

Curriculum 2001: Education for the 21st Century

By Clifton R. Wharton, Jr.

(This is the first of two articles excerpted from remarks delivered to Teachers College of Columbia University, March 21, 1981, and to the SUNY Faculty Senate on April 10, 1981, by the SUNY chancellor. It is reprinted from the News, State University of New York, September 1981.)

Early in 1980, the First Global Conference on the Future brought together some 4,500 educators, corporate executives, environmentalists, scientists, engineers, doctors, lawyers, government officials and concerned citizens representing 50 nations throughout the world. At the opening session, a speaker asked an interesting question: Are today's schools, colleges, and universities truly preparing people to live and work in the world of the 21st Century—the world in which tomorrow's students will spend the larger parts of their lives?

The participants in the futurist conference mulled it over for several moments. Then they laughed. They laughed quite a lot, and I want to tell you that an auditorium echoing with the hilarity of thousands does no good for the self-esteem of any professional academic. Once the chuckling died down, however, the discussion turned serious. I believe the issues that were then raised are absolutely vital for modern colleges and universities and, indeed, for our entire society.

Disenfranchised by Ignorance?

A very large factor in what I will call the futurism crisis has to do with science and technology. In an era when these fields play larger roles in each of our lives than ever before, why do so few lay persons—college-educated lay persons—have any basic grasp of them?

Not a hundred years ago, the typical adult was in touch with the dominant technology of the culture: you did not have to take a degree in shoeing a horse,

plowing a field, raising a barn, or repairing a buggy. Today, how many of us have even a rough grasp of our own dominant technology of laser communications, nuclear power generation, and genetic engineering? Can you name the moving parts of a transistor, for example? (Probably not—it has none.) Could you replace the emission control of your Ford Escort, or even the printed circuit in your portable radio?

Let me mention, incidentally, that I am not picking ultra-new developments here to underscore our ignorance of things. Peter Drucker points out that with the exception of the computer and genetic engineering, almost all of the developing "innovations" of the 1950s, the 1960s, and even the 1970s, have rested largely on basic science done before 1929 and, in many cases, before World War I (Drucker, 1980, 49). It takes a long time for technology to penetrate a culture—which from the educator's vantage is exactly the problem.

I mentioned the computer just now, so let us look for a moment in that direction. No doubt you have all been distressed by new or falling SAT scores and poor student performance in reading, writing, and mathematics—the so-called literacy crisis. Then in an epoch when the computer's impact extends into virtually every cranny of business, government, and personal experience—in an epoch when you cannot even use an ordinary library properly without sitting down at a peripheral terminal—why are we not equally disturbed by the almost universal illiteracy in computer technology?

The point is, of course, that these and thousands of equally mind-boggling developments are not science fiction. They are here now—the fabric of our technological environment—yet the undergraduate curriculum at many,

possibly even most, American colleges and universities gives them scarcely a passing glance.

As a result, more and more people use modern technology while fewer and fewer (relatively speaking) understand how it works. Instead, we are content to be served by cadres of technicians and specialists, and thereby to cede to them an inordinate, even ominous amount of control over our lives. The great mass of people, including many college graduates, are at least arguably in danger of becoming what a recent, rather inflammatory book called "techno-peasants": modern-day serfs, nominally free but disenfranchised by ignorance—and fear—of prevailing technologies.

By the way, you need not go to popular literature for alarming rhetoric. According to a 1980 White House report, our nation's deemphasis on science and engineering education is already threatening our technical and economic competitiveness with Japan, Germany, the Soviet Union and other industrial nations. Fewer and fewer students are entering scientific and technical careers, in spite of sharp increases in demand from the job market. (National Science Foundation/U.S. Department of Education, 1980, 3).

What complicates matters still further is that technical innovation has ramifications far beyond the laboratory. How can you be an effective labor relations expert, for instance, if you do not know what is going on in industry right now with robotics? The Robot Institute of America predicts sales will grow from \$70 million in 1980 to \$225 million in 1985. If the U.S. really gets involved in the plant modernization and retooling it needs, the 1985 figure will probably be closer to \$1 billion. Now, what

impact is a billion dollars' worth of robots going to have on collective bargaining in the United States—and what are today's college and university programs in labor relations doing to prepare graduates to deal with that kind of issue? (Haller, 1981, B 12).

Internationalism and the Humanities

But the futurism crisis has facets other than the scientific and technical ones.

For one thing, it seems to me that very few of our educational institutions are incorporating into their programs an adequate understanding of the interdependence that will characterize the future world community. Like it or not, every nation is caught in a mesh of economic and political relations with every other nation, and the net is going to be growing more and more complex with every passing year.

