

CONNECTION

NEW ENGLAND'S JOURNAL
OF HIGHER EDUCATION AND ECONOMIC DEVELOPMENT

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The New England Board of Higher Education was established as a nonprofit agency by the New England Higher Education Compact, a 1955 agreement among the six states that was authorized by the U.S. Congress. NEBHE's purpose is to advance and develop programs that encourage higher education opportunities and improve efficiency in the use of resources among New England's public and independent colleges and universities.

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E D I T O R ' S M E M O

The "Cover Stories" in this issue of CONNECTION are about *everything*. New England's academic research enterprise concerns itself with everything from fruit flies, which University of Vermont scientists have found a way to control without using expensive and dangerous pesticides, to space shuttles, whose payloads have been designed and monitored by the University of New Hampshire's Institute for the study of Earth, Oceans and Space. Everything from bald heads, which Boston University researchers have linked to heart disease, to bald tires, which University of Maine civil engineers have tested as lightweight fill in roadbed construction. Everything from standardized IQ tests, which a Yale University psychologist recently determined do not accurately predict success in life, to supercomputers, which scientists at Worcester Polytechnic Institute believe could be used to predict global climate change a century in advance.

The "Cover Stories" are also about complacency, underinvestment, the potential loss of scientific leadership and ways to hold onto it.

We begin with the fact that New England has long been America's laboratory. The region's universities garner a disproportionate share of research and development dollars from the federal government and industry. Its scholars produce more influential scientific papers than their colleagues elsewhere.

New England research expands knowledge and solves real problems. When at last mankind finds a cure for cancer or AIDS, there's a good chance that researchers in Boston and New Haven will have played a central role. They have a remarkable ability to turn research dollars into medical breakthroughs.

Similarly, technology to make safer and more energy-efficient cars, trains and airplanes may very likely emerge from the materials science labs of New England institutions such as the University of Massachusetts, where scientists have developed a polymer as strong as steel, but seven times lighter. With the Cold War over, some New England university and industry labs that spent decades developing "smart" bombs may now direct their creative energies to building accident-free "smart" highways.

New England's research universities also offer the promise of reversing decades of environmental degradation. Yale researchers are studying how microorganisms might be used to clean up toxic waste. One of the hundreds of "spinoff" companies formed by scientists from the Massachusetts Institute of Technology plunges toxic compounds into molten metal to break them down into harmless, reusable components.

Health care reform and a variety of forward-looking public policies also are likely to bear the markings of New England's research enterprise. The region's preeminence in the social sciences is reflected by President Clinton's choice of so many New England scholars for key policy positions in the national government.

On another level, research prowess has been a bright spot in New England's otherwise gloomy economy and a steady source of support for some of the region's budget-strapped universities. Moreover, the capacity of New England research labs to create jobs and companies — and sometimes launch entire industries as in the case of biotechnology — has been well-documented (though perhaps inadequately explained to legislators, taxpayers and tuition-paying parents).

Yet, this issue of CONNECTION is not so much a celebration of New England's research universities, as it is a warning about the future of the enterprise. States once thought of as *scientific have-nots* and foreign competitors increasingly have recognized the economic development potential of R&D and invested in it, while New England has rested on its laurels. As a result of this and other forces, New England's share of R&D expenditures by all U.S. universities — a chief indicator of research strength — has declined steadily since the mid-1980s.

We are grateful to our distinguished contributors for beginning a regional examination of the research enterprise now, while New England, by most accounts, remains a scientific powerhouse. For if R&D funds continue to flow elsewhere, scientific brains and innovation will follow. Then New England could lose *everything*.

John O. Harney is the editor of CONNECTION.