
The Science Manpower Shortage. . .Myth or Reality?

Reprinted from *THE SCIENTIST* © 3(14):14, 9 July 1990.

Some say that the United States is on a collision course with a serious crisis—that the nation is approaching this crisis at dangerously high speed and that the destructive potential of the inevitable impact is frightening to ponder. The crisis could slow the country's economic growth, weaken its national security, and undercut its efforts to compete successfully in global markets.

The crisis: Is it to come in the form of a dread disease such as AIDS? Will its roots lie in a chronic social problem, such as racial discrimination? No, this particular crisis is one of shortage, of supply and demand, and of demographics—reminiscent, in some ways, of the gasoline shortages of the 1970s, and the recent food shortages in the Soviet Union. In this case, though, the commodity in question is human. The next decade's shortage—we are told—will be one of scientists.

Leading the doomsayers is Richard C. Atkinson, president of the American Association for the Advancement of Science (AAAS). In a recent address to that organization—excerpted in the last issue of *The Scientist* (June 25, 1990, page 11)—Atkinson predicted that by the year 2000, demand for scientists in

the U.S. will outstrip supply by almost 400,000. He recommends government intervention, including programs to encourage more young people to pursue doctorates in science and engineering.

Taking an opposing view on the same issue was Morton S. Lefar, vice-president of Epolin Inc., a specialty chemical company in Newark, N.J., and adjunct professor of entrepreneurship at Fairleigh Dickinson University in Rutherford, N.J. The real problem, Lefar argues, is that students are making the perfectly rational choice to opt out of science careers, which offer neither job stability nor financial rewards. According to Lefar, although companies and universities may want cheap labor in science and engineering, market forces will determine the growth or decline of any profession—whether medicine, banking, or science.

Both Atkinson and Lefar present cogent observations. Atkinson, for instance, points out that the sciences have the highest defection rates of any undergraduate major, as well as the lowest rates of recruitment from other fields. And Lefar notes that the decline in science students closely follows poor job opportunities, non-competitive salaries, and cutbacks at

many corporations.

The unfortunate fact is that for too many scientists and engineers, it is the vagaries of funding that make job stability in science a feast or famine proposition at best. One has only to recall how, following NASA's highly successful Apollo moon landings in the early 1970s, hundreds of the same space scientists and engineers who contributed to the nation's success were laid off. But regardless of which side of the controversy you're on, certain of the proposed solutions to the shortage are worth pursuing.

Members of the science profession, for instance, should do a better job of educating young people. We should communicate the values and rewards of science. We should do more to recruit students. And we should create an environment that

encourages women and minorities to participate in science.

Meanwhile, most science and engineering positions probably will continue to lack the riches and romance of some other fields. Popular culture will continue to portray scientists as either crackpot or boring, and most students will continue to be unimpressed with science and engineering careers. Until, that is, the day comes when market forces begin to work their magic. The way we'll know that we can be hopeful again about bolstering our scientific labor pool is the day the media starts to portray scientists who are as affluent and powerful as the moguls on "Dallas" and as sexy as the lawyers on "L.A. Law." And instead of being warned about shortages, we will be warned of the coming scientist glut. ■