

Paradox

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There is a neighborhood saloon near my home in San Francisco owned by two physicians. With a wry bit of humor they named it the Paradox. It was there, while enjoying an Irish coffee with a friend, that it occurred to me that what is happening in higher education today is indeed a paradox.

The current rejection of broad requirements commonly associated with liberal arts programs, and the rush to career education and vocationalism is upon us at the very time when we most need an active, educated, and critical citizenry.

Another paradox, the realization of which strikes me even more forcefully, concerns my own discipline—biology. Some subjects in the learned disciplines seem to generate the ideas that shake up the other disciplines. Physics and mathematics did this for many years in the modern era. Biology now appears to be performing this function. We are aware of the influence of biological knowledge on genetic regulation, on realistic future food sources, and on other areas of human concern. But, as a recent statement from the education committee of AIBS points out, “traditional biology programs are rapidly becoming anachronisms for too large a segment of the constituency of higher education.”

Social scientists are increasingly aware of the influence of biological knowledge on their lives and are recognizing the need for more biological emphasis in their courses. As a result, social science departments are teaching more and more biology to alert their students to the important role of biology in social, political, and economic decisions.

What does this mean for biology teachers? I think it indicates the need for a broader outlook on biology education and more flexibility in biology teaching.

We must recognize that much of conventional biology instruction tends to be elitist. As much as I enjoy teaching the classification of flowering plants, having learned my first scheme—“loves me, loves me not”—at age five, I realize the last thing the nonmajor needs to understand is why the yellow poplar is named *Liriodendron tulipera*.

Instruction in the biological sciences will have to become interdisciplinary if we are to provide students with the resources they will need for citizenship as well as for achievement of career goals. Biology teachers must begin to effect a more cooperative effort between the disciplines of biology and the social sciences if biological literacy as it pertains to matters of public policy is to be attained. We must also integrate biology with the humanities if we are going to deal adequately with the moral dimensions of our discipline. This effort is already underway on some campuses, including my own, but we have a long way to go if we are to eliminate the paradox I referred to earlier.

As teaching biologists we are practicing our profession at a time when the research biologist is throwing a lot of “heavy stuff” at us. We must continue to help our majors develop a valid image of our discipline while assuming the responsibility of helping the rest of the student population appreciate the impact biology is having and will continue to have on their lives. I

believe it is a myth that traditional biology courses can accomplish this objective. We must integrate biology with the humanities and social sciences in a way that will equip the student to continue a citizen’s pursuit of biology related issues. We must teach biology in a way that will result in its affecting an individual’s way of seeing and thinking and feeling not simply when he is attending to subjects biological but when he is going about the rest of his business.

Life Line

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CARMODY, J. 1974. Ethical issues in health services, a report and annotated bibliography. HRA-74-3123. Washington, D.C.: U.S. Department of Health, Education, and Welfare. This is an excellent source of information covering the entire range of ethical issues dealing with the health services.

INSTITUTE OF SOCIETY, ETHICS, AND THE LIFE SCIENCES, Education program. New York: Hastings-on-Hudson. The Institute publishes a series of packets that include reprints of articles from a wide variety of sources at a low cost.

JOURNAL OF CURRENT SOCIAL ISSUES. 1975. 12:4. The entire issue is devoted to bioethical concerns.

MEDICAL ETHICS FILM REVIEW PROJECT. College Park: University of Maryland. This is a generally complete source of visual aids for the teaching of medical ethics.

NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES. 1974. What are the facts about genetic disease? 77-370. Bethesda, Maryland: National Institutes of Health. This is a well-done pamphlet that is useful for factual material concerning common genetic diseases.

WEST, F. 1975. *Science for society: a bibliography* Washington, D.C.: American Association for the Advancement of Science. This bibliography contains references to source material within the field of bioethics.