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NEW ENGLAND'S JOURNAL
OF HIGHER EDUCATION AND ECONOMIC DEVELOPMENT
VOLUME II, NUMBER 4
WINTER 1988

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1 2 3 4

2 3 4

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Yes

No

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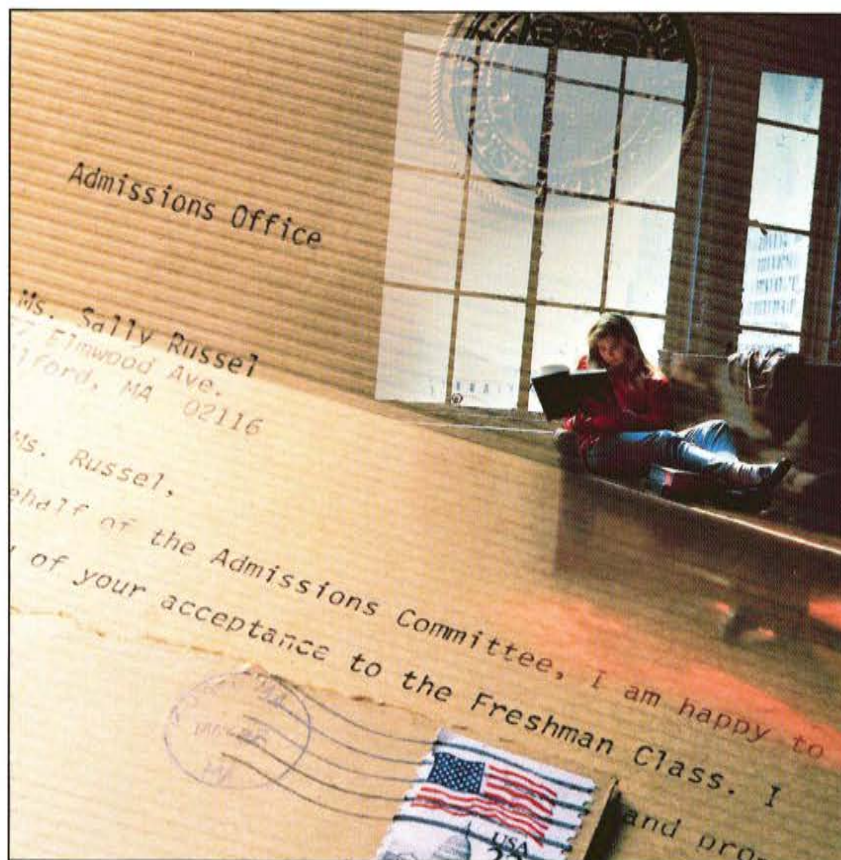
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CONNECTION

NEW ENGLAND'S JOURNAL

OF HIGHER EDUCATION AND ECONOMIC DEVELOPMENT

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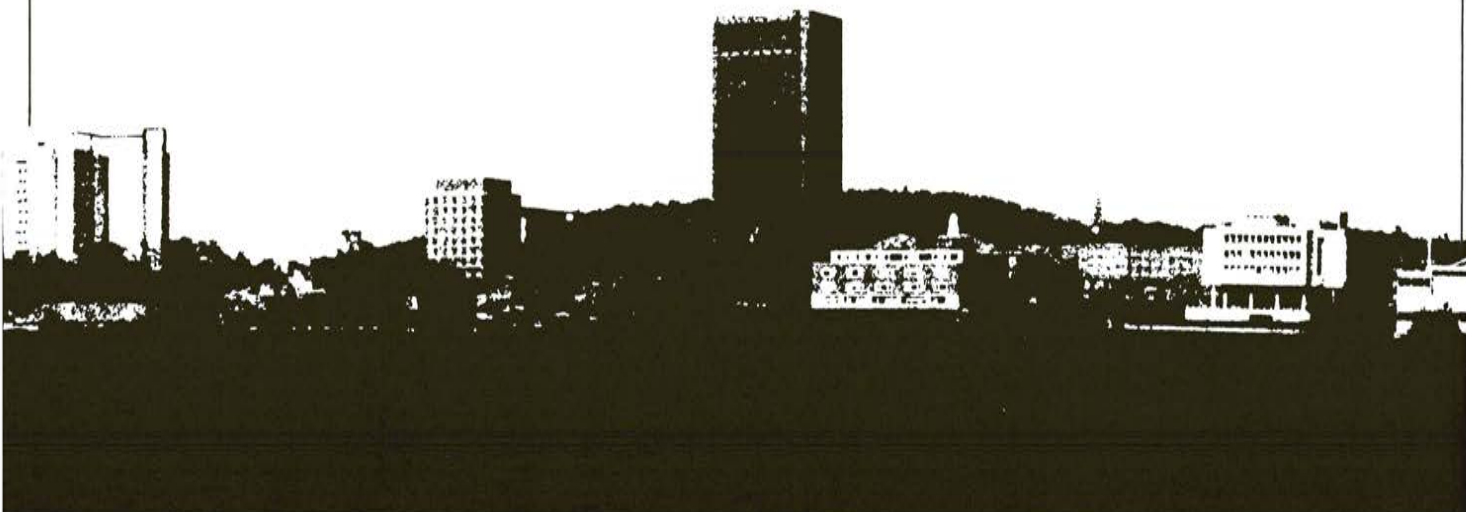
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CHARLOTTE STRATTON

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

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Literacy, commonly accepted as the ability to read and write, is now considered by many experts to comprise a level of knowledge equivalent to completion of the 12th grade, plus critical thinking and problem-solving skills. Regional adult literacy initiatives involving partnerships between higher education, business and government are reviewed in this issue of *Connection*. We have paid special attention to those conducted in the workplace, where the incentive to learn is particularly pressing for both worker and employer.

Several prominent New Englanders have done some hard thinking about what can be done to address the need for basic skills and literacy as it pertains to our economy. In *Connection*, Paul Choquette, president of the Gilbane Building Co. and chairman of the New England Council, writes: "I believe that private employers must begin to play a more active role in two key areas: upgrading the skills of their employees, especially basic literacy skills; and ensuring that our schools are training people for tomorrow's jobs." Both areas, he says, demand "bold steps," since "our ability to compete in a rapidly changing world market hangs in the balance."

James M. Howell, senior vice president and chief economist of the Bank of Boston, calls for "audacity" on the part of secondary and post-secondary education in adapting to the needs of New England's changing labor market. Reviewing the challenges education will face, Howell writes: "The quality of a high school education is critical because a high school diploma in itself can be meaningless. . . . It is abundantly clear that professionalism in the high school can only come through adequate funding and public recognition of the pivotal role it plays in society."

What new skills will displaced workers need to re-enter the market-

place and meet its demands? How is it determined what skills are required, and how can they be obtained? *Connection* Associate Editor Ellin Anderson reports on successful public/private partnerships that are meeting the state's retraining needs: the Massachusetts Worker Assistance Centers, three of which are taking advantage of the special resources available on a community college campus. We also meet Lillian Hurn of Haverhill, Mass., who lost her benchworker's job last year with unexpectedly positive results.

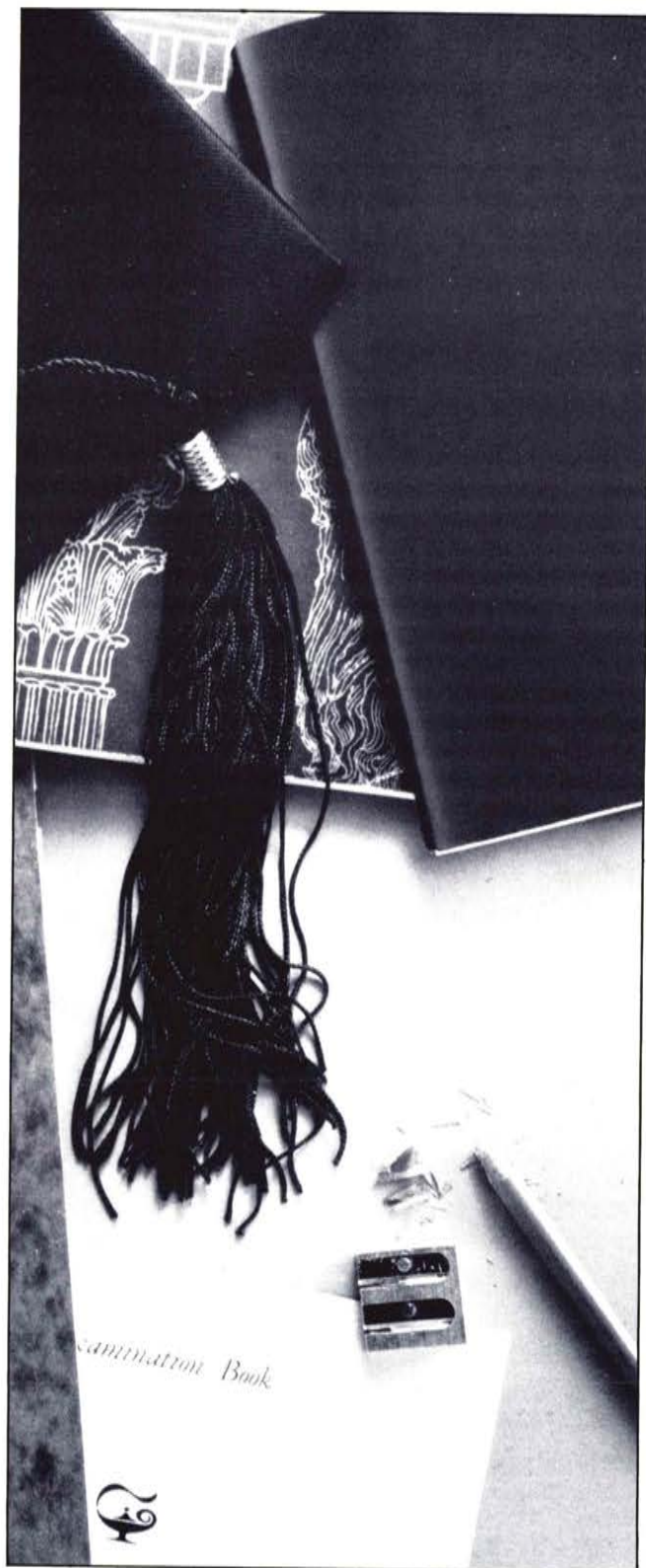
Lynn E. Browne, vice president and economist for the Federal Reserve Bank of Boston, reviews higher education's role in an increasingly extensive and complex international economy. This idea is further developed by NEBHE senior fellow Sven Groennings, who writes: "We must wake up to the fact that we are competing not only with other economic systems, but the learning systems of the economically successful."

Guaranteed student loan default rates are currently receiving considerable media attention. In *Connection's* "Finance" department, the regional GSL default situation is examined in depth, with questions posed to officers of the state loan guarantee agencies in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.

The editors of *Connection* believe that *Connection's* exceptionally well-informed readers feel strongly about the serious shortcomings of our region's workforce in the areas of basic skills and literacy. In addition to reviewing public and private-sector efforts to remediate illiteracy, we wish to solicit your reactions. What, in your opinion, is *not* being done, or could be done more effectively? We strongly urge you to make use of *Connection* as a forum where views on this and other issues may be expressed. □

Charlotte Stratton is managing editor of *Connection*.

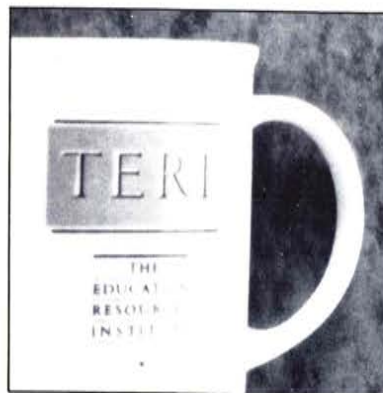
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SHORT COURSES

TIAA-CREF approves new pension products and services

The Boards of Trustees of the Teachers Insurance and Annuity Association-College Retirement Equities Fund have authorized development of six new investment products and enhanced financial reporting and counseling services. CREF will include five new options to invest in variable annuity funds, and TIAA has added a new fixed annuity fund. Additionally, in response to growing requests by TIAA-CREF participants, the board has adopted several new approaches to transferability between the two funds.

Biomedical grants strong in New England

Although federal funding for biomedical and other science fellowships and traineeships fell 36.7 percent from FY 1975 to FY 1985, New England's overall securing of biomedical research grants remains remarkably strong. With only 5 percent of the nation's population, New England garners 16 percent of the total funding in this area, or \$662 million.

Fewer doctorates awarded in math

According to a report by the American Mathematics Society and the Mathematical Association of America, only 362 Americans received doctorates in mathematics out of 32,000 doctorates awarded. This is the lowest tally in 15 years, and comes at a time when advanced mathematical expertise is seen as integral to scientific, technological and industrial success.

Spring issue of *Vermont Affairs* now available

The Spring 1988 issue of *Vermont Affairs*, a journal of public issues published by the Community College of Vermont, is now available. The new issue addresses the growing problem of solid waste disposal in Vermont. Articles include a story on how 26 Vermont towns joined together to find a solution for waste disposal, and a look at solid waste recycling efforts taking place throughout the state. Copies of the journal are available for \$3.00 from *Vermont Affairs*, 81 North Main Street, St. Albans, Vt. 05478.

Council of Presidents launches newsletter

The premier issue of *Council News*, published by the Council of Presidents of New England Land-Grant Universities, was released early this winter. *Council News*, according to Dr. Linda P. Frank, executive officer of the Council of Presidents, is "a showcase through which the collective accomplishments of the six public New England land-grant universities are presented to readers in education, business, government and the media." To receive a copy of *Council News*, contact The Council of Presidents of New England Land-Grant Universities, 15 Garrison Avenue, Durham, N.H. 03824.

UMass/Amherst grant and contract dollars rise 17%

Awards for sponsored activities at UMass/Amherst increased by 6 percent in 1987, and actual monies received rose by 17 percent over 1986, to \$47,403,562. *The Campus Chronicle* of UMass/Amherst reports that the top five campus units in sponsored funding activity were: polymer science and engineering; computer and information science; electrical and computer engineering; psychology; and physics and astronomy. The largest single sponsor was the U.S. Department of Defense, which awarded \$13,128,373 — an increase of 47 percent from 1986 DOD awards to UMass/Amherst.

Katz appointed to Great Works Advisory Board

Maine entrepreneur Bennett Katz, a nine-term former senate majority leader of the Maine Legislature and a member of the New England Board of Higher Education, was appointed to the Great Works Advisory Board of *New England Business* magazine. The Great Works campaign recognizes New England corporations for exceptional non-profit activities that enhance the region's quality of life.

Bates receives grant for foreign language programs

the instruction it will facilitate, Bates College President Thomas Hedley Reynolds stated: "It is essential that we prepare students with modern language skills and cultural awareness."

Bates College has received a \$275,000 grant from the Andrew W. Mellon Foundation to support the teaching of foreign languages and cultures and to strengthen the bond between language and other disciplines. The grant will be awarded over a five-year period. Emphasizing the importance of

Connecticut proposes 15 new Centers of Excellence

tion Norma Foreman Glasgow stresses that the centers benefit colleges as well as the state: "We all stand to gain from the new knowledge stimulated from the Centers of Excellence, whether in the technological sciences, in the health fields, or in services to business and industry."

Connecticut's Board of Governors for Higher Education has endorsed 15 new Centers of Excellence at the state's public colleges and universities. The proposed centers are in a wide variety of fields, including nuclear engineering, nursing and the liberal arts. Commissioner of Higher Educa-

Vermont's Lyndon State to test new broadcast software

marketed by Electronic Arts, will produce computer-generated graphics of a quality rivaling that of major network production capability. The most notable application for the software, according to David Ballou, Lyndon's director of college telecommunications, will be in the generation of broadcast weather graphics.

The Lyndon State College teleproduction broadcast facility, known as the LINC Project, has been chosen as one of a few select sites nationwide for testing the capabilities and limitations of a new television graphics software package. The software, created by Associated Computer Services and

Business resource center opens at Mattatuck CC

ware, and training programs to help solve the problems of small businesses. The center will also be available to the business divisions of Connecticut's 12 community colleges.

Sears-Roebuck, the Eastern Co. and the Central Office of the Board of Trustees of Connecticut Community Colleges have provided matching funds for development of a business resource center at Mattatuck Community College. The center will house an information network, computer soft-

Johnson and Wales College offers new financial aid program

ing the announcement, Johnson and Wales President Morris J.W. Gaebe said: "By matching aid awarded to students by the Rhode Island State Scholarship and Grant Program, we are supporting state efforts to encourage Rhode Island students to pursue higher education."

Beginning in September 1988, Johnson and Wales College will match state scholarships and grants awarded to Rhode Island residents attending the independent Providence institution. Currently, 90 percent of the college's day enrollment consists of students from outside the Ocean State. In mak-

Optometry now available at UHartford

the college's four-year doctoral degree program in optometry, thus saving UHartford students both time and money in their pursuit of the graduate program.

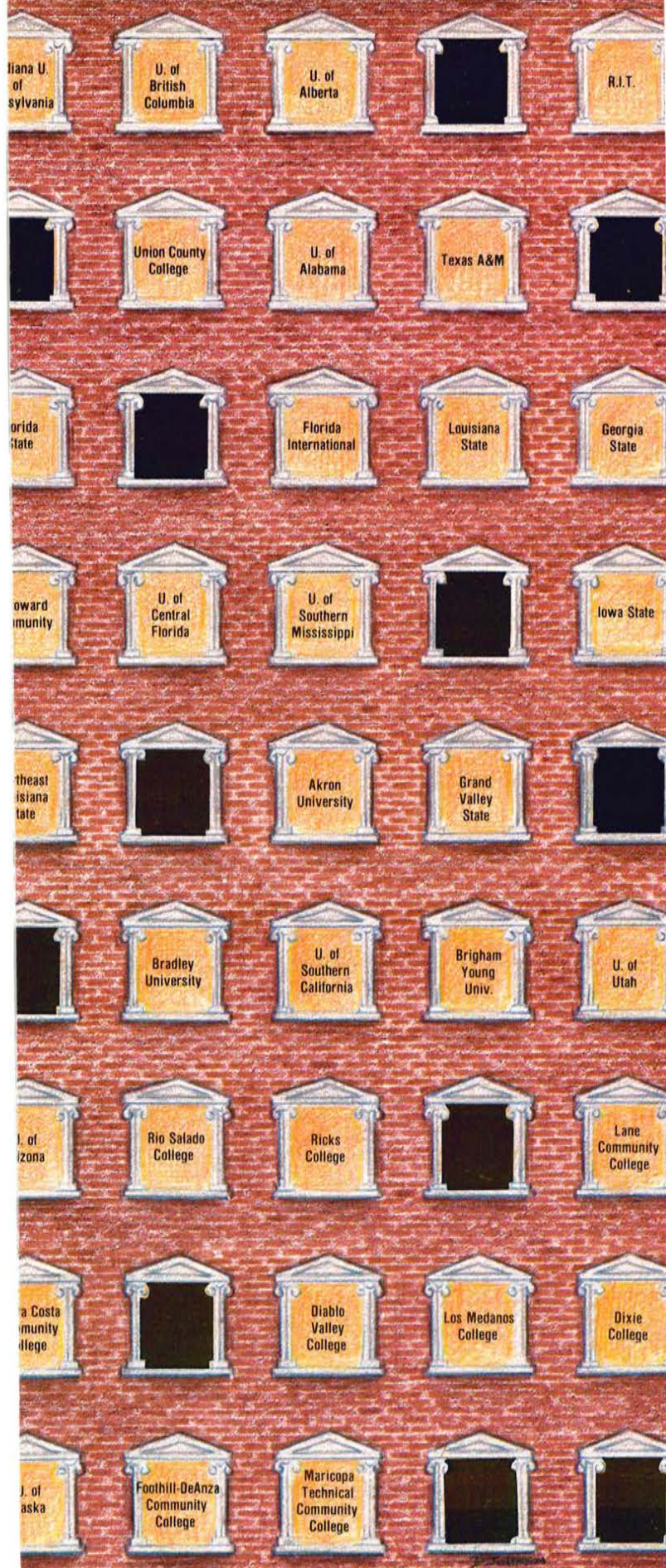
A recently established affiliation between the University of Hartford and New England College of Optometry in Boston will enable UHartford students to pursue their final year of study at the New England College of Optometry. The year-long course of study also counts as the first year of

Tufts researchers develop test for Lyme disease

neurological damage if left untreated. Currently there is no standardized test for Lyme disease on the market. Tufts is collaborating with Cambridge BioScience, a biotechnology firm located in Worcester, Mass., on developing and marketing a test kit.

Researchers at the Tufts University School of Veterinary Medicine diagnostic laboratory have developed the first diagnostic serum test for Lyme disease. The bite of a miniscule tick triggers the disease, a debilitating ailment resulting in crippling arthritis, cardiovascular problems and serious

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DIRECTLY SPEAKING

Towards a Literate Workforce

JOHN C. HOY

Continuing discussion of the results of "The Future of New England Survey," published in *Connection* last quarter, reveals an underlying concern that the economic and social impact of those who continue to be educationally underserved may be the primary constraint on New England's economic growth. This issue of *Connection* features a wide array of programs aimed at tackling the literacy problem.

High school dropouts, functional illiteracy among adults and the need for expanded basic education and retraining programs together comprise a set of public policy concerns that are at long last receiving concerted attention. The region's colleges and universities should note carefully that the 800 New Englanders who responded to the survey ranked these issues significantly above improving the quality of higher education as public policy priorities in the years ahead.

