

CHAPTER 21

FIFTIETH ANNIVERSARY CELEBRATION OF THE FOUNDING OF THE LIMNOLOGY DEPARTMENT

The Limnology Department of the Academy of Natural Sciences of Philadelphia celebrated its 50th anniversary on October 4, 1997. Scheduling problems caused its postponement from the actual founding month of June. I had wanted to attend and visit with David Hart, Director of the Patrick Center (the new name for the original Limnology Department); Bernard Sweeney, staff member; and, of course, Ruth Patrick. The rigors of flying into and out of Philadelphia in one day for the two-hour celebration made my attendance impossible. Other considerations about travel concerned my being absent from my wife Jean for as little time as possible because of her Alzheimer's and, also, my allergy to second-hand cigarette smoke. However, I did compose the following laudatio, which was read at the meeting.

For the Limnology Department and its Founder Ruth Patrick:

A Laudatio

or

All I Really Needed to Know Professionally
I Learned in the Limnology Department

John Cairns, Jr.

In June 1948, I served as protozoologist on one of the two field teams who participated in the now famous Conestoga/Brandywine River Studies under the direction of Ruth Patrick. I remained with the Academy until 1966. Each of us knew we were doing something quite different, and every participant was changed forever as a result of this experience. At present, the rest of the academic world is still catching up to Ruth's creative approach, as indicated by these examples.

(1) The river survey teams looked at entire ecosystems; in this particular case, they looked at entire drainage basins. The surveys were done at a fine level of detail; for example, identifications were to species in most cases.

I was able to observe directly a system-level study done with such depth and breadth that it would have been impossible for a single investigator. Individual data sets were enriched by the simultaneous generation of other data sets that, in the aggregate, gave a comprehensive view of the entire aquatic community and its chemical/physical environment. Once an investigator has looked at a system, it becomes so addictive that looking only at one group of favorite organisms becomes impossible. Clearly, system-level studies are now "in." This innovation is but one example of Ruth Patrick's incredible ability to anticipate and even precipitate major trends in science.

(2) The Limnology Department's activities had an unmistakable interdisciplinary thrust from the very beginning. I became accustomed to working with engineers, pharmacologists (W. B. Hart introduced me to the mysteries of toxicity testing with fish), chemists, and, later on, with people from a variety of other disciplines. Initially, of course, I worked with sub-disciplines within my own discipline; this innovation in itself was remarkable for that period when "lone wolf" specialization was the dominant role model.

(3) Mentoring in acquisition of extramural funding was spectacular for those who were observant! Incredible as it may seem, a period existed when the National Science Foundation did not exist and graduate research assistantships, and even graduate teaching assistantships, were practically unknown. Ruth has probably forgotten the following exchange, but I never have! I once asked her how she obtained research money. She replied that she found people were more likely to support research designed to solve problems of interest to them rather than those problems of interest to the investigator. Ruth, how right you were!

(4) Solving the world's problems, such as environmental pollution and degradation, once scathingly referred to as "applied ecology," is now increasingly regarded as an important professional responsibility. In the event of a truly severe, arguably critical, environmental crisis, anyone with a conscience would do something about it. In 1948, abundant evidence showed that such severe problems existed, but the evidence

was not sufficiently compelling to be of interest to the average citizen or even the average scientist. Again, Ruth clearly anticipated the worsening of the environmental situation and contributed greatly to the concept of “use without abuse” of natural systems concept (now called sustainable use of the planet).

(5) As a river survey team member, I became quite accustomed to working with women in science. Only later did I realize how few women worked in science at that time. Ruth did not try to achieve any gender or ethnic (or any other sort) balance—she merely employed the best people for the tasks. On February 9, 1996, at the 25th anniversary of the Association for Women in Science meeting, I was delighted to become a fellow in that organization “for having demonstrated exemplary commitment to the achievement of equity for women in science and technology.” My early experiences on the river survey crews with two women, Ruth Patrick and Mary Gojdics, were immensely helpful to the development of my career. I aspired to be their colleague, which made concerns regarding equity for women in science inevitable.

(6) Professional achievement comes with a price. I observed this in my advisor at Swarthmore College, Robert K. Enders; my major professor for both graduate degrees at the University of Pennsylvania, David Wenrich; and some of my committee members, such as L. V. Heilbrunn. However, I did not have much opportunity, nor do most students, to observe how their mentors managed time balances between professional and personal obligations. Ruth almost always had the most comprehensive scientific collections, and this attention to detail is very useful in a scientific career. Even now, when I get fatigued, I can hear her voice, “Well, I’ll just get one or two more samples.” Those one or two more samples are often the difference between success and failure in this era of statistical analysis.

The portrait of Ruth wearing waders in the Ruth Patrick Center in Aiken, South Carolina, captures the ambiance of both the department and the scientist perfectly. May the department and its founder have many more years of stimulating research, and, Ruth, may your waders never leak!

David Hart let me know that my words were “particularly meaningful to Ruth, as well as to the staff of the Patrick Center as a whole.” Although I could not attend the anniversary celebration, the date did mark a half century of professional activities for me as well (my career started before I had completed graduate school). I was saddened to think that, of the original crews for the Conestoga/Brandywine River Basin surveys, only a few members were still alive to attend the celebration: Ruth Patrick (founder); Herbert Levy (now at the Harvard Museum); Stewart Bamforth (now a professor at Newcombe College of Tulane University); Thomas Dolan IV (now the only original team member besides Ruth still living in the Philadelphia area); and possibly James Bergsang (a student at that time from Sweden and, just a few years ago at least, still residing there).