, the prevention and curing of cancer. It's clear that as director of the Hutch, Lee is determined to bring the basic researchers and clinicians together. It's all about crosstalk and watching productive things develop when you bring smart people together. Lee is a great leader for maximizing the Center's potential. He will make things happen. Luckily, he is also a very considerate and pleasant person to deal with and it's easy to engage him with a new result. Still," he adds with some irony, "it's getting harder and harder to get him to visit his own lab."

In his new capacity as an administrator, Hartwell admits that he does not have much time for research, because he is committed to helping the Hutch become a center for interdisciplinary cancer research. Hartwell seems to be thriving in this environment. The Center is one of 51 comprehensive cancer centers funded by the National Cancer Institute. "It is a very exciting time to be in the field of cancer research," he observes, "we are making spectacular strides." He acknowledges NCI Director and ASCB member Rick Klausner's role in accelerating cancer research: "we are very lucky to have Rick as a leader. He cares a

great deal about interactions among people and he fosters the intensity of those interactions in such a way to move forward new ideas." Hartwell took the job as Director because he believed that there was enormous potential for the field of cancer research in the coming years. "Genetic science will provide a very rich understanding of cancer. It is this understanding and how we use it that will lead to advances in cancer treatment. I feel the most important thing in this regard will be the interaction among clinical, basic, and population sciences." Hartwell is particularly inspired to be part of biology in this age when all organisms are contributing to a coherent understanding —yeast, worms, rats and people. Hartwell is also optimistic about the future of cancer treatment. One example that he cites is the recent development of chimeric blood systems. A patient is given a very low dose of radiation and immunosuppression to debilitate their own hematopoietic systems but not eliminate it entirely. They are then infused with donor stem cells and the two systems coexist. The important question will be which diseases this treatment can be used most effectively for.

Rick Klausner returns Hartwell's admiration: "This is a time in cancer research when the links between basic science and the prevention, diagnosis and treatment of cancer have never looked more promising. With Lee Hartwell directing one of the Nation's premier cancer research institutions, those much needed but still challenging links will have a new and effective champion. Lee's qualities as a world class scientist, outstanding colleague, good listener and wise person, will certainly make him a central figure in the Nation's cancer program. I couldn't be more delighted and optimistic about this appointment."

Inevitably, much of Hartwell's time as Director of the Center is devoted to fundraising. Putting his money where his mouth is, Hartwell donated the \$10,000 prize awarded him for the 1998 Albert Lasker Basic Medical Research Prize to the Center, half to the volunteer program that attracts families in the Seattle area who house and provide assistance to families who come to the Center for treatment, and half for the Hutch School where school-age patients and family members continue their education while they or a family member are under treatment.

Hartwell has been a member of the ASCB since 1984 and was the Keith Porter Lecturer in 1995. He has served on the editorial board of *Molecular Biology of the Cell* since 1991.

Seattle has been Hartwell's home for over thirty years, and he loves it. He admits that when he talks about his adopted city, "I sound like the Chamber of Commerce." As the city has grown into a major metropolitan center, so too has its cultural life, and Hartwell especially appreciates the incredible natural environment of the Northwest, which he tries to take in daily by riding to work by bicycle.

Hartwell has three grown children: sons Todd and Greg live close by, while daughter Sherie lives in Connecticut and is married to a molecular biologist at the University of Connecticut. Hartwell's wife, Theresa, is a photographer at the Cancer Center.