In 1978 Sen. John Revens, then chairman of the New England Board of Higher Education, wrote: "Our primary agenda for the next decade is to define the link between the provision of education and the future requirements of our workforce; we must anticipate and the board must know more about the factors determining economic growth in New England."

Ten years later regional prosperity — defined as the highest recorded level of personal income and the lowest level of unemployment attained by any region in the United

States since records have been maintained — might have found New England fat, happy and growing careless. Prosperity has, however, encouraged the region's governors to focus on sustaining and extending New England's robust economy.

Today each New England legislature is deliberately focusing on the future — far more than was possible for governors and legislators a decade ago. The goal of leaving a legacy of opportunity for the next generation has moved from political platitude to political action.

Initiatives such as Gov. O'Neill's "Jobs for Connecticut's Future," Gov. DiPrete's "Workforce 2000," Gov. Dukakis' \$40-million worker retraining proposal, Gov. McKernan's University of Maine rural educational telecommunications initiative, Gov. Kunin's endorsement of Vermont's regional education and economic development programs and Gov. Sununu's direct focus on high school dropout prevention are each an investment seeking future return on developing human capital.

At no point in the last decade have the six states revealed as strong a sense of collective determination to satisfy an agenda aimed at helping those who are in immediate educational need and reclaiming those earlier denied sufficient opportunity. The agenda is decidedly collaborative.

While a variety of perspectives and priorities abound, effective collaboration requires that people work together on issues that each

party may not control or expertly understand. Collaboration has always demanded intellectual candor and tough-mindedness, and partnerships require very specific acknowledgement of the rights and responsibilities of those who have contracted to address an issue.

The common ground of these new programs is an urgent shared sense that dropouts and adult illiteracy are facts New England cannot ignore, neglect or sweep under the rug.

The quality of the region's public schools is the number-one public policy priority for New England, according to the "Future of New England Survey." Public education outranked all other economic, energy, environmental and infrastructural issues. Among the top five educational issues that respondents said should be addressed were:

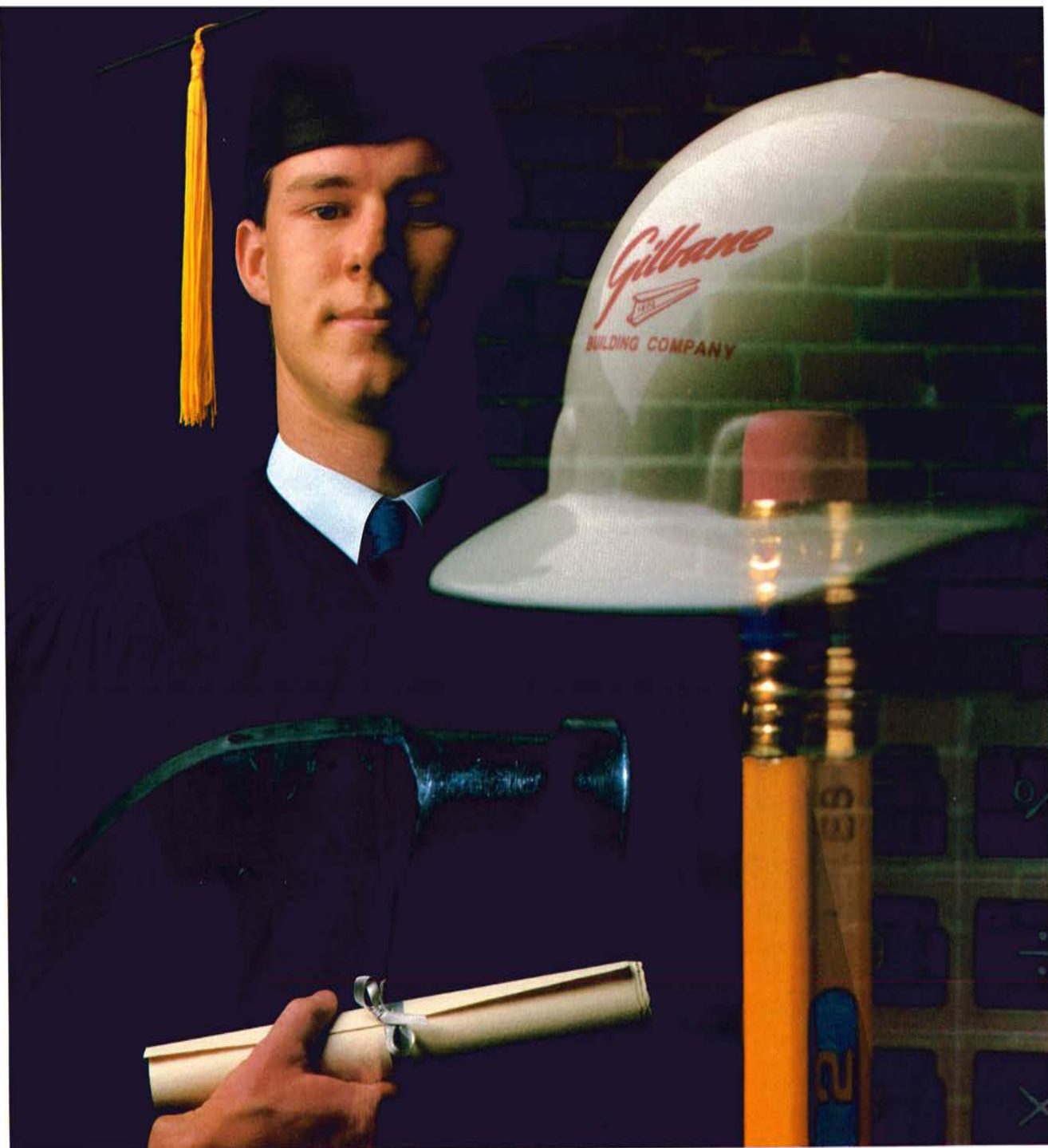
- High school dropouts
- Problem solving/analytical skills of the workforce
- Adult literacy
- Basic educational skill level of the workforce
- Education and training for welfare recipients

The two major deterrents to future economic growth, according to the survey, were a shortage of skilled manpower and the cost of housing.

The results suggest a sharp focus on those who are being left behind or left out — those who cannot gain access to or rise within the education/employment structure of the region's prospering economy. Higher education itself must pay more attention to the education of the underserved and those in greatest need. The region's colleges and universities have a pivotal role to play.

What is encouraging is the fact that the message has been heard: from our most selective to our most accommodating campuses, new projects, programs and collaboratives are serving New Englanders who were well below the capacity, and more particularly the interest, of higher education ten years ago.

John C. Hoy is president of NEBHE and publisher of *Connection*.



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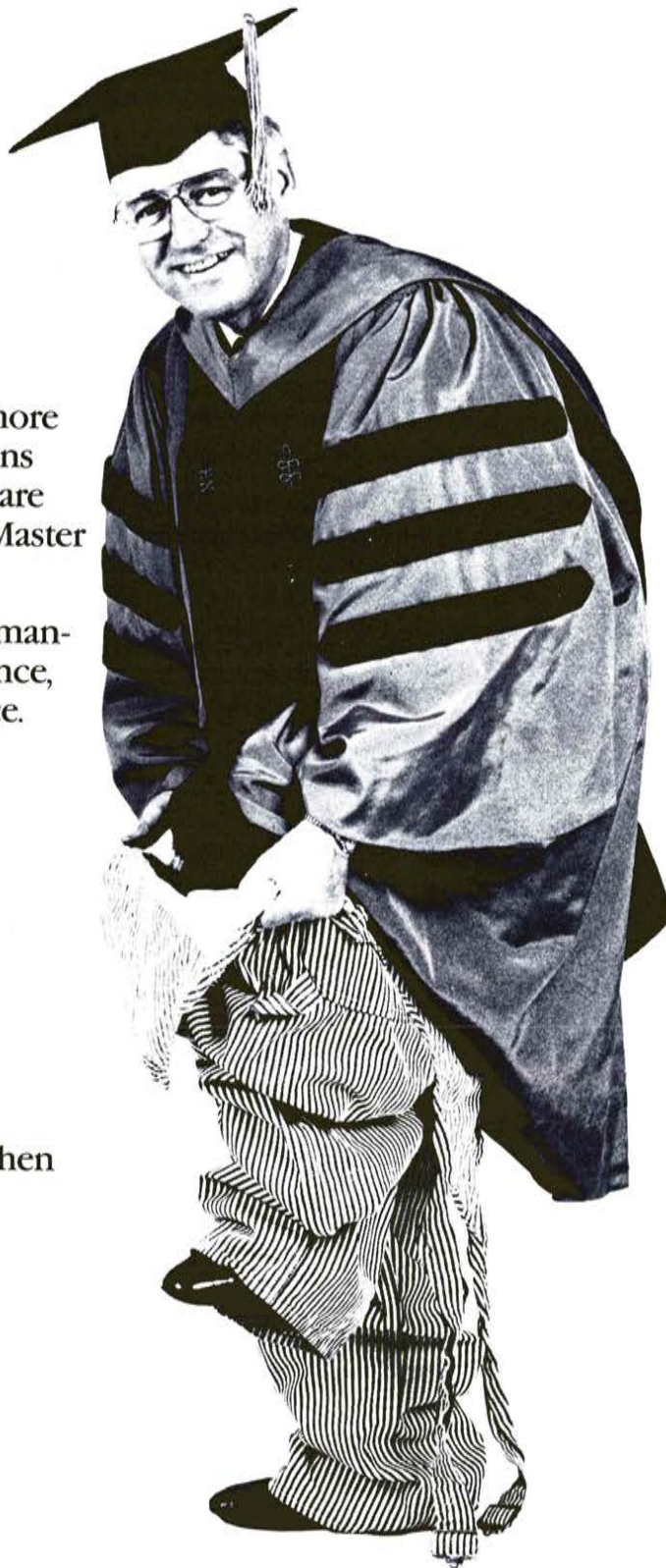
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The Two-Tier Labor Market

JAMES M. HOWELL

Audacity is the willingness to act even in the face of difficult odds. It was audacity — an energizing of New England's inherent resources — that provided the underpinnings for the region's economic turnaround over the past decade.

The results are impressive. A truly spectacular recovery has taken place in the region's economy since the late 1970s. Currently, our region's unemployment rates are running well below the national average of 5.9 percent, and Massachusetts continues to have the lowest unemployment rate of any industrial state in the nation: 2.7 percent in November 1987.

New England's revitalization has been predicated on the remarkable growth of two sectors: high-technology and sophisticated services such as finance, insurance and venture capital. It is the dynamic momentum of these two sectors that provides the grounds for a guardedly optimistic long-term view of the region's economy.

The emergence of a dual labor market

Continuing New England's economic vitality into the 1990s will bring new challenges. As in the past, we must have the audacity to respond. Foremost among these challenges is the profound adjustment that has already begun to take place within the region's labor markets. It is here that a most disturbing trend becomes evident, for the shift from blue-collar traditional manufacturing jobs to white-collar, high-tech and service jobs is not fulfilling its promise for workers expecting more exciting careers with high-skill content and higher incomes. Many people assume that higher education and high-tech simply go together, but the situation is far more complex.

Increasingly, it appears that a segmentation or duality in labor occupational demand has developed; that is, the demand for trained labor in New England will more and more fit into two categories.

The first consists of a relatively few high-paying jobs

in one part of the labor force: sophisticated engineers, scientists, and professional managers with graduate school training. However, the bulk of the jobs will be in the other sector of the labor force: entry-level production and service workers as well as limited-skill white-collar professionals. What has been lost in the transformation of the New England economy are the middle-skill jobs — the experienced artisan, the craftsman, the machinist — where individual judgement and expertise made the difference in the quality of the finished product.

While in the long run the income and wage levels of the dual labor market will have important implications for all of us, they will have an especially profound impact on our educational sector. I want to elaborate on these implications for our high schools, colleges and universities.

First, let's examine the pressures these changes pose for our high schools. High school educators will need to reach upward to encourage greater academic achievement among non-college-bound students. Simply stated, well-prepared high school students will be playing an even larger role in the economic world of the 1990s than they have in the past.

In the high-tech field, according to the U.S. Department of Labor (September 1987), the fastest-growing high-tech jobs are for data processing equipment repairers; computer systems analysts-electronic data processors; medical records technicians; computer programmers; operations and systems researchers; peripheral

electronic data processing equipment operators and data-entry keyers-composers. These placements could be filled by individuals with a *solid* high school education, perhaps supplemented by community college instruction and the increasingly available training programs of regional corporations.

The quality of a high school education is critical

James M. Howell is senior vice president and chief economist of the Bank of Boston.

It is painfully clear that business is simply going to have a diminishing appetite for the less rigorously educated.



James M. Howell

because a high school *diploma* in itself can be meaningless. Where do we begin to find solutions to the challenge of better-prepared high school graduates? First, high school students who are not college-bound must be made "work-ready." Internships, summer jobs and ties between business employers and local high schools will expand. School leadership will have a new role in designing and monitoring successful relationships. But whatever the outcome, it is abundantly clear that professionalism in the high school can only come through adequate funding and public recognition of the pivotal role it plays in society.

Challenges for higher education

The new pressure on the region's colleges and universities also demands audacity. In this connection, it is important to point out that the country has undergone more than three decades of tremendous growth in higher education. As a result, there is a dramatic increase in the availability of college education for many individuals who would previously not have sought a degree. In 1960, 7.7 percent of the U.S. population had completed four years or more of college; in 1970, 10.7 percent; in 1980, 16.2 percent; and by 1985, 19.4 percent. In the region, as in the nation, there has been a dramatic increase in the percentage of people at institutions of higher education. Not surprisingly, the principle of supply and demand has led to the creation of new institutions and new programs at existing institutions.

The results are painfully clear: Today there are simply too many students with college degrees that are only of limited value in the labor market. Even institutions that provide quality education will have to adjust to a changing academic marketplace. First, there will be fewer students. Nationally, between 1988 and the year 2000, the number of high school graduates will shrink by 22 percent, from 2.6 to 2.1 million. That adjustment will be even more severe in Massachusetts where from 1988 until 1999 a 25 percent reduction in numbers of public high school graduates is predicted.

This alone means a serious excess of higher educational capacity. Juxtapose this against what business needs in a dramatically changing economic environment: competent high-school educated and community college graduates as well as the very best college-trained people with advanced graduate degrees. Moreover, in New England as in the nation, business is simply going to have a diminishing appetite for the less rigorously educated.

What is called for now is what Frank Newman, former president of the University of Rhode Island and current president of the Education Commission of the States, refers to as "a purposeful rebalancing in higher education." This is a genteel way of saying "planned shrinkage." We are simply going to have to pare back

some of what now takes place in higher education.

What are the key components of a purposeful rebalancing? First, some institutions should continue to do what they are now doing very well. Nationally known institutions such as Amherst, Bowdoin, Harvard, MIT, Yale and their counter-

parts throughout New England are obvious examples. There are also schools that offer special niches in the academic market, such as Bennington College in the arts and the University of Maine in forestry and agriculture. Second, some institutions must realize that while they have selected areas of strength there are many areas of weakness. Higher education must begin to reduce its commitments in the redundantly weak programs. Third, some institutions, especially the community colleges, should play an even greater role than they have in the past in generating effective partnerships with business and industry.

Conclusion: the issues to be addressed

At this stage, no one has all the answers to the problems raised here. In the past, audacity has meant the boldness to create; today it may well mean the vision to cut back, to reduce the scope of some institutions and certainly many programs while seeking to focus the dimension of academic excellence on those remaining.

The following steps are necessary.

- First, now is the time for a candid exchange between business and education about supply/demand relationships for all occupations.
- Second, and equally important, we must acknowledge that it will be increasingly more difficult for the less rigorously prepared college graduate to find a satisfactory career.
- Third, the low-priced but not low-cost public institutions will be forced to reassess their roles in our economy.
- Fourth, the high-cost independent institutions must thoroughly assess the impact of tuition policy in excess of inflation upon their capacity to respond to economic reality.
- Fifth, and finally, the projection of substantially fewer 18-year-olds demands that these evolutionary processes begin now.

To conclude, there is a solid basis for optimism about future growth and prosperity here in New England. In that environment there will be new challenges for educators in the high schools and in institutions of higher education. Our success in meeting these challenges will depend in large part on our audacity in seeking compatibility between the labor market demands of a dynamically changing economy and the appropriate roles for our educational institutions. □

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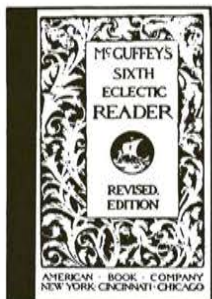
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Literacy, Training and Competitiveness: The Strategic Link

PAUL J. CHOQUETTE JR.



In the late 1960s, when I was making the transition from counsel to Rhode Island Gov. John Chafee to a job in the private sector, I was moving between two very separate, distinct worlds. Government had its role, business had its agenda. Both sides guarded their own turf, and partnerships between the two were very rare.

In the 1980s, that wall between the public and private sectors has begun to come down. Here in the Northeast, as we grappled with skyrocketing energy costs and the loss of manufacturing jobs, government and private industry started to work together.

When we look ahead to the challenges facing us in the next century, however, it is clear that we've got to do more than just create partnerships. Between now and the year 2000, we're going to experience dramatic shifts in the makeup of our workforce, and sweeping technological changes. To survive and prosper in this environment, we must challenge our most fundamental assumptions about the proper role of the public sector and the responsibilities of the private sector.

I believe that private employers must begin to play a more active role in two key areas: upgrading the skills of their employees, especially basic literacy skills; and ensuring that our schools are training people for tomorrow's jobs. In both areas, bold steps are required.

Why this sense of urgency? Because our ability to compete in a rapidly changing world market hangs in the balance.

We tend to assume that America's literacy rate and educational levels place us somewhere in the middle of the pack among industrialized nations. In reality, we are now lagging behind some *developing* countries when it comes to initiatives in literacy, basic education and retraining.

The fundamental problem is not that our literacy skills are slipping, but that literacy demands are in-

Paul J. Choquette Jr. is president of the Gilbane Building Co.

creasing dramatically in a global market. The key players in this market are the developing countries, where literacy and job training are integral to national economic strategies. The stakes are very high, for if we are to stay competitive, we cannot allow developing countries to offer both a lower wage and a more skilled, literate workforce than the United States.

Is this an overreaction? Let's look at some examples. In eighth grade geometry, 12th grade algebra and elementary calculus, our average American student's skill level is behind that of the average student in Hong Kong and just barely ahead of Thailand's. This is because those two countries tailor their school curricula to the needs of high-technology industries.

The foreign challenge

In the last decade, *American* electronics companies have created more jobs in Singapore, Hong Kong, Taiwan and Korea than in the United States. They've gone overseas not only because of lower wages, but also because the workers in those countries can read and write better than American workers.

The government of Singapore offers an excellent example of what the United States is *not* doing. Some 15 years ago in that country, people were hard pressed to find work. Faced with continual food shortages, they had one of the lowest standards of living in the world. Today, their literacy rate is approaching that of the United States. While their wage rates are only \$1.50 an hour, employment is flourishing, partly because of the growing number of manufacturing plants being operated there by U.S. companies.

What brought about this turnaround? Singapore's government has developed a comprehensive economic program to attract industry. Government-funded research institutes have been set up to tailor the skills of the workforce to the industries coming to their shores. This government funding, however, is generated mainly by private sector resources, such as people, equipment and facilities, provided by the same industries that were attracted to Singapore

It's estimated that 75 percent of the people who are in the workforce today will need retraining by the year 2000.

The most difficult task may be persuading citizens to invest *public* resources in joint ventures with the *private* sector, when the payback in *public* benefits may lie many years down the road.

by its low wage rates. Those companies are getting a high return on their investment, in the form of highly skilled human capital.

The lessons from overseas are clear. Other countries are creatively harnessing a power that we in the United States are not: the power of human capital to drive economic growth.

To preserve our standard of living in a world where other people are working for one or two dollars an hour, our people are going to have to work "smarter." In the early days of our nation, the key to economic growth was the build-up of our *physical* infrastructure: roads, ports, railways. Now, our challenge is to build up our *knowledge* infrastructure. That's the key to economic success in the 21st century. But the scope of this task — training and retraining our workforce — is staggering. A few dramatic statistics help tell the story.

As the baby-boom generation advances into middle age and the pool of young entry-level workers shrinks, we will be faced with an older workforce. Today, roughly 35 percent of the workforce is between the ages of 35 and 54. By the year 2000, half of all workers will fall into that age group.

It is reasonable to expect that these older workers will have a greater need to refresh their basic skills and learn new ones. In fact, it's estimated that 75 percent of the people who are in the workforce today will need retraining by the year 2000. From now through 1990, some 400,000 workers each year may need extensive retraining to find new jobs.

Dealing with illiteracy

Much is already being done to address this problem. As a nation, we're currently spending \$180 billion a year on job-related adult training programs. But there are two other areas of need that I believe are not being adequately addressed. One is illiteracy among those people who are already in the work-

force. The other is the absence of a feedback mechanism from the private sector to the educational system to forecast future job prospects.

Let's look first at illiteracy among the already-employed, a major obstacle to retraining. Studies show that 20 to 30 percent of the adults enrolled in job training programs actually need remedial reading and

math instruction.

Some of the stories behind those statistics are striking. At one of the Ford Motor Co.'s plants, management was trying to offer an in-house training course in process control. However, half the employees could not read well enough to understand the course material. Ford ended up spending over \$160,000 in remedial reading instruction for those employees.