Just as serious as our lack of adequate international education is the thrust and focus of what we do have. Most of our college foreign language study is done in French, Spanish and Italian. These are all lovely languages with vast riches of both ancient and modern literatures. However, our almost exclusive emphasis on them completely ignore the growing importance of the Third World, China, the Soviet Union and Eastern Europe, and the African states. A relative handful of colleges and universities have strong departmental competences in Arabic, Russian, Chinese, Japanese, or any of the major languages of nations strongly asserting their presence on the world scene.

Incidentally, the same can be said for foreign area studies generally. Americans are for the most part unacquainted with foreign cultures outside the sphere of Western traditions and politics—and it shows. It shows in our balance of trade, our diplomacy and foreign policy, and our relations with other countries ranging from Mexico to Iran to Zimbabwe.

The humanities are no less affected by the futurism crisis. It needs no great insight to see that developments in such areas as genetic engineering and life-support systems are posing ethical and philosophical questions in an unprecedented way. What is perhaps less obvious, once again, is the extent to which new developments in science and technology are going forward without waiting for the humanistic examination and assessments they need. You may or may not be aware, for example, that the U.S. Congress has had before it recently a U.N. treaty establishing the disposition of all rights to the Moon—settlement rights, natural resource rights, everything—to the international community at large. Now, whether that is or is not in the interest of the United States remains to be seen. The question is, how many discussions of the issue have you seen in the humanistic forums: historical, philosophical, legal or otherwise?

NYPIRG Is Here for Everybody

By Clark Jablon

In response to a Viewpoint in the October 26 issue of Statesman, I wish to correct some of the points made by the writer. (NYPIRG: Against the Students' Interests?)

First, the Polity Judiciary invalidated the Athletic referendum, not NYPIRG's referendum, as the writer erroneously states, because of insufficient notice. Our referendum was invalidated because of typographical errors (not our fault) on half of the ballots incorrectly stating the semesters we were to be funded. In fact, we distributed pamphlets and three-folds about the issues we work on and the writer even admits he received two in the same day.

Secondly, our office and phone number were on the handouts and we fielded questions all day from students who wanted more information about the organization they were being asked to fund. In our office the writer would have been given a Fall project list outlining all the activities we are involved with on this campus. Yes, we do have set goals.

The most important letter in NYPIRG is the "R." It stands for "research" and that is exactly what we do before we take on an issue. Without a comprehensive analysis of unbiased data from reputable sources, it would be futile to back anything. We do intensive lobbying in Albany and our efforts appear regularly in major newspapers. (Our recent Property Tax Study of the Town of Brookhaven was on Channel 21 News, in Newsday, and on the front page of many local papers.) If our facts aren't straight, no one would listen to what we say nor would they try to do anything about the issues we are concerned with. I make this point because the writer attacks our stand on the "Bottle Bill" by quoting studies in a manner any researcher would shudder at. Example: The writer quotes EPA as saying total litter in Michigan increased 10 percent since the state passed the "Bottle Bill." The 1980 Government Accounting Office (GAO) study clearly shows that total litter increased by 10.1 percent but that beer and soft drink litter decreased 85 percent. Now what is the correct conclusion? The next page of the report has the answer. "The increase in total litter noted in table five occurred despite the large drop in beverage container litter and other litter related to the

deposit. Other litter, such as paper and food wrappings, increased enough to offset the decrease." That is why research and analysis of data is so important. NYPIRG knows what it is talking about when it affirms that the "Bottle Bill" will reduce litter. The writer made other completely false claims which are easily refuted by examining the documents he quotes. They are all in our office and everyone is welcome to look at them.

Another interesting point is brought up by the writer. He would rather see student money spent on projects that administration should be tackling like business school feasibility studies or enlarging the Union. Students fought a long, hard battle in the 1960s to win the right to independently administered student activity fees. Look at Suffolk Community College where student's money goes for refinishing gym floors. Its hard to believe a student would even suggest we fork over our precious dollars to pay for administration's work.

NYPIRG is student-funded, student-directed and that makes it unique. Fighting for Student Voter Rights and non-discriminatory auto insurance rates are student-initiated issues. A complete activity list is always available in our offices and new project ideas are always welcome. We are here for everyone.

(The writer is the NYPIRG State Board Representative from Stony Brook.)

Bring letters to the editor and viewpoints to room 075, Union, or mail them to P.O. Box AE, Stony Brook, NY 11790.

Letters and viewpoints should be typed, triple-spaced and no more than 350 and 1,000 words, respectively. They will be published in order of their receipt.