Onan Corp., a manufacturing company based in Minnesota, had a similar problem. The company was planning to computerize some of its operations, and management felt that employees might have problems learning the new system. So they decided to ask their workers to fill out a skills questionnaire, to pinpoint where some training might be needed. Thirty employees could not even fill out the questionnaire. Many

others could not do simple arithmetic. As a result, the company launched an in-house program in basic reading and math, at a cost of roughly \$25,000 a year.

This is the kind of story that prompts me to say that we've got to change our thinking about public and private sector responsibilities. Conventional wisdom says it's the job of our public school system to teach basic reading and math. But we've got to deal with reality, not conventional wisdom. The private sector needs a literate, skilled workforce in order to be competitive, and it is time for the private sector to take on a larger share of responsibility for that training task.

How businesses can help
The business community



Paul J. Choquette Jr.

is ideally positioned to tackle this problem. Here's how it might work:

Through questionnaires or skill surveys, companies could pinpoint employee needs in reading, math and other basic skills. These surveys would obviously have to be packaged in a non-threatening way and be sensitively handled. Often, people with illiteracy problems go to elaborate lengths to make sure no one in their workplace finds out they have a problem. Employers have to try to break down that stigma. This effort should be undertaken as a cooperative venture with labor.

Once the needs are identified, employers could then work with our community college system to offer basic skills training. Again, by sending employees into a community college setting, employers can help remove some of the stigma associated with remedial education. Employers would also offer incentives for their workers to participate, such as time off for coursework and pay bonuses for those who complete the program.

This type of program could be funded jointly by the private and public sectors. Government would contribute teachers, curriculum and community college facilities. Private employers would provide the impetus to identify people who need help, and then convince them to get help. Once the illiteracy barrier is removed, both employer and employee will be better able to adjust to the training needs of a rapidly changing market.

A second idea that would put the private sector into a leadership role is the creation of a formal mechanism

to forecast the manpower needs of business and communicate those needs to the people who design our vocational education and higher education curricula.

To effectively plug business into curriculum development, we first need to form a comprehensive, organized system for collecting data from human resource managers and strategic planners in the private sector. They can answer questions like these:

- What kinds of skills will companies be looking for in their prospective employees three, five, or 10 years down the road?

- What will be the demand for engineers, computer programmers or clean room technicians?

- What implications do those personnel forecasts have for our public sector curricula, at *all* levels?

At present, these questions are *not* being asked, and data is not being communicated in a coherent way. I believe that the private sector should take the lead in establishing such a clearinghouse to collect personnel forecasts and transmit them to the educational system. Perhaps the most likely players to take on this role are the statewide or regional business associations, such as the New England Council.

To assure New England's continued prosperity, it will be necessary to shift away from the traditional short-term thinking that plagues the private and public sectors alike. The most difficult task may be persuading citizens to invest public resources in joint ventures with the private sector, when the payback in public benefits may lie many years down the road. □

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Education Needs Federal Partner

BY STEPHEN JOEL TRACHTENBERG

President, University of Hartford

The following remarks are excerpted from an address by University of Hartford President Stephen Joel Trachtenberg to the Subcommittee on Education and Health of the Joint Economic Committee given in Washington, D.C., in November 1987.

The American higher education system must deal with young people from every imaginable background, economic level, immigrant status, and level of previous education. In this country as opposed to many others, a much larger share of the education burden falls on our universities.

While higher education is deeply involved in training people for the work force, we must consider whether there are significant constituencies that are being missed.

The Subcommittee is seeking a nationwide awareness in which the partners — business, higher education and government — actively coordinate their efforts to further the health and competitiveness of the American economy. Frankly, I don't see us as being within hailing distance of the point at which that will begin to happen.

One very significant reason for that is the adversary role chosen some years ago by the U.S. Department of Education. An official of the department recently observed that the department thinks of itself as a kind of "environmental protection agency" whose role it is to supervise, criticize and control the sort of mistakes and aberrations to which educators at all levels are prone. I respectfully suggest that this is a good example of a federal agency taking some liberties in defining its mission.

What American education needs right now, and American higher education in particular, is a federal partner rather than a federal adversary — a Department of Education that can coordinate and further the very mission on behalf of American competitiveness and quality that is the subject of these hearings.

Contrary to what the Department of Education has been suggesting for several years, the vast majority of the universities in this country are under great financial pressure, as they seek to meet the expressed needs and demands of their students and their students' families. If they were told to engage in remedial training and education for those who do not have a corporate sponsor and who may not be able to afford tuition on their own, most would have to throw up their hands and declare that they are educators, not divinities.



There is no reason why hard-working and diligent students could not be involved in the effort to bring more of the American work force up to scratch where international measures of competitiveness and quality are concerned. Such an effort is unlikely to succeed without the support, moral as

well as financial, of the federal government, and of the Department of Education in particular.

The troubled waters of the global economy are a sure sign that we need to rethink, on a truly nationwide basis, what we are doing to train our future employees and retrain those already in the work force. We need to devise a cooperative and coordinated system that will involve the corporate sector, the education sector, and all levels of government from the federal to the municipal. If the first step we achieve as a nation is to agree on the urgency of the task, then the second will be to commit our energies to that task, and the third will hopefully be a success worthy of the United States of America.

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Business, Government and Education Unite for Literacy

WENDY L. DEANS

What does it mean to be literate? Earlier in this century, eighth-grade reading ability was the standard for literacy; before the Civil War, it was the ability to sign one's name. Today, many experts consider 12th-grade literacy minimal.

The National Assessment of Educational Progress defines literacy as "using printed and written information to function in society, to achieve one's goals and to develop one's knowledge and potential." The definition offered by researcher David Harman in his report, *Functional Illiteracy in the United States*, is more comprehensive. Here, literacy is described as "the possession of skills perceived as necessary by particular persons and groups to fulfill their own self-determined objectives as family and community members, citizens, consumers, job-holders, and members of groups of their own choosing."

Illiteracy by anyone's definition is strongly impacting employee recruitment and retention. In an increasingly technological world, more and more jobs require skilled workers with the ability to use information appropriately and handle varied tasks, plus the flexibility to adapt to workplace changes. Without a concerted remediation effort, illiteracy will have serious economic and social consequences for New England and the nation.

Fortunately, the problem is receiving renewed national and state attention — and with good reason. Society has become more complicated, but the nation's education system has not kept pace. Today's youth have not been adequately prepared in the skills necessary to succeed in the workforce. At the

same time, employers are struggling with a labor shortage, especially for entry-level positions, and often must hire workers who lack not only the ability to read and write but a command of spoken English. Consequently, they are forced to provide

Workplace education has been particularly important in Massachusetts — a necessary response to changes in the state's economy.

basic instruction for their employees. Researchers like David Harman have found that the most successful literacy programs operate in the workplace, partly because recruiting is easier and there is a built-in incentive to learn.

Massachusetts takes on illiteracy

Workplace education has been particularly important in Massachusetts — a necessary response to changes in the state's economy. More and more jobs involving once-simple procedures now require relatively high levels of skill. Over the past 15 years, the job share of workers with less than a high school diploma has decreased from 34 to 17 percent. According to the 1980 U.S. census, more than 1.2 million Massachusetts adults lack a high school diploma. Moreover, today's workers need *transferable* skills, such as reading, writing, computer literacy and problem-solving ability, that enable them to adjust to new roles and careers.

State initiatives to back up the efforts of the private sector in literacy and skills training are being implemented in the Bay State. In 1986, Gov. Michael S. Dukakis established the Workplace Education Program, part of a statewide Commonwealth

Wendy L. Deans is an assistant editor of *Connection*.

Educational Attainment in New England

	Pop. 25 and Over (1000)	Percent Completing at Least:			
		High School		College	
		1-3 yrs	4 yrs	1-3 yrs	4 or more
New England	7,438	84.3	70.5	34.6	19.2
Connecticut	1,900	83.7	70.3	35.9	20.7
Maine	662	83.4	68.7	29.4	14.4
Massachusetts	3,463	85.6	72.2	35.8	20.0
New Hampshire	542	85.3	72.3	35.1	18.2
Rhode Island	575	79.3	61.1	28.3	15.4
Vermont	295	83.3	71.0	34.7	19.0

Source: U.S. Bureau of the Census, 1980 Census of the Population, Vol. 1, Chapter C.

MCAL holds Massachusetts legislature briefing

The Massachusetts Coalition for Adult Literacy held a legislative briefing at the Massachusetts Statehouse on Feb. 10. Roberta Suhlman, director of Literacy Volunteers of Massachusetts and chairman of MCAL, was moderator. The hour-long informational session included remarks by Senate President William Bulger, State Commissioner of Education Harold Reynolds, AFL/CIO Secretary/Treasurer Robert Haines, and Bank of Boston Vice President for Community Affairs Ira Jackson.

More than 50 senators and representatives signed up to sponsor the briefing, which featured a special performance by New Hampshire's Northern New England Adult Education Social Action Theater Group, testimonials by a student and teacher and a video with public service announcements on adult literacy. All attested to the importance of literacy in the workplace, the family and community life.

Ann Pastreich of MCAL said the purpose of the briefing was "to inform legislators about what literacy programs exist now and what will be needed in the coming years in order to keep pace with an economy that needs an educated workforce, as well as to meet the needs of new immigrants."

Quinsigamond Community College in Worcester, for example, instruction in English-as-a-second-language is provided by TJ Maxx, a Worcester retailer that employs large numbers of immigrant workers. Employees are provided release time to take instruction at the worksite. According to Surendra Singh, dean of lifelong learning at Quinsigamond, most of the students in the program are recent immigrants.

Literacy Campaign to tackle adult illiteracy. Funded by the Executive Office of Labor, the Department of Education and the Office of Training and Employment Policy, the Workplace Education Program is a unique effort involving labor and management in the provision of on-site adult basic education and English-as-a-second-language instruction. The program currently funds 15 workplace education models. Several involve public higher education institutions, including Southeastern Massachusetts University, the University of Massachusetts at Amherst, Roxbury Community College, Massachusetts Bay Community College and Quinsigamond Community College.

According to Marty Blatt, education specialist for the state's Executive Office of Labor, which oversees the Workplace Education Program: "Companies have always considered it important to provide training for management-level employees, but the same attention has not been given to training entry- and lower-level workers in terms of English-as-a-second-language and basic reading, writing and math.

"We need to raise the consciousness level of employers to make them realize that they must provide worker education," he continues. "It's a win-win situation. Companies will benefit from better recruitment and retention of employees and improved production; employees will gain increased self-worth and the potential to upgrade their jobs."

As a further step to strengthen workplace literacy, Dukakis announced plans in October 1987 for a state-of-the-art Literacy-at-Work Resource Center. The center would help plan, design and develop programs aimed at improving workers' literacy skills, and serve as an information center for businesses and unions that offer basic skills and English-as-a-second-language programs.

According to Blatt: "Community colleges have been effective vendors of workplace education. They have the flexibility and commitment needed." Through Quinsiga-

The Quinsigamond program resulted from a three-way partnership among the International Ladies Garment Workers Union, TJ Maxx and Quinsigamond. Singh says ILGWU approached TJ Maxx about providing instruction, and TJ Maxx went to Quinsigamond, which obtained grant money through the Workplace Education Program. Singh points out: "As we move towards a service economy, this kind of training makes more and more sense."

Carl Proper, educational director for the Consortium for Worker Education says ILGWU has collaborated with management, other unions and the state to establish several other programs in Massachusetts. Programs in Fall River and New Bedford are operated by Southeastern Massachusetts University, with grants from the state labor office.

Another workplace education program operates out of UMass/Amherst, where instruction in basic skills, English-as-a-second-language and General Education Development is provided for university employees. It is estimated that 400 employees could benefit from such instruction. When the university and local state employees' union contracted four years ago to provide tuition remission for union members, it was discovered that many members were not ready for college-level courses and needed basic-skills instruction instead. This was provided by the university, while the union recruited students.

Instructors are graduate students with a background in English-as-a-second-language or basic instruction. Tutors are primarily peer employee volunteers and paid employee retirees, emphasizing the fact that instruction is "coming out of the workplace instead of being forced on the workplace," says Joe Connolly, UMass program coordinator. Instructional materials are job-related; and a peer recruitment video features employee participants in the program. The program's release-time policy secures a commitment from both employer and employee, and rewards students who meet self-determined

learning goals.

For the first time in its history, the Massachusetts Longterm Care Foundation will provide urgently needed basic instruction on-site for nursing home employees. With a one-year grant from the state labor office, the Massachusetts Longterm Care Foundation pilot project provides English-as-a-second-language instruction at two nursing homes, under contract with the Continuing Education Institute in Needham.

According to Louise Clough, Massachusetts Longterm Care Foundation associate director, while the project's original focus was instruction for nurses' aides, a 1987 survey of 100 area nursing homes indicated that the most pressing need was for English-as-a-second-language instruction. Because of the region-wide labor shortage and the difficulty nursing homes have in finding skilled English-speaking employees to fill service positions, Clough believes more and more nursing homes will become involved in providing English-as-a-second-language instruction.

Bristol Community College in Fall River operates several workplace programs providing English-as-a-second-language and basic instruction for companies employing large numbers of immigrant workers. In January 1987, BCC started programs at seven companies in Attleboro and Taunton, with funding from the Department of Education. Meryl Coughlin, director of BCC's Adult Learning Center, has found that about 60 percent of the employees at these companies could not speak, read or write English. Projects at Fall River companies, including Anderson-Little and Bristol Knitting Mills, have been added recently, with help from the Gateway Cities Fund. According to Coughlin, most program participants have exhibited a high level of motivation; it is not untypical for employees to attend class faithfully after working 12 hours.

Rhode Island and Connecticut

With a grant from the Gannett Foundation Literacy Challenge, the

Gannett Literacy Challenge comes to New England

Maine, Massachusetts and Rhode Island were three of 13 states whose proposals were selected from among 75 applications for first-year grants from the Gannett Foundation Literacy Challenge, a Gannett Foundation program in cooperation with *USA Today*. The foundation provided more than \$1 million in funding in 1987 for the first year of the two-year program.

The Literacy Challenge is the first large-scale non-government funding program to stimulate collaborative efforts among adult literacy groups and agencies. The "challenge" is to make adult literacy services and resources permanently available in all parts of a given state, and to help literacy groups more effectively teach adults to read and write.

Maine's Department of Education and Cultural Services received a \$99,000 grant; Rhode Island's Department of Elementary and Secondary Education received \$82,000, and the Massachusetts Coalition for Adult Literacy received \$100,000.

MCAL's efforts have been focused on increasing public awareness of the issue, providing information and referrals on adult literacy, and increasing resources for adult basic education programs. Other activities have included development of public service announcements for television, a toll-free hotline for information and referrals, a legislative awareness day, and publication of a newsletter for literacy groups, centers and agencies.

MCAL is unique among the 13 Literacy Challenge recipients in that it is not formally subsidized by public or private funding.

Rhode Island Department of Education has created a telephone instruc-

tion project to bring adult education to public housing residents and unskilled or semi-skilled workers. Instruction takes place via two-way audio systems at the public housing or work sites. Robert Mason, adult education specialist for the Department of Education, says he expects the program to grow during the spring and sees the telephone mode as an innovation that could be useful for many types of organizations.

In Connecticut, Gov. William A. O'Neill has established a literacy coalition to help coordinate groups working on illiteracy. The state Bureau of Adult Education is in the process of assessing collaborative ventures using state and federal resources and business/industry partnerships to provide adult basic, General Education Development and English-as-a-second-language instruction. Increasingly, businesses have been turning to the state for assistance in providing on-site instruction for their employees.

Programs have been held at various companies, including IBM in Norwich, for instruction in the use of basic-skills software; and at the Sikorsky Aircraft Co. in Stamford for General Education Development instruction. In New Haven, the local school system and health care union have collaborated with the Bureau of Adult Education to provide General Education Development instruction at a local nursing home, which is granting release time to its employees. Gail Brooks, an educational consultant in the bureau's Division of Vocational, Technical and Adult Education, comments: "Employers need to become more sensitive to the fact that they need to provide their employees with incentives."

Northern tier states expand literacy efforts

Statistics show that 13 percent of Maine's workforce is illiterate and in need of compensatory education. Meanwhile, according to Larinda Meade, consultant for the Maine Literacy Challenge in the state's Department of Education and Cultural Services: "Providers of adult

literacy instruction don't always know how to market what they have to offer, and companies don't always identify adult illiteracy as the problem that might be causing absenteeism and low productivity." Encouragingly, several businesses have taken steps to tackle adult illiteracy by providing funds, in-kind services and on-site instruction.

In collaboration with the Department of Education, the *Bangor Daily News* has instituted free release time for employee instruction. Geiger Brothers in Lewiston is providing General Education Development instruction for its employees. While Geiger originally planned to offer courses for middle management, it was determined that the need for General Education Development instruction was far more pressing. Employee response has been considerable.

The Maine Statewide Literacy Coalition, funded by a grant from the Gannett Foundation, is working



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NEBHE survey to assess colleges' role in preparing students for careers in adult literacy

Recent media attention to the scope and impact of adult illiteracy on family and community life, on job performance and opportunity, and on New England's economic growth potential has stimulated the public and private sectors to offer more programs to adults who lack literacy skills. This, in turn, has created a shortage of educators trained to work in the field of adult literacy and basic education. At the same time, more people are seeking opportunities for training and employment in this field.

How are New England colleges and universities responding to the need for professional educators trained to work in adult literacy and basic education? A survey now underway will lead to a first-time ever, and much needed, regionwide assessment of career information and training in adult literacy currently provided by New England institutions of higher education.

The New England Board of Higher Education is sponsoring the survey, in conjunction with Middlesex and Roxbury Community Colleges, the Private Industry Council of Hampden County and the Massachusetts Association for Adult and Continuing Education. The survey will reveal information useful to both professionals and those preparing for work in this field. Hopefully, it will also stimulate interest in expanding curriculum at New England's colleges and universities.

The survey is being conducted by Adele Spier, director of research and planning for the Hampden County Private Industry Council and a founder of the Massachusetts Coalition for Adult Literacy; and David Rosen, director of the Adult Literacy Resource Institute of Boston and chairman of the Massachusetts Board of Education's Extended Committee on Adult Education.

An initial brief questionnaire has been sent to the presidents of all public and independent colleges and universities in New England, requesting information about specific departments and individuals who could respond to a detailed survey about on-campus adult literacy career training. Survey results will be covered in a future issue of *Connection*.

Statistics show that
13 percent of
Maine's workforce is
illiterate and in
need of
compensatory
education.

on ways to increase literacy awareness and improve collaborative efforts to eliminate adult illiteracy. Forums are being held to encourage better communication among the higher education, business and government groups in the coalition. Guy Gannett Publishing Co., in cooperation with WGME-TV, is launching its own Pro-Literacy Project, whose purpose is to raise the level of literacy among southern and central Maine residents.

Telecommunications has enormous potential for increasing educational opportunity, especially in a

state like Maine, whose far-flung rural communities have little educational access. A new statewide community college and telecommunications network, proposed by the University of Maine System, may prove to be a viable means of providing adult basic instruction.

Vermont has the only statewide adult basic education program that

Vermont has the only statewide adult basic education program that emphasizes home-based tutoring.

emphasizes home-based tutoring. In a rural state, getting the word out is a key challenge in solving the problem of adult illiteracy. Word-of-mouth — hearing about instruction from a fellow employee, friend or relative — has recruited most adult learners, says Jennifer Howard, state coordinator of adult basic education. Other recruitment methods, such as airing public service announcements on television and radio, and providing information on tutoring in employees' paychecks, are being explored.

The Vermont Department of Education has defined a project to develop a literacy awareness and outreach model for use by schools, businesses, state agencies and community-based organizations. The Chittenden Bank is committed to developing a model training program for use by employees throughout the state.

An Alliance for Adult Literacy in Vermont, with representatives from churches, state government, business, education and community action was organized in 1986. The Vermont Higher Education Council's literacy task force has identified literacy liaison staff at every college and university in Vermont, who will serve as contacts with adult basic education centers.

Tailoring the curriculum for the

older student is an important component of adult basic instruction. For example, as an alternative to Vermont's General Education Development program, the adult basic education staff devised an adult diploma program that provides an opportunity to learn about state government or the economy.

In New Hampshire, according to Art Ellison, director of adult education for the state, two adult basic education centers funded by the Department of Education provide General Education Development and basic instruction for employees of companies in Exeter and Dover. Funding for adult basic literacy programs comes from New Hampshire's Department of Education, which selects recipients through an open, competitive application process. According to Ellison, colleges in the state are eligible, but have never applied for funding. Digital Equipment Corp. and Sanders Associates are among the major Granite State companies offering in-house

basic instruction for employees.

In the workplace, illiteracy has emerged as a key element in such seemingly unrelated issues as absenteeism, low productivity and recruitment and retention problems. Throughout the region, employers have finally recognized that steps must be taken now to raise the aspirations of those already in the

In a rural state, getting the word out is a key challenge in solving the problem of adult illiteracy.

workforce, as well as those not employed due to lack of basic skills. If business, education and government groups continue to mesh their efforts, well-planned collaborative initiatives may finally make a difference in combatting illiteracy. □

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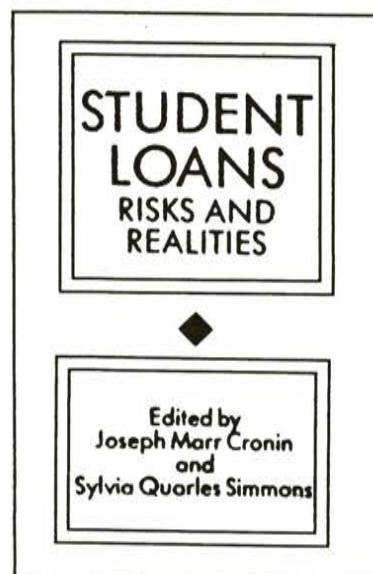
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WASHINGTON & BEYOND

When all else fails, even members of Congress — and Supreme Court justices — can recognize common sense.

Buried in the multi-billion dollar trade bill is a \$20-million line item the late Sen. Everett Dirksen, Republican minority leader during the Kennedy-Johnson years, might have described as "a mere bagatelle."

What would have astonished Dirksen would be the claim of Sen. Edward M. "Ted" Kennedy, the prime sponsor of the bill, that such a miserly sum — by Washington standards — would actually create "a Peace Corps for the 1990s." Moreover, what would probably have rendered him speechless is the fact that former Supreme Court Justice Warren Burger not only agrees, but has gone so far as to set a precedent by appearing before a congressional committee to testify in favor of a piece of pending legislation.

Burger has gone even further. In a remarkable display of bipartisanship, he has co-authored with Kennedy a piece entitled "America Needs a Literacy Corps," which has appeared in the *New York Times* and other papers around the country.

Burger and Kennedy point out that the \$106 million currently

The Literacy Corps and a Majority of One

MICHAEL J. BENNETT

appropriated to combat illiteracy among an estimated 29 million Americans would have to be multiplied 50 times over — to \$5 billion — to make a significant impact on the problem. Yet they argue, remarkably enough, that a "Literacy Corps" could enroll 130,000 undergraduate college students to provide one-on-one tutoring to at least an equal number of children, prison inmates, unemployed workers, etc., at a cost of less than one fifth of the

\$106 million being spent on traditional programs.

"That's less than the Defense Department spills on the way to the Pentagon," Kennedy observes.

But the most remarkable thing about the "Literacy Corps" is the story behind it — the story of how a man, a la "Mr. Smith Goes To Washington," without influential sponsors or backers and without any financial support other than his own limited earnings, took an idea, proved it could work on a pilot basis, and persuaded some of the most powerful people in Washington to follow his lead despite the profound ideological and political differences among them.

Norman Manasa is one of thousands of visionaries who flock to Washington each year believing, in the words of famed Boston abolitionist Wendell Phillips, that "one, on God's side, is a majority."

In 1968, Manasa, a former machinist and member of the Teamsters Union, was enrolled at the University of Miami, a college whose student body was better known for devotion to beachball than to the social, civil rights and

Michael J. Bennett is Washington correspondent for *Connection*. He served as public information director of the anti-poverty program, Action for Boston Community Development during the late 1960s.



Sen. Edward M. Kennedy, D-Mass., and former Chief Justice Warren Burger at the helm of the *USS Constitution*. Together they are sponsors of the proposed "Literacy Corps" project.

anti-war concerns then convulsing other campuses.

"Because I had a working class background," Manasa recalled in a recent interview, "I think I had an instinctive feeling for what was needed by poor people and what could give students the sense of involvement, service and experience they wanted: one-on-one tutoring."

Manasa took his idea to members of the university's education, English and sociology department faculties. In spite of their initial skepticism about the willingness of their "apathetic" students to participate, what became the prototype of the "Literacy Corps" was launched.

The basic thrust and direction of the program has remained unchanged since then: providing a more realistic education for college students by injecting "experience" into the undergraduate curriculum. The students take three-credit elective courses in which they are required to tutor six hours each week of the semester in established community agencies, schools, headstart centers, prisons, etc. In addition, the undergraduates are required to

meet in weekly seminars with supervising professors from various departments, such as education, sociology and economics, where their experience in the communities is matched against the theories of academic disciplines.

"That way, they get a mix of 'experience' and 'theory' at the same time," Manasa said, "and a more

A "Literacy Corps" could enroll 130,000 undergraduate college students to provide one-on-one tutoring to children, prison inmates and unemployed workers.

realistic education than they can get through courses that provide only classroom theory." They also learn how to punch a time clock, and work under direct supervision.

Almost 15 years were to pass before the original pilot project at the University of Miami was successfully replicated, first at St. John's University in New York and most recently at Boston College, Stonehill College, Endicott College and Bunker Hill Community College in Massachusetts. The project also acquired powerful sponsors in Kennedy and Burger, as well as the media-sexy name "Literacy Corps."

In 1973, the original University of Miami program fell victim to internal politics, as well as the lack of social concern that characterized the "Me Decade."

An idealist in Washington

Over the next 10 years, Manasa earned a doctorate from "The College of Hard Knocks."

"After working for a year or so as a taxi driver and department store salesman," Manasa recalled, "I had enough money to pay my debts and take the train to Washington."

Manasa reasoned that in a town where the principal industry was paper pushing, people were needed to carry the papers from one place to another: messengers. After a series of phone calls, he got a job as a messenger for the Supreme Court. He began running errands for then-Chief Justice Burger, and shortly thereafter became Burger's personal aide, performing tasks as mundane as making sure the judicial robes were properly laundered, and as stimulating as sitting behind Burger on the high bench while arguments were heard, ready to run out and seek legal references for the justice to consult.

"I didn't make any effort to push the project during the next couple of years," Manasa said, "because I wanted to avoid any appearance of a conflict of interest."

By early 1979 he was ready to pursue the tutoring program again, and went to Burger to explain why he was leaving. Burger replied in a letter dated March 30, 1979, in which he "offered to be of any help within the limits imposed by the Judiciary."

For the next several months Manasa plodded from bureaucratic office to legislative office, learning that sympathy for a worthy idea rarely translates into practical support. Soon he was out of money again, and looking for work, this time obtaining a job as night manager of The Dubliner, a Capitol Hill bar-restaurant frequented by well-paid lobbyists.

Manasa was assigned to develop a handbook for college students working as waiters and waitresses at The Dubliner. The experience stood him in good stead when an opportunity arose to develop a protocol for converting the Supreme



Norman Manasa

Court's hot-type printing plant.

"Fortunately, we had provisions at the court for printers to retire and many of them took advantage of that," Manasa said. "The greatest problem, frankly, was to train the law clerks to use the system when many of them couldn't even type, and certainly weren't experienced in making the kind of inserts and changes — mechanically — that are necessary when decisions are being changed at the last minute. They had to be trained to perform a multitude of roles that previously had been handled by skilled workers."

Manasa formed a non-profit organization called the Washington Education Project, which by 1982 had begun to collect letters of support from, among others, President Reagan, Sen. Claiborne Pell, D-R.I., and Mayor Marion Barry of the District of Columbia.

The project remained on the drawing board until the *New York Daily News* provided a \$5,000 "challenge grant" to the project, later matched by \$5,000 each from the

The basic thrust and direction of the program is providing a more realistic education for college students by injecting "experience" into the undergraduate curriculum.

Xerox Foundation, the Manufacturers Hanover Trust Company and the Primerica Foundation.

As a result, in January 1986 the first \$25,000 "start-up" grant was awarded to St. John's University in Queens, N.Y., followed by a second grant to the St. John's campus on Staten Island in September 1987. The money is disbursed in two \$4,000 installments the first year

and two \$8,400 grants the second year, reimbursing faculty salaries during the "start-up" period when relatively few students can be expected to enroll.

"We expect that by the second year the program should be financially self-sustaining," Manasa said. "The Washington Education Project receives about 20 percent of the grants to obtain and disburse the funds while maintaining records insuring that students have met their tutorial obligations."

Rekindling the vision

The program might have remained at this stage: a promising but vastly underfunded undertaking involving only one of the nation's 3,300 colleges and universities. However, history itself intervened, in the form of the Constitution Bicentennial Commission, established to seek appropriate ways to celebrate the 200th anniversary of the adoption of the U.S. Constitution — and chaired by former Chief Justice Burger.

"I was invited to testify at one of the sessions at which Senator Kennedy was present," Manasa recalled. "He spoke to me later and said someone on his staff would be calling me. The next thing I knew I was having lunch with college presidents at the Parker House and financial leaders at the Federal Reserve, and out of that came the programs at B.C., Stonehill, Endicott and Bunker Hill." Corporate supporters of the program in New England have included the Bank of Boston and Houghton Mifflin Co.

And other things were soon to follow: On April 22, 1987, Kennedy convened a hearing of the Senate Committee on Labor and Human Resources, exploring the establishment of a "Literacy Corps," and welcoming the testimony of former Chief Justice Burger.

The senator's remarks made very clear the central faith in education that binds Americans of both parties, best expressed in the words of Thomas Mann of Massachusetts, founder of the public school system:

"The common school is the greatest discovery ever made by man."

That discovery, unfortunately, has to be made by every generation, not least by this one. As Kennedy observed, "America ranks a disgraceful 49th in literacy among the 159 members of the United Nations."

But the vision can be rekindled. The senator concluded:

"It is fair to say that Mr. Manasa has been knocking on many doors for the better part of two decades, seeking support for his idea. If Chief Justice Burger and I have our way, this is one good idea that is about to come in from the cold. Mr. Manasa deserves credit both for his genius and his perseverance, and all

As Kennedy observed, "America ranks a disgraceful 49th in literacy among the 159 members of the United Nations."

of us have to wonder about a system that has kept this idea out in the cold for so long.

"Mr. Manasa wrote a book in 1984 about his project, a copy of which I have here. It is called *The Washington Education Project Inc. — or Where You Can Get an Education for Your Kid, Just Like the Rich People*." It may not be on the best-seller lists today, but it deserves to go on the shelves of every college bookstore in the country — and perhaps it will."

As of press time, the literacy bill is to be reported out of joint committee in March. A vote will probably be scheduled for April, at which time President Reagan may veto the entire trade bill, as he has threatened to do. However, Amanda Brown, counsel to Kennedy on the Senate Education and Labor Committee, reports that regardless of what happens, Kennedy is committed to ensuring that the literacy bill survives. □

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IBM PALS Teaches the ABCs

AMY BERMAR

In Lynn, Mass., a city 15 miles north of Boston confronted with closing factories, 24-year-old Ramona Paige has spent several weeks learning the alphabet and typing on the keyboard of an IBM-PC, sounding the letters as she spells actual words. Paige, who left high school at 17 when she became pregnant, has begun to read. Eventually, she hopes to write her life story.

Paige is enrolled in "The Principle of the Alphabetic Literacy System," known as "PALS." PALS was developed 18 years ago by John Henry Martin, a Florida educator, to teach illiterate adults the use of current technology in mastering basic literacy skills.

"I'll take a ride," Paige says, "and I can read the signs." Before PALS, Paige could not even pronounce the words.

Thousands of men and women like Paige are trying to master what most of us have taken for granted since childhood: the ability to read. According to the 1980 U.S. Census, at least 15 percent of New England's 12.3 million residents — more than 1.8 million people — cannot interpret the printed word. From resumes to restaurant menus, the illiterate find themselves stymied. When shopping, they may have trouble choosing products with the best value. Unable to read the directions on a prescription, they may endanger themselves or their children.

Paige describes her

frustration at failing to find employment. "They'll give me an application, and I can't read it, and I'll skip over something," she relates. "Then they'll say, 'How come you didn't fill this out?' and I'll say I didn't understand. Then they'll give me a look like, 'If she doesn't understand this, how can she do the job?'"

"It's the same everywhere," says Sondra Stein, deputy director of Massachusetts' Commonwealth Literacy Campaign, a state organization chartered last year to address the literacy issue. "A proportion of adults ranging from 20 to 30 percent don't have their high school diplomas. In urban areas the concentration is much greater."

The Lynn PALS program reaches this type of urban audience. The course, which is geared to anyone with an IQ above 75, lasts 100 hours and is designed to increase the student's reading ability by three grade levels in about 20 weeks. Students are expected to begin to write during the 11th week.

Adults learn reading and computing at the same time

In the first five weeks of the program, students learn to use a computer containing a laser disk with thousands of computer-screen images on an album-sized plate. One is a comic strip about two tribes of cave-dwelling people.

"It's a romantic fable designed to give them a glimmering of insight into what the alphabet is," said Martin, who developed PALS, in a telephone interview from his office near Fort Lauderdale. "I borrowed the story from Rudyard Kipling." In the story, the heroes realize that they could undermine their enemies' plot to kill the king if they could communicate a message in writing. Pictographs, which are gradually accompanied by printed words, mesh with an audio recording.

Pilot programs are underway in Atlanta, New York City, Columbus, Ohio, and Flint, Mich., as well as in prisons in Georgia and Virginia. The per-student cost is approximately \$200. The original version of the program, called "Writing to Read," has been used by more than 300,000 elementary school students since 1970. Currently, the Maine Legislature is considering a bill to implement the IBM PALS program in that state.

Gaining funding and recruiting students for literacy programs go hand-in-hand, says Martin. The Lynn program is jointly funded by the Massachusetts



The computer-based IBM Principle of the Alphabet Literacy System (PALS) presents lessons in simple, picture-book format.

Department of Education, the North Shore Private Industry Council and the Massachusetts Executive Office of Economic Affairs.

Illiteracy is an economic issue

"People are beginning to understand that this is an economic issue in a way they never did before," says Stein. "There's a very tight labor pool right now. Seventy-five percent of the people who will be

Thousands of men and women are trying to master what most of us have taken for granted since childhood: the ability to read.

working in the year 2000 are working right now. You can't just take the 'cream of the crop' anymore.



The PALS system, in use at the North Shore PALS Center in Lynn, provides both visual and voice interaction with the student.

"Not only are jobs shifting from smokestack and manufacturing industries to information and services," she continues, "but the industrial sector is feeling the effects of technology. Companies are having to reorganize production, with employees performing more complex jobs than previously."

Gerard D'Amico, former chair of the Massachusetts Senate Education Committee, now chairs the Commonwealth Literacy Campaign. "For too long, adult basic education has been a step-child of education," he says. "It has been treated like a soup kitchen, with no staff or resources. How do we improve the

quality of instruction, give teachers more support and get a better sense of what works and what doesn't?"

Stein feels that educators have a profound obligation to teach literacy. "Higher education has a central role to play," she says. "But we need to explore the field and take it seriously — find out how people learn to read and determine what works best. Colleges and universities can provide a way of legitimizing literacy

Not only are jobs shifting from smokestack industries to information and services, but the industrial sector is feeling the effects of technology.

education, by acting in partnership with the field programs already in place. That's the logical connection."

Theater brings tough issues into the classroom

"If a tutor works with a woman who's being beaten, what is the responsibility of the tutor?" asks Art Ellison, director of New Hampshire's adult basic education programs and an avowed advocate of educators' involvement in their students' lives.

Some educators, he predicts, would advise keeping an appropriate distance. But Ellison disagrees.

What transpires in the student's home affects what occurs in the classroom, and teachers can't ignore it, he says. To help raise academics' awareness of how "outside" factors such as housing, hunger and poverty can influence their students' performance, Ellison and two dozen other teachers in northern New England take their concerns on the road several times a year.

The Northern New England Social Change Improvisational Theater is composed of 25 educators from Maine, New Hampshire and Vermont. Each state also has its own, smaller theater group.

All perform skits covering social issues for gather-

ings of educators and other civic groups. They've been invited to national conferences as well as rotary groups, high schools, chambers of commerce and various schools' in-service training sessions. Almost always, they perform without charge.

"To many with backgrounds in education," says Ellison, "teaching is simply a matter of reading, writing and math. We're not in touch with all the things that are going on in people's lives."

The theater troupe, however, raises real-life problems in a dramatic setting.

"These are the issues people come into the classroom with," says Ellison. "They don't have enough money for food, or they're having trouble with welfare, or they can't get a good job. Their car won't start, or they're having trouble with their husband."

The troupes, he says, try to make teachers more aware of what goes on outside school. And they hope to raise the possibility that, in the future, these issues will be recognized as being present in the classroom.

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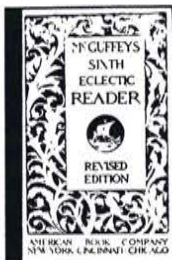
Higher Education Needs Higher Standards

KENNETH HOOKER

The ball I threw while playing in the park

Has yet to reach the ground.

Dylan Thomas



When we were dashing through the lower grades of elementary school in Lewisburg, Pa., usually without much inspiration, there was always one threat that gave us pause. A parent or sibling or teacher would warn us, "Wait 'til you get Mrs. Erdley . . . Wait 'til you get Denver Dyer." Mrs. Erdley was the Miss Dove of the high school English department, and she brooked no nonsense; you either knew what a gerund or a diphthong was or you didn't. If you didn't, as we all knew, the consequences would be serious. Mr. Dyer served up the mysteries of algebra and trig with an Erdlian rigidity. Between the two of them, they kept us on our toes.

At the time, we didn't find Mrs. Erdley kindly; in fact, it was only towards May of our final year when she was warning, "Just wait 'til you get to college," that she seemed to assume a human dimension at all. Upon mature reflection, we find that most of *The Lady of the Lake* has faded from memory. But not ligatures or compound adjectives. Even as President Eisenhower shattered the laws of grammar and usage, Mrs. Erdley told us that the leaders of the world had gotten there by applying sweat to copybook, and we believed her.

Of course, there were plenty of duffers around who could tell us it had already gone to hell . . . how they had *memorized* their logarithms

(we still don't believe it) and how they delivered the class address on Plautus in Latin.

Waiting for the bell to ring

Our kids have heard a different drummer, and they don't know where the line comes from. By the 1960s, education had lost its sting and bite, and the teachers were coddling their charges along the path to hell. The fashion of the day was absurdities such as teaching children to spell things *wrong* in the early grades, to give them a broad understanding of orthographic concepts. Later on, the newly y-clept "educators" reasoned, there would be time enough to learn it right. For a lot of these kids, the bell has yet to ring.

Now we have a problem of illiteracy. God almighty damn.

We think the most effective method of getting the lower educational system out of mediocrity is a pull from higher education.

It is a big problem, no matter how we define it — whether it is the illiteracy of the marginably employable person who can't make change, the relative illiteracy of the factory worker who can't adapt to working with computerized machinery, or the deadhead illiteracy of the lawyers and accountants who write the Internal Revenue Code. This is not just the pique of an editor parsing billboards and advertising jin-

gles. In one form or another, it is everywhere.

We are told that educators have come to regard this as a crisis. Their concerns are greeted with considerable cynicism, especially on our beat, which is the business beat. Major corporations, despairing of action within the system, have begun to establish "basic skills courses" for their illiterate employees. This is the kind of thing that goes under the current buzzphrase "enlightened self-interest." I suggest that the last two words are the operative ones; let the economy cool, let the job market become a buyer's market, and the marginably unemployable person loses the qualifying adjective.

The message from education to business is, give us some help and leave the teaching to us. This can be fairly credible when it is higher education talking to companies who understand that R&D departments are made, not born. But if the supplications are on behalf of *lower* education, the response is likely to be less enthusiastic. After all, it was education that created this mess.

This is basically a problem caused by the reduction of standards in the educational system. We argue that a lot of colleges are now doing the work that should have been done in grade and high schools; graduate schools are adopting curricula that formerly accompanied a B.A. And employers find that entry-level job candidates — with high school diplomas — made it through the system without mastering the three Rs — they can't spell, can't figure, can't punctuate, and can't put a coherent sentence on paper. Moreover, most

Kenneth Hooker is editor of *New England Business* magazine.

of these people who coasted through school without learning much also didn't learn the discipline of school-work; since they didn't have to work in school, they don't expect to work on the job.

Has the bell cracked? Are the schools, with faculties and administrators who were educated in the mad, gayer times of the 1960s capable of buckling down to the educational equivalent of Livy and Caesar? Can we return to the idea of a *requirement* that the better students understand dead languages — if for no other reason than to learn how to study something difficult?

We are not sanguine about the ability of the educational system to bootstrap itself to a braver performance. Improvement rarely comes without a push, or a pull. We think the most effective method of getting the lower educational system out of mediocrity is a pull from higher education. If colleges and universities were simply to demand a higher

By the 1960s, education had lost its sting and bite, and the teachers were coddling their charges along the path to hell.

level of accomplishment of its applicants, the grade and high schools would find themselves under the only pressure to which they are likely to react: this is the pressure from parents and school boards and voters who will insist that their children should qualify for a college education.

Raising the standards would also bring along the slower students, who may not learn to appreciate Astrophel and Stella, but can learn to read the newspaper. If we demanded it, all but a tiny percentage would at least learn the basics. But we are not demanding enough of the kids, or of their teachers. □

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Campus Worker Assistance Centers Are Making a Tough Transition Smoother

ELLIN ANDERSON

For New Englanders who are used to thinking of the change from a manufacturing to a service economy in terms of numbers, the retraining process of individual displaced workers adds a human dimension that underlines the complexity of the transition.

The Massachusetts' Worker Assistance Centers, funded by the state's Industrial Services Program, are helping laid-off factory workers move on to a wide variety of firms, including high-tech and insurance companies. The goal is to keep workers at 85 percent of their previous wage level. In some cases, Massachusetts workers have been able to upgrade their skills as well as their wages thanks to the centers' resources.

The centers provide the same services as the state Division of Employment Security, but make the retraining and placement process easier by tailoring those services to specific groups. While some of the centers meet the needs of the employees of one particular company, others provide services to workers laid off from several companies in a particular area of the state.

An unusual collaborative

What if labor, management, state and federal government and higher education teamed up to prepare displaced workers for a return to the labor market?

Through a unique collaborative effort, a Worker Assistance Center was created at Northern Essex Community College in Haverhill for 1,500 workers laid off from AT&T's Merrimack Valley Works, a manufacturing facility in North Andover. Operated by the Massachusetts Division of Employment Security, this particular center represents a joint effort of the administration of AT&T, Communications Workers of America (AT&T's employee union), the Industrial Services Program, the New Hampshire Jobs Training Council, the U.S. Department of Labor and NECCO.

In a statement to NECCO's board of trustees, College President John R. Dimitry said: "The relationship between the center, its staff and Northern Essex Community College continues to be in the best spirit of cooperation and outreach, which has become a hallmark of NECCO." By offering space to the center, NECCO is reaffirming the commu-

nity college mission, since most of the laid-off AT&T benchworkers live in the Greater Haverhill community NECCO serves.

As of November 1987, 627 workers had "graduated" from the NECCO center. Two special certificate programs are provided: electronic technician and office skills. Graduates of the electronic technician program have found jobs at firms including Data Precision, Analogic and Raytheon, representing a return to high-tech manufacturing at a greater level of skill. Those holding the certificate in office skills have been placed at companies including Bank of New England, Raytheon, Imtran, the Office of the Internal Revenue Service in Andover and the AT&T Worker Assistance Center itself.

Most of AT&T's laid-off benchworkers had been making an average of \$9.33. per hour; the average hourly wage obtained after placement through the center is \$8.05. In

this case, matching the workers' previous wages as closely as possible is more difficult because "they started at a higher salary," says AT&T Center Director Karen Richards. A popular employer, with excellent benefits, AT&T "pays significantly better than anyone else in the lower Merrimack Valley," Richards adds.



The Massachusetts Industrial Services Program helps displaced workers with education, job training and placement. Loans and capital are available to help troubled manufacturing firms get back on their feet.

Andy Swaine photo.

Ellin Anderson is associate editor of *Connection*.

Centers at Mount Wachusett and Bunker Hill

The Worker Assistance Center at Mount Wachusett Community College opened in April 1985. Companies whose displaced workers have been served include Van Hufel (steel tubing), Harrington and Richardson (firearms) and Furniture Craftsman in Gardner; H. Margolin (pocketbooks) and Anwelt Shoe in Fitchburg; and Foster-Grant (sunglasses) in Leominster.

Most workers who have participated at the Mount Wachusett center have maintained or exceeded their previous wage, with job placement at an average of \$7.56 per hour as of December 1987. The program is geared to older workers, and advisors are trained to work with adults. "The courses are set so that



When some Massachusetts factories closed, benchworkers turned to the state for help.

they're not thrown in with 18-year-old kids," says Center Director Karen Leighton. While the college has set up some special programs, workers can also enroll in Mount

Wachusett courses.

The Worker Assistance Center at Bunker Hill Community College was the first to open in Massachusetts, in April 1984. When the Revere Sugar Company in Charlestown closed, displaced workers looked to the state for help, and an emergency assistance center was set up at Bunker Hill to offer placement. "We've worked with many of the plant closings in our area," says Project Manager Rhonda Faloon. "Almost every month we are told by the Industrial Services Program that they've been contacted by an employer, or an employee has called and said, 'We've just had a massive layoff.'" Since 1984, the center at Bunker Hill has accommodated 1,500 displaced workers from 60 companies. The workers' average

One worker's story

Lillian Hurn of Haverhill, Mass., a 39-year-old single mother with a 15-year-old son, was working the day shift at the AT&T Merrimack Valley Works as an electronic assembler last winter when she was given four weeks' notice. Declining demand for AT&T telecommunications products had resulted in a layoff of 600 workers in February 1987; another 900 were to be let go in May.

"It's a very upsetting thing to go through, especially where I was bringing in the only income. I receive support for my son, but still, it's pretty scary," she says.

At an assembly, management told the uneasy employees that AT&T was setting up a Workers' Assistance Center at Northern Essex Community College. "They encouraged everyone to go and see what programs they had available," Hurn says.

Hurn decided to take steps to ensure that she would never be laid off again. At the time, she was attending classes at both AT&T and NECCO, with an eye towards obtaining a degree in materials management. "I decided I wanted something to give me a little bit of security," she says.

Hurn decided that the Associated Technical Institute in Woburn had the program that was right for her. She enrolled in a 30-week training program for computer technicians at ATI, through the Worker Assistance Center at NECCO. Her schooling was funded by the Massachusetts Division of Employment Security.

To her surprise, in October 1987 Hurn was called

back to work at AT&T as a computer technician. She worked the third shift at the Merrimack Valley Works while completing her last three weeks of school at ATI, and graduated with a computer technician's certificate in late November. Hurn plans to enroll in AT&T's two-year technician apprenticeship program, under the supervision of an AT&T senior technician. Hurn will also continue to work towards a dual degree in materials management and computer maintenance at NECCO.

For Hurn, the worst is over. "It was really rough financially," she reflects. "I had to give up my apartment and move in with friends. I'd never want to go through it again or put my son through it," she says.

One thing the center does not offer is counseling to help workers through the emotional hardship of the layoff. Hurn does not feel it is necessary.

"The idea is that you're going through school and finding something for yourself. You're not in an emotionally distraught situation. You know you're working towards something that's going to give you a positive outcome."

But when things were at their worst financially, Hurn admits, it did occur to her to drop out. She credits her son with giving her the emotional support she needed to pull through. "Many times I thought about quitting, and it was my son that kept me going. He kept saying: 'Ma, you know you're never going to have the job security you want unless you work at it, so we're just going to have to go without.'"

Ellin Anderson

hourly wage after placement was \$7.25 for FY 1986-87, and \$7.78 as of November 1987.

As Faloon explains: "Just the idea that we are located at a college and not a social service agency eliminates any stigma that might be attached." Staff members are sensitive to the fact that they are dealing with people who have never collected unemployment or dealt with a social service agency.

History and background

In 1984 Massachusetts Gov. Michael S. Dukakis appointed the Mature Industries Commission to examine Massachusetts' traditional industries. The commission produced a report that resulted in the Mature Industries Legislation, enacted in January 1985. This created the Industrial Services Program.

The function of the Industrial Services Program is twofold: to assist displaced workers, and to provide small to mid-sized manufacturing firms with financial and business assistance. "In the two years we've been in operation, we've dealt with over 200 companies and given out over \$4.4 million in loans, while leveraging an additional \$22 million," says Industrial Services Program Communications Manager Scott Simmons.

There are a total of 26 Worker Assistance Centers in Massachusetts. As of fiscal year 1987, the centers had assisted 10,881 workers, 77 percent of whom have been successfully placed in jobs and 92 percent of whom have retained the level of their previous wages, with an average of \$8.18 per hour for each worker placed.

In the face of intensive foreign competition, takeovers, automation and the economic slowdown some have predicted, plant closings and numbers of displaced workers in the manufacturing sector will increase. The Industrial Services Program is a realistic response to a tough problem, and the Worker Assistance Centers are helping to make the transition less painful for the people behind the statistics. □

What skills do employees need? Boston businesses respond

What basic skills must an employee possess to contribute fully to the workplace? How important are these skills to employers? What are businesses doing to enhance the basic skills of their employees? The Greater Boston Chamber of Commerce attempted to address these critical questions with its Basic Skills Survey of Boston-area businesses. The survey, results of which were released in October, asked members of the Greater Boston Chamber of Commerce to identify their employees' basic skills training needs.

Training to improve "job readiness," which can include punctuality, speech, attitudes, behavior and dress, was identified as the top basic skill need by businesses responding to the GBCC survey.

Other training needs identified as crucial were:

- **Computer literacy:** Sixty-one percent of the respondents identified this as the second highest need. Fifty-four percent have computers available, yet only 11 percent offer computer training.
- **Critical thinking/problem-solving skills:** While 60 percent of the respondents felt that these skills are essential, none offer training. One-hundred percent of construction company respondents indicated their employees lack such skills.
- **Basic writing skills:** Fifty-seven percent of all respondents and 83 percent of the finance and insurance companies flagged this skill as critical. Only 10 percent make remediation available.
- **Basic reading skills:** Fifty-four percent of all companies and 83 percent of finance, insurance and retail concerns indicated that basic reading skills are required.
- **Basic math:** Forty percent of all respondents and 83 percent of all finance companies reported that their employees lack proficiency in basic math.
- **High school diploma:** Thirty-four percent of the companies responding reported that they expect their employees to have graduated from high school.
- **English as a second language:** Thirty-three percent identified a need for training in this area. Eleven percent offer such a program.

Fifty percent of all respondents, including 84 percent of the major employers and half of the finance, insurance and service companies expressed interest in providing some type of skills training. Forty-three percent of the respondents and 68 percent of the major employers reported space available, yet only 10 percent believed courses are important enough to take place during the workday.

Only 105 of the chamber's 3,000 members responded to the survey. According to Joseph M. Cronin, chairman of the GBCC Education Committee, the low response indicates that there are still businesses that will not acknowledge the need for literacy and basic skills education. In announcing the survey results, Cronin also observed that many businesses believe that ignoring the problem of workplace literacy will make it go away. "What is likely to disappear are the businesses affected, not the problem," Cronin said.

Low Minority Graduation Rates in a Time of Labor Shortages

RICHARD G. KING

In the Fall/Winter 1987 issue of *Connection*, we reviewed in some detail the enrollment of minorities in New England's colleges and universities. Among the major findings of that earlier enrollment study was the fact that while more and more blacks and Hispanics are graduating from high school, the percentage of blacks going on to college is shrinking.

We are now at a point nationally where over 87 percent of whites aged 25 to 34 have graduated from high school or have received an equivalency certificate (*Statistical Abstract of the U.S.*, 1987, Table 200). The comparable figures for blacks and Hispanics aged 25 to 34 are 80 percent and 59 percent respectively. The comparable figures for whites, blacks and Hispanics

over 65 years of age are 51 percent, 22 percent and 21 percent respectively. The nation has come a long way in 40 years.

Both blacks and Hispanics are underrepresented in all categories of degrees conferred relative to their college enrollments.

But what of the pipeline into and out of higher education today?

Nationally, 38 percent of whites enter college; 23 percent complete college and 14 percent enter graduate or professional school. Among blacks, the figures are 29 percent, 12 percent and 8 percent, respectively; and, among Hispanics, 22 percent, 7 percent and 4 percent (Thomas Hilton, "Pay Attention to Minorities," *ETS Developments*, Autumn 1986).

Since the black and Hispanic cohorts are small to be-

Richard G. King is a senior fellow at NEBHE.

Table 1

Comparison of Minority Populations in New England, 1980; Minority Enrollments in Higher Education, 1984; and Undergraduate Degrees Conferred to Minorities, 1984-85;

Blacks/Hispanics: Percentages of Population, Enrollments, Recipients of Undergraduate Degrees

	Black % of Population	Black % of Enrollments	% Degrees Conferred to Blacks	Hispanic % of Population	Hispanic % of Enrollments	% Degrees Conferred to Hispanics
U.S.	11.7	8.5	5.6	6.1	4.2	2.5
N.E.	3.8	3.2	2.4	2.4	1.6	1.3
Conn.	7.0	4.4	2.9	3.8	1.9	1.3
Mass.	3.9	3.5	2.3	2.4	1.8	1.6
R.I.	3.0	2.9	2.7	2.1	1.4	.6
Maine	.3	.5	1.1	.4	.2	—
N.H.	.4	1.2	1.9	.6	.7	.8
Vt.	.2	.7	1.1	.6	.5	.7

Sources: Center for Statistics, U.S. Office for Educational Research and Improvement; *Statistical Abstract of the United States*, 1987. NEBHE analysis, December 1987.

gin with, 12 percent and 6 percent of the total population in the nation and only 3.8 percent and 2.4 percent respectively in New England, the actual number of graduates is very small. First, a comparison of enrollment and graduation rates (see Table 1).

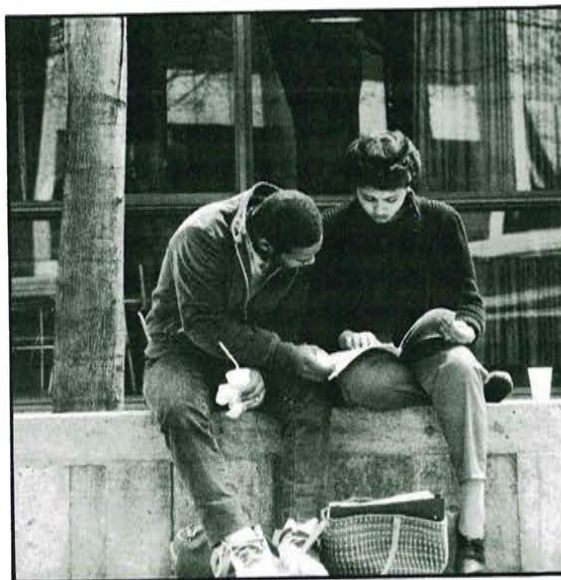
Northern New England is enrolling more than its share of both blacks and Hispanics, but the numbers are very small and enrollments are predominantly in independent colleges. These colleges, incidentally, have relatively higher graduation rates. Connecticut is enrolling the largest proportion of both blacks and Hispanics, as it should, having the largest population of both minorities. In all states but Connecticut, it is the independent, not the public, institutions that have enrolled the largest number and percentage of both minorities.

Only the public state system of Connecticut and, to a lesser extent, that of Rhode Island are apparently "pulling their weight." Conversely, the independent colleges of all states but Connecticut are doing more than their share (see Table 2).

Access to higher education for Hispanics as measured by comparing percentage of enrollments to percentage of population (1.6/2.4 or .67) is lower than that of blacks (3.2/3.8 or .84). On the other hand, the undergraduate graduation rate for Hispanics as measured by percent of degrees conferred to percentage enrollments (1.3/1.6 or .81) is slightly higher than that (2.4/3.2 or .75) of blacks. Blacks are, however, well represented in first professional degrees awarded.

To get an exact picture of reten-

tion, one really needs a long-term, longitudinal study of an entering class of freshmen. Suffice it to say that the graduation rates of both groups are below the average and retention is therefore an issue. Overall graduation rates relative to enrollments are better in the northern New England states, but the numbers are much smaller.



High-tech degree graduates crucial

Of special interest to New England during its high-tech revolution are graduation rates in science and engineering. Table 3 summarizes the number and percentage of degrees in mathematics, physical science, engineering, and computer science at the undergraduate and graduate levels awarded to blacks and Hispanics in 1984-85. Of the 73

graduate degrees awarded to blacks and Hispanics in these fields regionwide during 1984-85 (out of a total of 3,802 awarded), all but seven were awarded by institutions in Connecticut and Massachusetts.

Both blacks and Hispanics are underrepresented in all categories of degrees conferred relative to their college enrollments. This is most notably so in the case

of degrees awarded in the fields of mathematics, science and engineering.

The underrepresentation in science and engineering is particularly disturbing in a region dependent not only on high-tech industry itself but on the creative application of high-technologies to older-line industries and the service sector. Also, the underrepresentation comes at a time when New England is facing a sharp decline in numbers of high school graduates.

Table 2

Comparison in Percentage of Total, Black and Hispanic Enrollments in Public Institutions of Higher Education, 1984

	% of Total Enrollments in Public Inst.	% of Blacks Enrolled in Public Inst.	% of Hispanics Enrolled in Public Inst.
U.S.	77	78	84
N.E.	51	48	47
Conn.	62	72	69
Mass.	44	38	40
R.I.	50	49	44
Maine	63	24	33
N.H.	52	15	14
Vt.	59	35	48

Source: Center for Statistics, U.S. Office for Educational Research and Improvement. NEBHE analysis, December 1987.

Table 3
Degrees Conferred in New England, 1984-85

	Total Numbers	Degrees to Blacks		Degrees to Hispanics	
		Number	% of Total	Number	% of Total
Bachelor's					
All Fields	73,348	1,758	2.4	978	1.3
Mathematics	1,451	22	1.5	19	1.3
Physical Science	1,764	38	2.2	10	.6
Engineering	6,084	85	1.4	62	1.0
Computer Science	2,533	40	1.6	26	1.0
Master's					
All Fields	24,490	495	2.0	339	1.4
Mathematics	258	2	.8	3	1.2
Physical Science	402	—	—	6	1.5
Engineering	1,893	20	1.1	19	1.0
Computer Science	466	3	.6	4	.9
Doctor's					
All Fields	2,546	54	2.1	57	2.2
Mathematics	86	—	—	—	—
Physical Science	371	2	.5	7	1.9
Engineering	307	3	1.0	3	1.0
Computer Science	19	—	—	1	5.3

Note: New England has 5.3 percent of the nation's population; 3.8 percent of New England's population is black and 2.4 percent is Hispanic. 3.2 percent of New England's enrollment in higher education are blacks and 1.6 percent, Hispanics.

Sources: Center for Statistics, U.S. Office for Educational Research and Improvement; *Statistical Abstract of the United States, 1987*. NEBHE Analysis, December 1987

At the same time, New England is experiencing a serious labor shortage. Five of the six New England states now stand among the six states nationally with the lowest unemployment rates. All are at or well below the 4-percent level of unemployment that is regarded by economists as "full employment."

Clearly, we need the best possible education for all our citizens, but we should also make a special effort for those groups least well represented in our most needed fields. New and more compelling arguments than social justice alone must now be made for increasing access to higher education and graduation rates

Northern New England is enrolling more than its population share of both blacks and Hispanics, but the numbers are very small and enrollments are predominantly in independent colleges.

of minorities. The arguments are educational (the increasingly successful performance of minorities in higher education in the past generation); demographic (the rapid demographic increases of minorities in the U.S. population as a whole, the projected decline in high school graduates and projected increase in retirees); and economic (the need we have as a nation for enlightened, technically competent persons of all races to meet competitive challenges at home and abroad). It has always been "right" to admit and retain more minorities in higher education; now it is necessary. □

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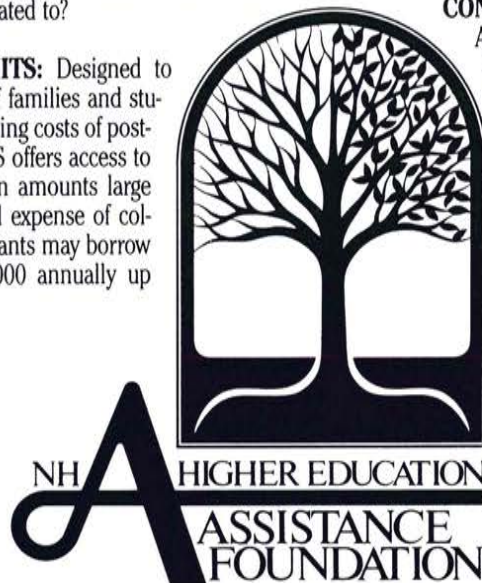
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CON

The "Miracle" was Manufacturing

R.D. NORTON

"Was New England's 'economic miracle' postindustrial? Absolutely not," says R.D. Norton, Sarkisian Professor of Business Economics at Bryant College in Smithfield, R.I. "Service activities were vital to the region's comeback, but indirectly, as a catalyst contributing to the revitalization of the region's manufacturing sector."

In the fall-winter 1987 issue of Connection: New England's Journal of Higher Education and Economic Development, New England Business magazine Editor Kenneth Hooker argued in favor of the "hard dollar," urging New Englanders not to stake the region's prosperity on the "soft dollar" service industries at the expense of our dwindling manufacturing base. Here, Norton shows that knowledge-intensive, high-tech, export-related manufacturing, strengthened by higher education and venture capital activities, was the driveshaft in New England's radical economic turnaround. Further, Norton suggests that New England's economic resurgence may have passed its peak. The following is excerpted from Norton's paper, "The Role of Services and Manufacturing in New England's Economic Resurgence," first published in New England Economic Indicators, a quarterly publication of the Federal Reserve Bank of Boston, in October 1987.

Two contrasting stories mark the economic revival of the Northeast during the 1980s. Each reveals a different facet of the service sector's role in economic development. One, which might be called the Manhattan Effect, hinges on the role of export services, as illustrated by the clustering of finance and administration on Wall Street and in midtown Manhattan. A second, almost opposite scenario has been played out in New England.

New England's turnaround has been breathtakingly industrial in character — not postindustrial, and not at all like the Manhattan Effect. Nonetheless, such elite services as higher education and venture capital have been strategically central to the region's reindustrialization.

Postindustrial New England?

The American economy has long been declared postindustrial. On the surface, to be sure, job growth since 1969 seems postindustrial for both New England and the nation, since both have registered a

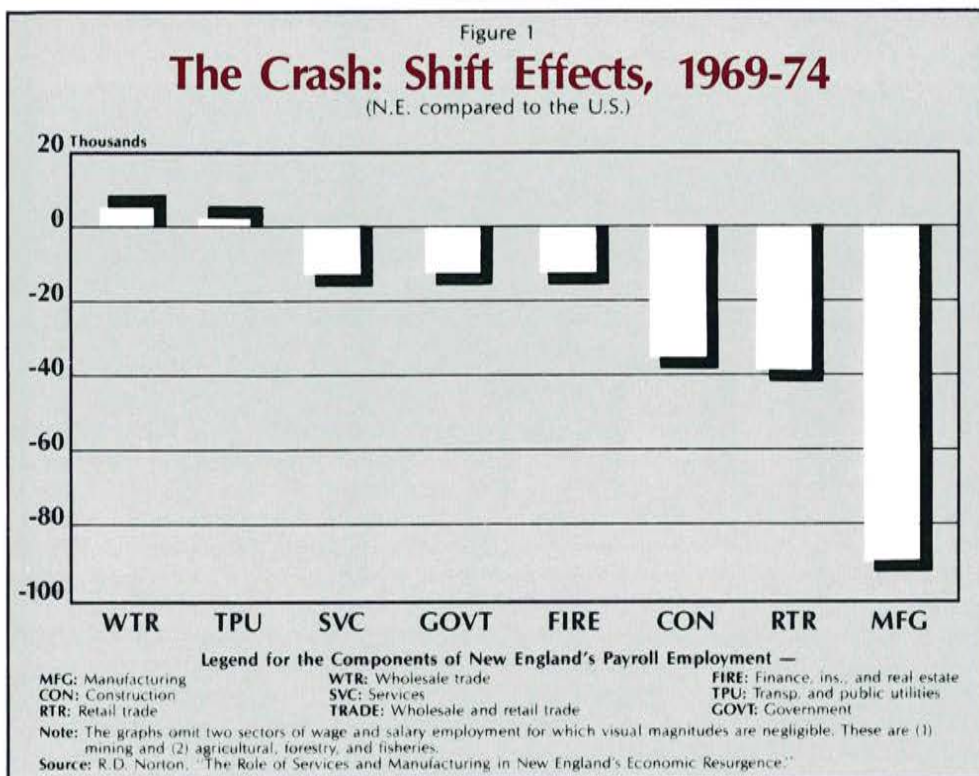
slight decline in manufacturing jobs, with most job growth occurring in trade and services.

Yet this highly aggregated comparison is misleading as a guide to New England's recent economic history. In fact, aggregate changes hide a tumultuous sequence of four distinct sub-periods, each clearly different from the others. These are: (1) the "crash" from 1969 to 1974, when the region lost so many jobs that its unemployment rate shot up to levels unmatched elsewhere in the nation; (2) recovery via high-tech reindustrialization since 1974; (3) a "golden age" of economic prosperity from 1979 to 1984; and (4) the current "afterglow," marked by rapid job losses in manufacturing and a descent to or below national average rates of overall job growth since 1984.

It was the manufacturing sector that sharply outperformed any of the region's other sectors relative to U.S. rates of job creation from 1974 to 1979.

The Crash, 1969-1974

Consider first the crash, as illustrated in Figure 1. From 1969 to 1974, New England fell below the U.S. employment growth rate in the manufacturing sector by nearly 100,000 jobs. As population



the major employment sectors, the region's manufacturing base far outperformed the national average. The main reason for this shift was the stellar export performance of the Route 128 complex in Greater Boston.

To repeat, it was the manufacturing sector that sharply outperformed any of the region's other sectors relative to U.S. rates of job creation from 1974 to 1979. The service sector just matched the national rate, but trade and FIRE lagged. The worst relative performer, with a job deficit of 50,000, was construction; houses

and income growth stagnated, retail job performance also lagged far behind the national rate; so did the service sector and finance, insurance and real estate, though not as dramatically.

This was the setting in which New England's unemployment rates soared to the highest level in the nation.

It represented a bottoming out after a half-century of industrial stagnation. And it was spearheaded by the accelerating decline of the region's mature manufacturing industries.

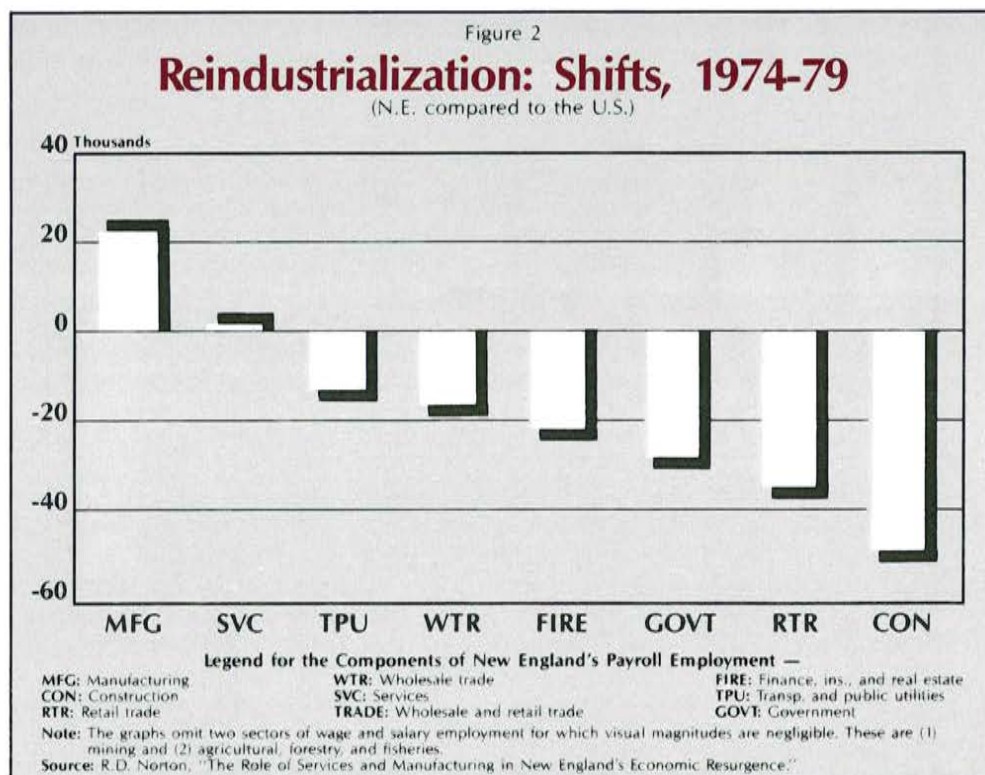
The fall of the New England economy in the early to mid-1970s thus reflected a crisis within the manufacturing sector. Such bastions of elite or producers' services as FIRE failed to compensate for the region's deindustrialization.

High-Tech Reindustrialization: 1974-1979

Figure 2 gets to the heart of the "New England Economic Miracle," the resurgence of the region's manufacturing sector in the late 1970s. Alone among all

were not being built, and the office boom triggered by the 1981 federal tax act was yet to come.

In New England, with its population growth below the national average and its fully served regional market, these large positive shifts in the manufacturing sector recorded since 1974 are signs of production for the



national and world markets: that is, exports. The export of high-tech manufacturing goods single-handedly accounted for the New England turnaround. Job creation in non-manufacturing lagged behind in New England in the late 1970s.

The Golden Age, 1979-1984

In the early 1980s, as the United States was mired in back-to-back recessions, New England outperformed the nation across the board. In the wake of cutbacks after the passage of Massachusetts' Proposition 2 1/2, government employment was the only sector in the region that continued to lag far behind the national trend.

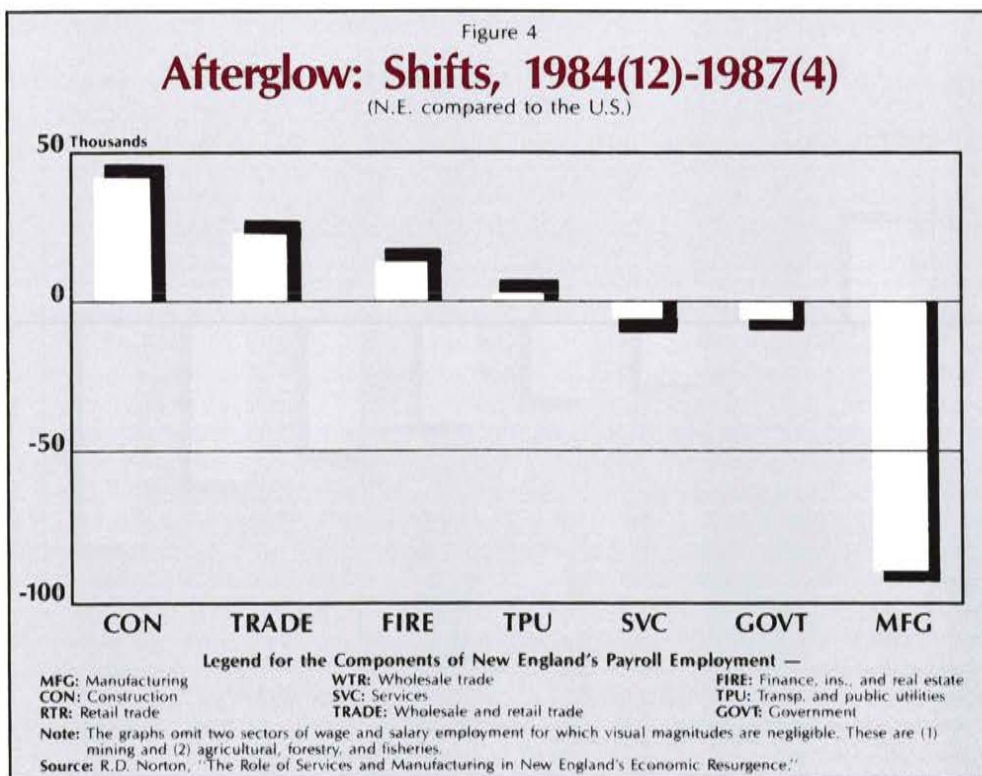
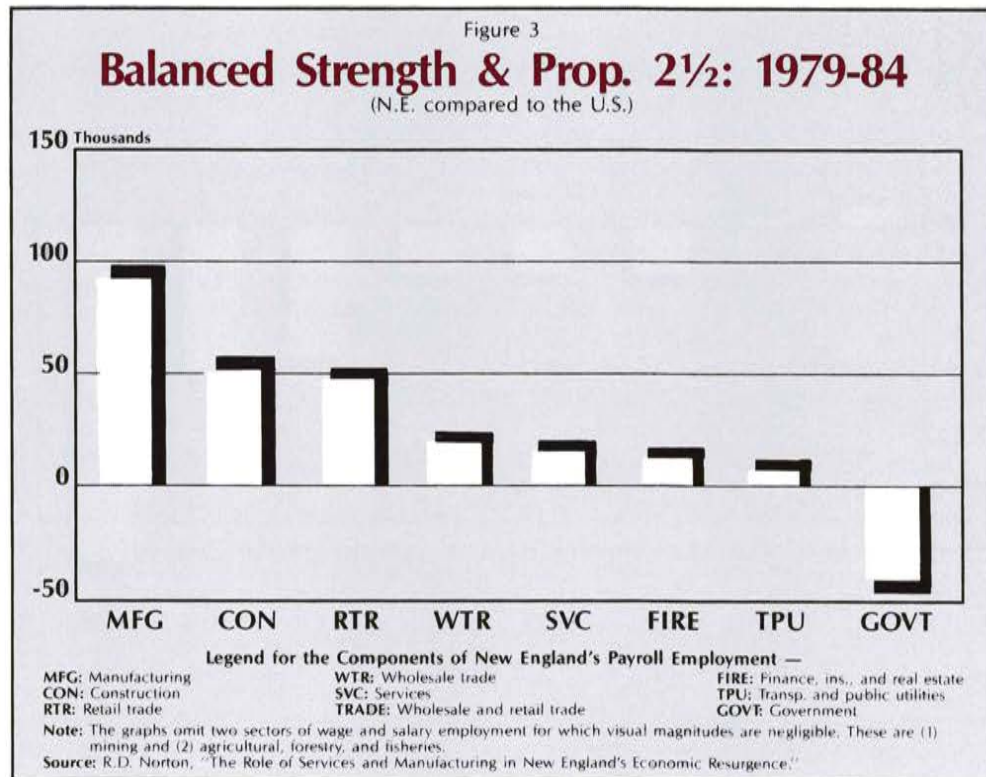
Having already lost so much employment in its older industries, including leather, textiles, and machine tools manufacturing, New England now proved less vulnerable to recession than the nation as a whole. Spurred

by the Reagan administration's defense build-up, New England's high-tech exporters surged forward. Manufacturing jobs in the region exceeded the national rate by 90,000 from 1979 to 1984 (see Figure 3). By contrast, in the late 1970s manufacturing jobs in the region outpaced the national rate by just over 20,000 jobs.

Aided by the favorable confluence of the 1981 tax act, high demand for new office space and soaring house prices, the region's construction sector outpaced the national rate by 50,000 jobs during this period. Despite its slow population growth rate, New England's retail trade jobs outpaced the national rate by almost as much.

And where were the producers' or export services in all this? The service sector and FIRE were lost in the crowd, greatly overshadowed by the growing manufacturing sector. Put another way, the region's producers' and export services performed slightly better than the national average — but not much.

Conclusion? During



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the golden age of its economic comeback, New England continued to be paced by manufacturing. New England manufacturing, outperforming the manufacturing sector of the rest of the United States, was joined belatedly by other sectors, in a pattern that suggests a lagged response between service activities and manufacturing exports.

Afterglow: Since 1984

Since 1984 New England's manufacturing employment has plummeted, reflecting shifts of production abroad by New England firms and a lessening of world demand for high-tech goods. From December 1984 to April 1987, New England's manufacturing job count fell by 7.4 percent, from above 1.5 million to below 1.4 million. By comparison, the U.S. rate of decrease was only 1.4 percent. New England's stellar industrial job performance thus came to an abrupt halt in late 1984 (Figure 4). Since November 1982, total job growth in the region has slackened to no more than the U.S. rate. And from November 1982 to September 1986, New England's total employment had fallen to a rate exactly equal to that of the United States.

Then why are unemployment rates so low? Blessed by the lowest current unemployment rate of any industrial state, Massachusetts, with nearly half the region's

people and jobs, provides an answer. As bank economist Frederick S. Breimyer observed in 1986, "Massachusetts' success is not based on recent employment developments. Rather, the economy continues to enjoy the favorable legacy that dates prior to year-end 1984, and is benefited by the traditional slow growth, indeed almost no growth, in the labor force."

In sum, it seems clear that the region's dramatic turnaround was powered not by the service sector, as many believe, but by an export surge in manufacturing. To be sure, such elite services as venture capital and higher education helped usher in the high-tech export industries — and the export goods themselves were "knowledge-intensive" and often embodied input from information workers in a manner distinct from more traditional manufacturing goods. But the key to New England's economic turnaround remained manufacturing.

Whether the region's manufacturing sector can regain its former prowess is thus a central question for New England's economic future. The labor shortages besetting the region raise real doubts on this score. While a falling dollar may generate several million new manufacturing jobs in the United States, New England's labor shortages may send manufacturers elsewhere. If so, for better or for worse, New England will at last be truly postindustrial. □

Tracking New England's GNP reveals the foundations of prosperity

A recent study by the Federal Reserve Bank of Boston, *Gross State Product, New England, 1969-85*, reports that gross regional product for New England increased, in real terms, 5.3 percent in 1985, almost double the U.S. increase of 2.7 percent. Within New England, real growth rates ranged from 3.1 percent in Rhode Island to a high of 9.9 percent in New Hampshire. The 16-year study also reports the region's GRP increased 2.6 percent from 1969 to 1985. Total gross product for the nation grew 2.5 percent over that same period.

The 1985 figures show New England outperforming the United States in manufacturing as well as in most non-manufacturing categories. Trade and construction output expanded notably, with 7.4 percent increases in both categories. Manufacturing gross product in New England outpaced the nation due primarily to a greater increase in durable goods production in 1985 (8.3 percent). An expansion in non-electrical machinery production in Connecticut, Massachusetts and New Hampshire contributed significantly to the overall increase.

Manufacturing's contribution to New England's gross product in 1985 was greater than that of the nation (24.6 percent vs. 21.7 percent). The share of finance, insurance and real estate was also greater than the U.S. percentages.

During the 1969-85 period, Connecticut, Maine and New Hampshire all grew more quickly than the nation. Vermont's average growth equalled that of the United States. Massachusetts and Rhode Island, however, grew

more slowly with average yearly increases of 2.4 and 1.9 percent respectively.

The Fed's report states that New England's higher rate of growth was due in part to gains in the manufacturing sector with average production increases of 3.1 percent annually as compared to the national annual average of 2.5 percent. Also notable is New England's 3.7 percent growth in durable goods production. The report attributes the swift rise to gains in high-tech industries, namely, machinery excluding electrical, electrical equipment and instruments. In New England this category grew an average of 6.9 percent per year compared to U.S. growth of 6 percent. Electrical and electronic equipment industries grew an average of 6.5 percent per year in New England and 4.9 percent per year nationally.

The report also notes that while the United States and New England 1969-85 growth rates are similar, 2.5 percent and 2.6 percent respectively, the patterns of growth differ greatly. The 1974-75 recession took a more severe toll on New England as real product fell 4.6 percent compared to 1.8 percent in the nation. However, beginning in 1979, New England production began to outpace national production. During the 1980 and 1981-82 recessions New England's gross product continued to expand while that of the United States faltered. New England gross regional product grew faster than that of the nation from 1982-1985.



PEOPLE

Presidential Activity

Matina Horner's decision to conclude her 17-year tenure as president of Radcliffe College in June 1989 was announced in January. In 1977, under Horner's guidance, Radcliffe was established as an independent, self-sustaining institution whose coordinate relationship with Harvard University permits Radcliffe students access to all Harvard resources. During her tenure, the 1:4 ratio of Radcliffe to



Matina Horner, President, Radcliffe College

Harvard students was replaced with a 1:2.5 ratio, and in 1975, with an equal access admissions policy. In her statement to the college's board of trustees, Horner said: "Radcliffe now has a very solid foundation for continuing to advance the college's mission and to promote opportunities for women in our changing society and increasingly complex and interdependent world." After her resignation, Horner will devote herself to research on the consequences of social change. A presidential search committee will be chaired by Nancy-Beth Scheerr, vice chairman of Radcliffe's board of trustees.

University of Hartford President **Stephen Joel Trachtenberg** will assume the presidency of George Washington University this summer. Trachtenberg "will be leaving

a University of Hartford that's on a roll," says Stillman Brown, chairman of the university's board of regents. "In his 11 years here, he made a

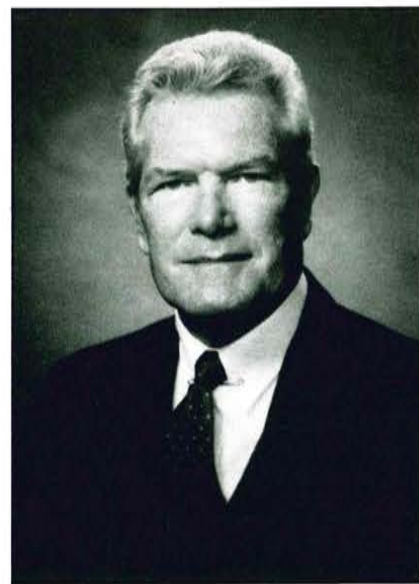


Stephen Joel Trachtenberg
President, University of Hartford

good University of Hartford better and gave it a higher public profile on the regional and national scene." During Trachtenberg's tenure the university's endowment has increased from approximately \$7 million to \$21 million, and campus construction has undergone unprecedented growth, with a new \$20.7 million university center scheduled

to open this fall. Trachtenberg is a graduate of Columbia, Yale and Harvard universities. He is president of the Connecticut Council on Higher Education, chairman of the Connecticut Conference of Independent Colleges, has served on the board of the American Council on Education and is currently a Connecticut delegate to the New England Board of Higher Education.

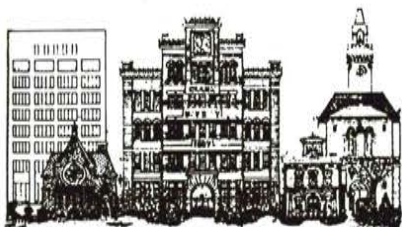
Salem State College President **James T. Amsler**, who is on sabbat-



James T. Amsler, President,
Salem State College



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ical for the spring 1988 semester, will retire in June. Amsler was formerly chairman of the education department at Salem State, and, prior to that, dean of students. He is also past associate director of the Division of Massachusetts State Colleges, and former president of North Adams State College. Amsler is active in professional and community organizations, with memberships including the American Association of Higher Education, the American Association of Colleges of Teacher Education and the Salem Chamber of Commerce. From 1980 to 1985 he was Massachusetts state representative to the American Association of State Colleges and Universities. He is also a retired naval officer. Amsler received his bachelor's degree in education from Fitchburg State College, his master's degree from Harvard University and his doctorate from Boston University.

Selection of a new president for the college was still underway as of January 1988. A selection committee headed by Lee Harrington, chairman of Salem State's board of trustees, produced four finalists, who are now under consideration by the trustees pending a decision in late February. They are: Marvin Scott, president of St. Paul College in Lawrenceville, Va.; Rolando Bonachea, acting president of Duquesne University in Pittsburgh; Leslie Jacobson, graduate dean of Brooklyn College; and Donald Castro, acting associate vice president for graduate studies, research and international programs at California State University in Northridge.

Loring E. Hart has accepted the presidency of Saint Joseph's College in North Windham, Maine, for a three-year term beginning July 1, 1988. For 25 years, up until 1982, Hart held a series of positions at Norwich University in Vermont, serving as professor of English, dean, vice president and president. An alumnus of Bowdoin College, Hart subsequently directed Bowdoin's \$56-million capital campaign, then served as associate director of

the alumni phase of the campaign. Hart holds a master of arts degree from the University of Miami and a PhD in English from Harvard University. He has also served as chairman of the Vermont delegation to the New England Board of Higher Education, and as chairman of the Vermont Association of Independent Colleges.

J. Michael Orenduff, a native of Houston, Texas, is the new president of the University of Maine at Farmington. Orenduff is former vice president for academic affairs and professor of philosophy at West Texas State University. A graduate of the University of Texas at Austin, he holds a master's degree from the University of New Mexico and a doctorate from Tulane University. "He seems almost made-to-order for the Farmington campus," says Robert L. Woodbury, University of Maine System chancellor. Orenduff succeeds Norman C. Crawford Jr., Farmington's interim president since July 1987.

William T. Slater of Oregon will become the second president of Charter Oak College in Farmington, Conn., this month. The college, founded in 1973, provides no instruction but awards bachelor's and associate's degrees on the basis of examinations and transferred credit. Slater has also been named executive director of the Connecticut Board for State Academic Awards. He was formerly vice president for university relations and a professor of journalism at Oregon State University. Slater, a graduate of Tufts University, holds master's and doctoral degrees from Stanford University. He succeeds Bernard Shea, Charter Oak's founding president.

In February **Katherine H. Sloan** became the sixth president of Greenfield Community College, Greenfield, Mass. She had been dean of academic affairs at Quinsigamond Community College in Worcester for the past three years. Sloan holds a doctorate in English

Margaret Chase Smith - Happy Birthday

In December the New England Board of Higher Education was honored to share in the birthday celebration for Sen. Margaret Chase Smith of Skowhegan, Maine. NEBHE, on behalf of the region's more than 260 colleges and universities, formally thanked Sen. Smith with the award of a special citation. She is the recipient of 90 honorary degrees for her life-long defense of academic freedom and deep commitment to equal educational opportunity. Largely through donations, Sen. Smith established the Margaret Chase Smith Library Center in Skowhegan, Maine, which contains her papers and related material on Maine legislative issues. In a recent letter to NEBHE President John C. Hoy, Sen. Smith wrote of her hopes that "our younger people will come to realize that education is something that cannot be taken away from them."

Connection thanks the Portland Press Herald for their permission to reprint the following editorial, dated Dec. 14, 1987.

It's been fully 15 years since Margaret Chase Smith left political life. Yet the standards she set for herself in terms of honesty and honor remain the benchmark for today's public servants.

She was, through a public life that spanned decades, continually governed by what Coleridge termed "the pulse of reason" — her conscience. That sense of conscience, first revealed to the nation nearly 40 years ago when she became among the first to express revulsion at McCarthyism, became as familiar as her single red rose.

It was not by happenstance that Maine voters made her the first woman ever to be elected to both the U.S. House (1940) and Senate (1948). They long ago recognized her honesty, courage, dedication and devotion to purpose. Over nearly a quarter of a century, the rest of the nation came to appreciate those same qualities as she rose to become one of a handful of the Senate's most influen-

tial and powerful members. And in all that time she never once broke her word. It might be possible to disagree with her, but her credibility was unassailable.

Her leadership in a male-dominated political world — in 1964 she became the first woman to seek the presidential nomination of a major political party — paved the way for the entry of many women into national politics. And she did it her way, confident that her performance would be judged without regard to her sex.

Eventually, her age and a youthful opponent ended her political career in 1972. She accepted defeat with the same quiet dignity that had marked her victories and retired to her Skowhegan home to write and reflect.

Now, as "The Lady from Maine" celebrates her 90th birthday, all Maine wishes her the best. She is truly a state treasure.



Sen. Margaret Chase Smith in the living room of her Skowhegan home.

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education and literature from Carnegie-Mellon University in Pittsburgh. She succeeds Theodore L. Provo.

Charles H. Bechtold, a higher education financing expert and former state representative, was recently named to the Rhode Island Board of Governors for Higher Education by Gov. Edward D. DiPrete. Bechtold has been senior program officer for student financial assistance and program officer of student guaranteed loans for the New England states. He is a former member of the Rhode Island House and Senate, and of the New England Board of Higher Education.

This fall Becker Junior College held ceremonies for the inauguration of **Arnold C. Weller Jr.** as the college's seventh president. Weller succeeded Lloyd H. Van Buskirk, who retired in the summer of 1987. Weller joined the Becker faculty in 1964, subsequently serving as English department chairman, dean of instruction, dean of the college and vice president. Weller is a member

Winfield "Bud" Knopf retired in January after serving as vice president for administration and finance at the New England Board of Higher Education for 10 years. Knopf has been named a NEBHE senior fellow. Earlier in his career, Knopf served as an associate dean



Winfield "Bud" Knopf

at the Harvard Business School and associate comptroller at Harvard University. He is a former director of the American Speech and Hearing Association. Knopf was the founding co-director of Harvard's Institute for Educational Management, and is a retired U.S. naval officer.

of the finance commission of the New England Association of Schools and Colleges, and serves on NEASC's Commission of Vocational, Career and Technical Institutions.

Former Dartmouth College President **David McLaughlin** is now chairman of the Aspen Institute for Humanistic Studies in Aspen, Colo. The institute is the site of brief or extended seminars on such topics as corporate leadership, economics and international relations. The Aspen Institute has another center near Washington, D.C., and has conducted symposia in West Germany, Italy and France. McLaughlin replaced Robert Anderson, former chairman of Arco, as chairman of the institute.

CORRECTIONS

In the Summer/Fall 1987 *Connection*, incorrect information about research support from federal sources at the University of Massachusetts was given. The figure of \$39.3 million in fiscal year 1987 was cited, whereas the actual level of support in that year reached \$55.2 million, representing a 286 percent gain over the reported 1977 figure.

Carlos Torre, assistant dean of Yale College, was not included in the list of members of NEBHE's Task Force on Minority Student Enrollment and Retention in New England, published in the Fall/Winter 1987 *Connection*. The editors regret this omission. Torre has participated in the work of the task force since its organization in the fall of 1986.

The editors of *Connection* regret that Ilze Krisst, special projects coordinator for graduate education and research at the University of Connecticut, was not credited as co-author of "The Policy of University Research Parks." The article appeared in the Fall/Winter 1987 issue of *Connection*, under the byline of UConn President John T. Casteen III only.

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Whose Default Is It?

JAKE BALDWIN

Did the federal government create the problem? Have guarantee agencies totally ignored the situation? Are lending institutions unconcerned because the loans are guaranteed? Are all borrowers who default on their Guaranteed Student Loans irresponsible deadbeats who welsh on their obligations?

With the recent release of default statistics from two studies — the Federal Funds Information for States report and an internal audit by the U.S. Department of Education — the culprits now appear to be the educational institutions themselves. Each report focuses on individual default rates at thousands of schools across the country. The Federal Funds Information for States study pinpoints 427 postsecondary institutions with default rates in excess of 50 percent and identifies more than a third with default rates of more than 20 percent. Because of the conclusions drawn from these reports and their subsequent airing in the press, a finger is being pointed and blame attached to one party for a complex problem comprised of many separate issues.

Faulty findings brew trouble

One needs to make two overall observations regarding the basic information generated. First, the methodology used in both instances, specifically the data selection and rate calculations, was, in my opinion, seriously flawed. According to reports, even the inspector general for the U.S. Department of Education has strongly recommended that its data *not* be used to analyze GSL defaults because of omitted, incomplete and inaccurate information. Yet both groups used this source exclusively. At no time were guarantee agencies, charged with the primary responsibility for administering the GSLP, ever contacted. I find it in-

The Default Dilemma: Loan Officers Respond

conceivable that a prime source of current, reliable data — the guarantee agency — was totally excluded from any input.

Irrespective of the reliability of the information, the actual calculations used to formulate the default rates greatly misrepresent the problem. On the one hand, the Federal

The Federal Funds Information for States calculations appear to overstate New Hampshire's default rate by more than 50 percent.

Funds Information for States study chose to compare *net* loan dollars with *gross* default dollars, while the Department of Education audit looked at the number of borrowers entering repayment vs. the number in default for a given time period. One can hardly expect to gain a meaningful perspective on the situation when numbers with questionable relevance are used to establish

the primary findings. Strictly from the standpoint of my own state, for example, the Federal Funds Information for States calculations appear to overstate New Hampshire's default rate by more than 50 percent.

Colleges pronounced guilty without a fair trial

Even if the figures could somehow be construed as meaningful, the conclusions drawn from them and the resulting punitive measures to be instituted by the Department of Education are misguided and display a definite lack of insight into the problem. Until now, colleges have been solely responsible for verifying program enrollment and costs, determining eligibility and, most recently, exit counseling. All of these take place either before or during students' attendance. Now these institutions, which didn't even know they had a default rate until recently, are being threatened with expulsion from student aid programs unless they become accountable for the actions of former students.

Now, more than ever, we must take control of the problem without

Jake Baldwin is marketing and information director for the New Hampshire Higher Education Assistance Foundation.

allowing ourselves to get mired in the hysteria it has created. Yes, there is indeed a problem. To effectively remedy it, however, two major factors need to be addressed. First, "default" must be uniformly and accurately defined, and then *all* of us — federal, state and private agencies, lending institutions, and schools — must work collectively to control it.

All parties are responsible

By accurate definition, I mean a universally agreed-upon method for calculating default rates. As is evidenced by the two studies in question, one utilizing dollars and the other, numbers of loans, current approaches vary widely and produce different results. If program cost is the issue (which it is, judging by Education Secretary William Bennett's latest tirade), it would only make sense to talk about defaults in terms of dollars. In doing

so, net figures would give the most accurate picture, but what is net to one group is not necessarily net to another. Should rate computations be made on the basis of cumulative or annual numbers? Once established, a uniform formula would, at least, enable everyone to view the problem from the same perspective.

Over the years a pattern has emerged, stimulated for the most part by forces in Washington, where one or another of the various entities involved in the GSLP has come under intense scrutiny for the role it has or hasn't played in the default situation. First, the finger was pointed at the guarantee agencies for not paying attention to the problem; then at the banks, which weren't making a concerted effort to keep student loans from going into default; and now it's the schools' turn. In addition, each party has had a tendency to blame the other. This approach is totally counterproduc-

Savings bond tuition plans proposed

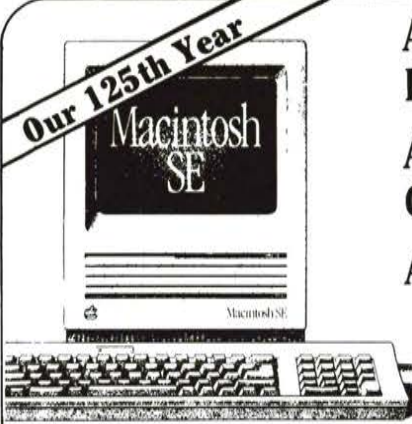
Tuition savings plans offering tax-free interest on U.S. savings bonds have found strange bedfellows in Sen. Edward M. Kennedy, D-Mass., Sen. Claiborne Pell, D-R.I., and the Reagan administration.

Under the Kennedy-Pell proposal, the Education Savings Act (S. 1817), interest earned on savings bonds would be tax-free if the bonds are used to pay college tuition. The tax exemption would be reduced for a family with an income above \$75,000 per year and phased out for those earning in excess of \$150,000. According to Kennedy, students entering college in 2005 would have to set aside \$42 per month for four years of tuition at a public college or university and \$220 per month for private college or university tuition. Surveys show that families with children under 18 years of age prefer savings bonds to stocks, mutual funds or other college savings plans.

The plan would cost as much as \$840 million over 15 years due to decreased tax revenues, but would pay for itself through increasing the number of savings bond holders.

A variation of the plan has also been proposed by the Reagan administration as part of the 1989 budget proposal. A focal point of Vice President George Bush's presidential campaign, the plan would cost the government between \$175 million and \$355 million yearly in lost tax revenues. Middle- and upper-income families with high tax rates would benefit most from the plan, although denying the tax break to the wealthiest participants is being considered.

Many families currently use savings bonds to finance tuition, since taxes are deferred until the bonds are cashed. Both plans would make this option more attractive, since all taxes would be eliminated if both interest and principal were used to finance college expenses.



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tive, and could ultimately jeopardize the entire program.

In reality, defaults are a product of the program itself. In order to ensure access to higher education, Congress created a much-needed funding program based on making low-cost loans available, in good faith, to young adults. These 17-plus-year-olds have no credit history, no collateral, no cosigners, and really no assurance of success even after completion of their education. The sole emphasis for many years was on program availability and use, with little or no attention given to

cost or repayment. Unfortunately, this opened the door for some to take advantage of the system, and created a widespread reaction among others: "Well, if nothing is going to happen to them, why should I pay?" Today, almost 90 percent of all borrowers are responsibly meeting their GSL obligations. I feel this is a commendable fact given all the issues and circumstances involved. I can't help but wonder how this compares to other government funding programs.

Much has already been done to bring the default problem in line;

for example, IRS offsets, stricter due diligence requirements, credit bureau reporting and exit counseling with borrowers. There are larger issues, however, that I feel play a significant role in the question of defaults and why they occur. These demand the undivided attention of all those involved if we are truly going to get at the cause of the problem. Some of the most relevant issues include:

- the quality and cost of higher education today;
- the increased dependence on loan programs vs. grants or other forms of aid;
- the overall effect of growing student debt burdens;
- and educational opportunities for disadvantaged students, who increasingly depend on the GSLP.

So, in answer to the question at hand, it's all of our faults. □

Regents focus on Massachusetts financial aid policy

The Mass. Board of Regents of Higher Education has unanimously adopted a financial aid policy that is the most comprehensive yet in the state's history.

Derived from a January report by an independent committee for the Regents, the policy would require students and their parents to carry more of the actual cost of higher education, if they can afford to do so. Further, it would implement a financial aid package for those in greatest need, covering 100 percent of tuition and mandatory fees at all 29 public colleges and universities in Massachusetts. At present, only the community colleges provide such funding.

Other recommendations of the report are: consolidating the state's 30 separate financial aid programs into as few as six; linking the distribution of scholarship funds to the needs of the workforce; and expanding financial aid opportunities for nontraditional and part-time students.

At present, tuition does not come close to covering the actual cost of public higher education. The net cost to the state for educating a full-time public college or university student, excluding students at the medical school, is \$6,087. At UMass/Amherst, state residents pay \$1,296 in tuition and \$3,326 for room, board and mandatory fees. Massachusetts students' contributions currently represent 18 to 24 percent of the actual cost of education. The remainder comes from state, federal and private sources.

Giving public educators pause is the recommendation that financial support also be provided to low income students at *independent* institutions. This support, however, would not exceed 100 percent of the cost of a public college education. Independent institutions receive consideration in the state plan, the report says, because they enroll more than half of Massachusetts' students and attract top scholars and instructors from around the world. Moreover, these institutions form part of the research structure that brought about the commonwealth's economic resurgence.

Regents Chancellor Franklyn G. Jenifer said the plan will be implemented in the fall of this year. The new financial aid plan should provide both accessibility and freedom of choice to Massachusetts college students.

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Regional Forum on Defaults

The editors of Connection have solicited the views of officers of New England's state guarantee agencies on student loan defaults. Insightful commentary is provided by: Robert B. Hawkins, consultant, Maine Guaranteed Student Loan Program; Ronald J. Iverson, executive director, Vermont Student Assistance Corp.; John E. Madigan, executive director, Rhode Island Higher Education Assistance Authority; Vincent J. Maiocco, president, Connecticut Student Loan Foundation; and Marilyn Pedalino, director of planning and research, Massachusetts Higher Education Assistance Corp.

The federal Guaranteed Student Loan Program was established in 1965 when President Lyndon B. Johnson signed the Higher Education Act into law. Although at first there was understandable hesitation on the part of parents to have their children borrow for a college education, it soon became obvious that loans were a viable means of paying for rising educational expenses. For better or worse, borrowing became a new way of thinking. Today it is as commonplace to borrow money for a college education as it is to take out a loan on a new car.

Two decades after the GSLP was initiated, student loan default is one of the most controversial and misunderstood issues facing American higher education. Between the mid-1970s and the early 1980s, the U.S. government expanded the GSLP in size and in scope to a level of \$9 billion a year in student loan funds. With greater access by a broader

spectrum of society, however, the amount of loan default increased proportionately. Of the \$50 billion in student loans made since 1967, \$3 billion are currently in default. In 1984 and 1985 many states experienced increases in defaults as a direct result of GSLP expansion, and the phenomenon of more borrowers graduating into repayment status.

With 5.3 percent of the U.S. population, New England assumes 11 percent of all Guaranteed Student Loans in the nation. John C. Hoy, president of the New England Board of Higher Education, comments: "Despite the exceptionally heavy loan burden carried by former New England college students, we and the mountain states have the lowest regional GSL default rate in the nation. The rate remains far too high, but our campuses are doing a much better job of educating students on the significance of personal credit and how to protect their credit rating."

In addition to reimbursing guarantee agencies up to 100 percent for student loan defaults, the federal government subsidizes the GSLP in the following ways:

- pays the student 8 percent interest while in college;
- provides an additional interest subsidy to the lender to ensure a minimum return equal to the 91-day Treasury Bill, plus 3.25 percent;
- allows guarantee agencies to retain 30 percent of funds collected on defaulted loans to offset collection costs;
- provides some administrative funds for assisting in the guaranteeing and servicing of loans; and
- formerly provided states with loan reserve funds for bad debts.

In view of these considerable subsidies, and the fact that one-half of the annual federal expenditures for the GSLP are default payments, it is clear that a financially pressed Congress has little choice but to look towards a shared-risk partnership with the states. Ironically, that is how the program was first conceived and administered.

When is a loan considered in default?

Iverson: Today, there are numerous definitions of default, and Congress must put into law *its* definition of default. When a student's account is 180 days past due, the lender submits the loan to the guarantee agency in order to receive payment in full, and the loan is immediately classified as a default. The guarantee agency begins its collection efforts, and even though the loan is brought current or paid in full, it continues to remain classified as a defaulted loan. Another major factor influencing public perception of the GSLP is that default data is re-

Student loan
default is one
of the most
misunderstood issues
facing American
higher education.

ported cumulatively and not on an annual basis. An annual definition for defaults that is more comparable to the way banks report on consumer loans must be adopted.

How much of a problem are loan defaults in your state?

Madigan: With a 9.3 percent default rate, I don't think Rhode Island has a serious problem with defaults. One of the things that bothers me most about defaults is that although we are very successful in getting loans back into repayment — about 50 percent of them go into repayment — that never shows, because once a loan is defaulted, it counts as a default forever. It doesn't matter that the student is paying back the loan and has been making regular payments for the last six years. I think the statistics distort the problem somewhat.

Iverson: As the nation looks more closely at student defaults in the GSL program, Vermont can be

Dukakis proposes college bond plan

Surrounded by an attentive class of black, white, Asian and Hispanic first graders from Brighton's Hamilton School, Massachusetts Gov. Michael S. Dukakis announced a proposed college savings plan, plus a \$440-million capital plan for public education in the Bay State. Future beneficiaries of these forward-looking education initiatives applauded the governor's announcement, as did the college and university presidents who had gathered for the occasion at Boston College earlier this year.

Under the proposal, tax-free bonds would be sold as shares in a "College Opportunity Fund." Bonds would be purchased in a child's name, and in exchange for a small premium, the state would guarantee redemption of each bond at the cost of a specified percentage of a year's tuition at any college or university participating in the plan. The bonds could be redeemed at any time for the percentage of the tuition as it stood at the time of purchase, plus the *average* increase in college costs since the bond was purchased — an incentive for keeping college costs down.

Dukakis's plan is unique in the nation, since it may be used at both public and independent colleges in Massachusetts. Income does not determine eligibility to buy the bonds, which may be purchased in denominations as low as \$50.



Massachusetts Gov. Michael S. Dukakis announced a proposed first-of-its-kind college savings plan at a Boston College press conference in January.

Also present at B.C.'s Bapst Library was Rep. Nicholas Paleologos (D-Woburn), a vice chairman of the New England Board of Higher Education and chairman of the joint education committee. Paleologos commented: "It is an idea whose time has come. When parents save for college under the plan, at the same time they are lending their money to the state to build a bridge or a road or a new state college building." Paleologos will take the lead in shepherding the proposal through the legislature.

The task force that helped devise the plan was led by Harvard Professor Herman Leonard. Colleges will have an incentive to join the program, Leonard says, because it will create a pool of applicants with savings and support. Leonard suggested that a New England-wide program creating a regional common market should be considered for the future.

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proud that its students continue to have one of the best, if not *the* best, repayment rates in the country. Since the program started in 1965, the Vermont Student Assistance Corp. has guaranteed close to a quarter of a billion dollars. Reviewing these loans reveals that 98 percent of borrowers are now meeting or have met their repayment obligations.

Pedalino: Improved collection techniques have increased the rate at which Massachusetts recovers defaults. Massachusetts is recouping money in default from 50 percent of defaulters. Nationally, more than 90 percent of students repay their loans on time. Of the 10 percent who default, a substantial portion make payments after pursuit by state guarantee agencies, collection bureaus and law firms.

Hawkins: During fiscal year 1987, student loan defaults under the Maine Guaranteed Student Loan Program decreased by 19 percent, from \$5.4 million to \$4.4 million owed in default claims. The decrease cannot be traced to any single factor. Our statistics indicate that 91 percent of students in the Maine program cooperate in the repayment of their loans, and another 6 percent respond to collection efforts.

What measures has your state implemented to deal with loan defaulters?

Madigan: In Rhode Island we have legislation that permits us to withhold the state tax refund from a student who has not taken steps to pay on a default. This has made a significant contribution to our collection efforts — we have claimed up to about \$150,000 per year from that source alone. This policy was in place three years before the federal program that enables the Department of Education to withhold federal IRS refunds.

Iverson: Good management and support services have been responsible for Vermont's excellent repayment rate. The Vermont Student Assistance Corp.'s efforts have been aimed at default prevention. Through its outreach information

services, VSAC insures that students exhaust their eligibility for state, federal and college grants before going into debt. In addition, VSAC has provided preclaim assistance to lenders, and has required lender due diligence in collection efforts that exceeded the federal requirements. It wasn't until recently that Congress and the U.S. Department of Education made legislative and regulatory changes to promote better repayment, similar to what Vermont has been doing for years.

Pedalino: Massachusetts has implemented a diverse array of state level tactics. Since 1983 the Massachusetts Higher Education Assistance Corp., assisted by the Loan Counseling Task Force, has identified strategies to inform students from junior high school through graduate school about the fundamentals of borrowing, financing alternatives and repayment obligations. Massachusetts also utilizes effective entrance and exit interview techniques and a wealth of materials including booklets, video tapes, posters and software. We have also established a toll-free repayment hotline.

Hawkins: The Maine Guaranteed Student Loan Program produced a letter for lenders to distribute to students advising them on borrowing, repayment and seeking alternative sources of aid. This letter, now a federal requirement, stresses the student's obligation to repay loans that will be reported to a credit bureau in the event of default. In addition to the letter, a brochure emphasizing sound debt management practices and a 20-minute video tape on financial aid are made available to schools and lenders.

Whose responsibility are loan defaults? Is it the school? The lender? The student? The system?

Maiocco: In my response to Education Secretary William Bennett's recent news release regarding defaults, I indicated that the responsibility for curbing defaults lies with all parties. It is not just the responsibility of schools, but also that of the students, the lenders, the guar-

antee agencies and, of course, the state and federal governments.

In a loan program designed basically for young people, especially those just out of high school who do not have collateral or who have not as yet established their credit worthiness in the financial world, it's ridiculous not to expect losses. Student loans, as they are basically structured, do not fit into the "traditional" scheme of financing. Barring deaths, disabilities and legitimate bankruptcies, defaults will definitely occur and will flourish unless the necessary controls are put into place.

Hawkins: It's probably a combination of all four, in varying degrees. But rather than point an accusatory finger, isn't it more constructive to ask how we can instill greater accountability on the part of all concerned? We in the Maine GSLP believe the answer lies in better communication: a program of public information aimed at students and parents that involves both schools and lenders.

Iverson: As the data unfolds, it becomes abundantly clear that no single segment can be totally responsible for defaults. Secretary Bennett's initial proposal to lay the blame for defaults on the front steps of postsecondary institutions will be fine-tuned, and those schools which flagrantly abuse the program will be disqualified. However, it is unlikely that schools will be terminated from the program solely on the basis of their default rates. Such action would curtail access and hurt poor and minority students disproportionately.

It is also unlikely that Congress can escape some of the responsibility for defaults, as it was Congress that opened up the floodgates for national guarantors in the name of loan access and healthy competition. Data recently published by the U.S. Department of Education, for example, reveals that one large national guarantor had 15.7 percent in lender default claims and had recovered only \$1.1 million of the \$74 million it paid in claims, which amounts to a 1.5 percent recovery rate. In contrast, Vermont has been

successful in recovering 24 percent of the claims it paid, and Vermont began with a lender default claim rate three times less than that of the national guarantor. Currently, 70 percent of all students who defaulted on Vermont loans are making payments on their loans.

Madigan: This default issue has descended on us like a thunder cloud, all of a sudden. Yet our default rate has not changed significantly in the last five years. When the GSLP began, we recognized that there would be a risk: students borrowing money with a promise to pay it back four years hence, after they get what they hope will be a successful education and a good job. The federal government understood the risk factor and committed itself to insuring banks interested in the program against such risk.

Do default rates vary among institutional types?

Pedalino: Analyzing the default statistics of different institutions can help guarantee agencies target their strategies to reduce defaults. We have found that the highest rates of default occur in two-year public and proprietary institutions. These institutions tend to admit high-risk students, many of whom fail to complete their course of study, sometimes dropping out within the first week or two. Those who do complete their studies may have difficulty in finding employment or obtaining jobs which pay more than the minimum wage.

What further measures to tackle loan defaults are being considered in your state?

Pedalino: Legislative solutions proposed by the Massachusetts Higher Education Assistance Corp. and considered by the state legislature include assigning the state income tax rebates of defaulters to their unpaid loan balance; denying professional certificates and licenses to those who default on their student loans; and speeding up the wage garnishment process for those who have defaulted and refuse to make payments.

What strategies for reducing defaults do you anticipate being implemented on the federal and state levels?

Iverson: It would not be surprising to see the administration of the program move away from the wholesaling and commercializing of student loans to a program requiring a higher level of state participation and a redefinition requiring that the program be returned to a state level of administration serving only residents and non-resident students studying in that state. I don't think there is any doubt that Congress will require states to start sharing in the financial risk of defaults, and this attitude may also drift over to lenders, secondary markets, and even colleges.

Pedalino: During 1988, Congress will consider other measures to reduce and prevent defaults, such as terminating schools with poor placement records and high defaults, delaying the disbursements of checks for a few weeks or a semester until it is clear that a student will remain in school, and allowing schools to co-sign a student's promissory note or "purchase" a default rather than lose eligibility for any further aid. Such measures could reduce the default rate below 3 percent. That would reassure policymakers that education loan programs ought to continue.

Maiocco: There is a need for strict and clear federal regulations that are practical to implement, and whose enforcement and administration could be supervised and audited regularly by the appropriate authority. State agencies should be given more flexibility, by exempting them (on default cases only) from the strict requirements of certain consumer protection laws. Other suggestions are: increasing the interest rate on defaulted loans; charging additional fees to cover collection costs; putting liens on inheritances; requiring meaningful college exit interviews complete with debt counseling; and withholding the grades and transcripts of defaulted loan borrowers. □

International Knowledge is Vital to Economic Success

SVEN GROENNINGS

"I hope the crash convinces universities that they need to address the competitiveness issue. We don't understand it, and we aren't teaching kids to compete in a world exchange."
— Lee Iococca, chairman of Chrysler Corp., commenting on "Black Monday."

For New England, jobs and prosperity will increasingly depend on how well and in what ways we conduct business with the rest of the world. More of us will need the education and skills that are essential to dealing internationally. Moreover, as the distinction between operating domestically and internationally becomes blurred, knowledge of the global economy will have to become part of general knowledge.

Consider these three broad perspectives:

First, New England is one of the most export-intensive regions of the United States, and its economy is becoming international at an accelerating rate. Exports, which exceed \$15 billion for manufactures and \$3 billion for services, have quadrupled in the last 20 years. The region hosts 1,500 foreign firms. It gains \$500 million in annual income from foreign visitors and \$300 million from foreign students. Nearly all New England products and services have become subject to foreign competition. Indeed, 80 percent of all American-made goods now face foreign competition either at home or abroad.

Secondly, these patterns are being shaped within a global economy; systemic change underlies the growth of our international dimension. Operations have become global. A third of New England's trade moves between members of the same firm, that is, between the foreign and domestic divisions of our corporations. Our companies manufacture components overseas in order to be competitive, and manufacturing requirements involve our engineers in technology transfer across cultures. Marketing has become global, as one can see in airline, hotel, banking, advertising and accounting activities, aside from selling New England high-technology products abroad. Financial flows across borders have become enormous, and financing for new operations may be obtained in several countries. On Black Monday, the effects of the stock market crash in New York instantly caused parallel effects in London and Tokyo.

Almost daily there are fresh signs of our involvement in a global economy as the business press reports transnational joint ventures, marketing agreements, mergers, acquisitions, licensing arrangements, supply agree-

ments and production arrangements. It follows that corporate management in general, beyond the traditional export division, faces new complexity: negotiation of transnational agreements, coordination of marketing, production and other activities among subsidiaries and partners in other countries, and international personnel management. Strategic thinking is, of necessity, turning toward an integrated view of domestic and foreign operations and markets. Management must watch the competition in a global context and deal with foreign governments.

Thirdly, New England's trade deficit, measured as the ratio of exports to imports, in 1985 exceeded that of the United States as a whole. This country has experienced record deficits annually in the 1980s; in 1986 the figure was \$156.2 billion. In this situation, New England must do better. It must work to improve the performance and numbers of its exporters.

Educational and economic competitiveness

Because our workforce must be prepared to compete in a global economy, there are important implications for teaching and learning. At a time when the development of foreign markets is necessary for American employment and productivity, scientific creativity and technical competence are not enough. We must also have skills in finance, marketing, negotiation and management that can be applied in a competitive international context.

Possessing international knowledge is a key factor in the success of our Japanese competitors, who, by a variety of educational and marketing strategies, compensate extraordinarily for locational and linguistic remoteness from their chief markets. We must wake up to the fact that we are competing not only with other economic systems, but with the learning systems of the economically successful. We, too, must combine business skills with international knowledge.

In a 1987 survey, the New England Board of Higher Education asked New England corporate, government and higher education leaders: "What are the most important ways in which higher education can prepare our workforce for the global economy?" All three groups — corporate, government and higher education — ranked first: "Design an undergraduate curriculum that ensures understanding of a global economy." That is one way in which higher education can meet the present challenge. □

NEBHE Senior Fellow Sven Groennings is director of NEBHE's Project on the Global Economy and Higher Education in New England.

Understanding the Competition

WALTER J. CONNOLLY JR.

Walter J. Connolly Jr., chairman of the Bank of New England Corp., spoke on the private sector's view of international education at an executive breakfast held at the International Business Center last fall. The breakfast featured a briefing by the New England Board of Higher Education on its new study of higher education and the internationalization of the region's economy. Connolly pointed out that New England has a tradition of international awareness that should be revived, plus the higher education resources to tackle a pressing problem: a limited perception of the world that is at odds with our internationalized economy. Connolly's topic is particularly timely in light of the immense trade deficit that continues to plague the United States. The following is excerpted from his speech.

The Bank of New England is a leading provider of financial services to a large number of foreign-owned companies operating in New England as well as to domestic customers operating abroad. As New England companies increasingly look beyond America's shores, we are seeing changes in both their service needs and in their basic perspectives.

Here are a few basic facts about the business environment in New England:

- The per capita income of New England's 12-and-a-half-million citizens is 17 percent above the national average.

- As an independent country, New England would have the 13th largest gross domestic product in the world.

- Direct international trade has expanded to a level of \$30 billion, of which \$10 billion is export-related manufacturing activity.

New England is known to the country, and to the rest of the world, as a region of entrepreneurs. But not all our inventors, investors and visionaries are home-grown. They come first not to New England, but to Harvard, MIT, Amherst, Brown and Yale. They graduate and decide to stay because of opportunity, and the critical mass of ingenuity.

Educational excellence has essentially brought us

this far, and education can help us take the next step into what the future of the region and the nation must be if we are to remain leaders.

But for too long, our students have thought that everything they could want was right here. It never enters their minds to prepare for careers that include a sojourn in Tokyo or Argentina.

So many of our college language courses focus primarily on reading, not fluency. Our graduates are prepared to be tourists, not participants. They have no *psychological* incentives to live abroad, something their counterparts in Europe and Asia just assume for themselves.

We cannot remain competitive in world markets when our understanding is bounded by our borders, and our trading partners are confined only by *terra firma*. I'm having a hard time finding commercial lenders

who are ready and willing to go to Lowell, let alone Rio. What's happened to us? We've come to believe that *everything is here*.

We weren't always like this. New England once built its economy on trade. Our "Yankee clippers" went all over the world, building New England fortunes. At the turn of the century, for example, the United Shoe Machinery Corp. developed facilities in every industrialized coun-

We cannot remain competitive in world markets when our understanding is bounded by our borders, and our trading partners are confined only by *terra firma*.

try in the world. We aren't going to build an internationally competitive economy by never moving more than a few blocks from State Street.

What is required is a basic change in perception. We can begin by educating our students to extend their perceptions. Foreign languages are important not only for fluent communication, but also for access to different thought processes, cultures, histories and traditions. It's not a question of communication vs. analytical skills. The issue is |



Walter J. Connolly, Jr., chairman, Bank of New England Corp.

developing college and graduate school curricula that teach both.

The culture of New England, and that of the United States, is *not* the world norm. And without a perspective on other cultures, we cannot grasp their perspective of us. We must be able to interpret foreign events, to combine a practical breadth of knowledge with an educated sensitivity to our differences. Without that, we will not

be able to assess, project or compete. □

International study findings released

In October 1987 the New England Board of Higher Education publicly released the findings of its year-long study of the region's international economic position and how it relates to higher education. NEBHE Senior Fellows Sven Groennings and Melvin H. Bernstein delivered a briefing on the survey results to the leadership of the International Business Center at Boston's World Trade Center. IBC has more than 425 business and industrial executive members, including many of the largest high-technology and financial organizations in New England.

Representing NEBHE's Corporate Advisory Council at the meeting were Walter J. Connolly, chairman of the Bank of New England Corp., and Henry Sears Lodge, coordinator of the advisory council.

In his opening remarks, NEBHE President John C. Hoy stated: "Higher education has a unique opportunity to contribute to economic competitiveness while strengthening itself at the same time."

Bernstein pointed out that "the rosy scenario projected for New England's export growth in the 1980s has not lived up to expectations. Imports have actually grown far more rapidly than exports. International trade's share of the regional economy has tumbled surprisingly from a robust 11 percent in 1980 to an anemic 8 percent today. Expanding exports by increasing our competitiveness, as well as by a falling dollar, is what

we need for further development of the region's economy," he said.

Sven Groennings, director of NEBHE's Regional Project on the Global Economy and Higher Education in New England, reviewed the major findings of the two comprehensive reports he has authored. Groennings, past head of the U.S. Fund for the Improvement of Postsecondary Education, has written in-depth analyses of the regional situation titled "Economic Competitiveness and International Knowledge," and "The Impact of Economic Globalization."

Key project findings include:

- There is increasing international activity at all 40 public and private campuses reviewed. Internationalization has become one of the most powerful forces in the history of American higher education.

- The internationalization of the campuses is only weakly connected to the internationalization of the economy. The movements are parallel and essentially on separate tracks.

- Foreign language enrollments, after a decade of decline, are on the upswing; more business students must study a foreign language.

NEBHE and IBC, as the two premier regional organizations in their respective fields, have agreed to work closely to join business and higher education interests, strengthening New England's international competitiveness.

International Linkages and the Role of Higher Education

LYNN E. BROWNE

Increasingly, the fortunes of the U.S. and New England economies are tied to developments in other parts of the world. Since the late 1960s, U.S. exports and imports have grown at rates far in excess of the expansion in overall economic activity. Not only have trade volumes increased for products such as automobiles, machinery and chemicals, but the array of products involved in international trade has expanded. In particular, products once considered purely local in nature — high bulk, low-value manufactured goods such as cement and lumber, and a host of financial and business services — now find markets overseas.

Costs and benefits of trade linkages

Linkages to other countries involve benefits and costs: benefits to consumers in the form of lower-cost, higher-quality products, and costs in the form of employment losses and other dislocations in the sectors experiencing import competition. Recent experience dramatically illustrates these benefits and costs. Although U.S. exports and imports have both grown rapidly over the longer term, from 1982 to 1986 U.S. exports stagnated even as imports surged. The manufacturing sector bore the brunt of increased import competition and the loss of export markets. In response to the import challenge, U.S. manufacturers were forced to become leaner and meaner, producing more with less: Manufacturing productivity grew an average of 3.2 percent per year from 1979 to 1986, compared to only 1.4 percent per year from 1973 to 1979.

Productivity gains have permitted U.S. manufacturers to hold the line on prices, and the combination of domestic price restraint and the availability of low-cost imports has benefited consumers. From 1982 to 1987 prices of durable goods — products such as motor vehicles, furniture, appliances and sporting and recreational equipment — increased about 2 percent per year on average. Prices of shoes and clothing grew at a similar rate. Prices of services, an area where there is little competition from imports, grew twice as fast.

Employment changes show the costs of trade linkages. U.S. manufacturing production in 1987 was more than 30 percent above the level in 1982, despite the imports' inroads, but manufacturing employment increased only 2 percent over the same period. In New England manufacturing employment was actually lower in 1987 than in 1982. Manufacturing employment in the region initially recovered strongly from the 1982 recession, but then fell sharply in 1985 and 1986. Other factors undoubtedly contributed to the weakness of New England's manufacturing sector, but the trade situation was clearly important. Some of the biggest cutbacks were in industries, such as leather and apparel, that were subject to intense import competition, and in others, most notably some of the high-tech categories, that are active exporters. For individual high-tech firms exports may account for 30 to 40 percent of sales.

Implications of trade deficits

Some have interpreted the record U.S. trade deficits of recent years as a sign that U.S. industries suddenly became less productive than industries elsewhere. However, changes in exchange rates overwhelmed productivity differences. Between 1980 and 1985 the value of the dollar rose roughly 60 percent (on a weighted-average basis) against the currencies of major U.S. trading partners, making U.S. products far more costly in foreign markets and foreign products much more competitive in the United States. The reasons for the dollar's rise are many, but prominent among them were changes in U.S. fiscal and monetary policies that combined to make investment in U.S. assets very attractive.

However, as holdings of U.S. assets by investors around the world mounted and as U.S. trade deficits continued to add to these holdings, the dollar declined relative to other currencies. By the



Lynn E. Browne

Lynn E. Browne is a vice president and economist for the Federal Reserve Bank of Boston. The views expressed here are the author's and should not be interpreted as a position of the Federal Reserve Bank of Boston or the Federal Reserve System.

U.S. manufacturing productivity has increased impressively in recent years, but these gains are dwarfed by the effects of changes in the value of the dollar.

end of 1987 its value had almost returned to the level in 1980. This decline has helped restore the competitiveness of U.S. products both at home and abroad. Exports picked up in 1987 and the growth in imports slowed in real terms. The improvement in exports and easing in import competition will intensify. If the recent decline in the value of the dollar is not sufficient to bring about a substantial reduction in the trade deficit, the dollar will fall still further, until U.S. products become irresistible to foreign buyers or foreign products are priced out of the U.S. market. For the United States to continue to incur trade deficits, the rest of the world must continue to add to its holdings of U.S. assets — and it will not do so forever.

Just as the growth in trade deficits has been interpreted as implying that something is terribly wrong with U.S. industry, the shrinkage in the deficit, when it comes, is likely to be seen as a sign that U.S. industry has "got its act together." U.S. manufacturing productivity *has* increased impressively in recent years, but these gains are dwarfed by the effects of changes in the value of the dollar. In fact, there is cause for concern.

While the widespread import penetration in the 1980s was largely the result of the rise in the value of the dollar, it highlights the fact that a growing number of countries are capable of producing the same array of manufacturing products as the United States. In particular, more and more countries are capable of producing innovative, knowledge-intensive high-tech products. This does not mean that U.S. manufacturing will shift overseas or that the country will experience perpetual trade deficits. Over the long run the United States must sell goods and services in order to buy. Moreover, while trade in services is growing, exports and imports of services (after excluding the return to investment) are still very small compared to manufactured products. U.S. agricultural exports are significant, but, again, small relative to manufactured products. Thus, the United States must produce and export manufactured goods if it is to import.

The real concern is whether the United States can maintain its technological leadership and a high standard of living relative to its trading partners. The ability of so many other countries to produce a wide array of sophisticated products means that the United States can no longer take its leadership position for granted. Other countries are catching up and while some catching up may well have been inevitable, the United States must recognize that some of these gains are the result of forces that will persist even after other countries have caught up.

Education's role in an international environment

The educational system is central to the United States' maintaining its leadership position. First and

foremost, educational institutions at all levels must carry out their traditional teaching responsibilities well. In today's highly competitive world, students must be equipped with the skills that their diplomas and degrees are supposed to signify. Business should not have to compensate for the deficiencies of the educational system. Resources devoted to overcoming these deficiencies are resources that might otherwise

have been used for modernization, research, or teaching more advanced industry and firm-specific skills.

For institutions of higher learning, carrying out traditional responsibilities well includes staying abreast of the latest intellectual advances not just in the United States but in other countries. Both teaching and research programs should be more alert to developments elsewhere. Many Americans know little about other countries, and U.S. companies tend to operate as though "the American way is the only way." However, failure to take account of the preferences and customs of other countries has handicapped U.S. firms in selling abroad. Management techniques and production technologies that could be usefully applied in the United States have been ignored. In contrast, other countries have studied U.S. management approaches and tailored products specifically for the U.S. marketplace. Other countries send their best students to study in the United States. Many stay, but many return carrying with them both technological expertise and an awareness of how to do business in the United States. Educational institutions must help impart a more international mind-set to the United States.

The fruits of research must reach the marketplace. This does not mean sacrificing basic for applied research, since both are vital. It does mean ensuring that research results are widely disseminated. There should be interaction between researchers and industry and between researchers in different disciplines, so that those with different perspectives, who are likely to see potential applications, will be exposed to new discoveries. Inevitably, of course, some of those who see new applications will be from other countries and they will develop these applications to their countries' advantage. The appropriate response is to ensure that the transfer is not one-way and that Americans learn of research advances elsewhere.

The educational system has another very important responsibility: to prepare people to cope with the disruptions that are likely to accompany major shifts in world trade. Two factors would seem to make such shifts inevitable: (1) the wide differences in the economic and political circumstances of different countries; and (2) the ease with which investors around the world can move their funds from one country to another. Because countries differ considerably in their economic

circumstances, major changes in relative position and thus major changes in trade patterns are likely. Countries that exported apparel and imported steel yesterday export steel and import machinery today. Tomorrow they may export computers and import apparel. Further, as economic and political circumstances change, countries become more or less attractive for investment. Capital flowing into a country drives up the value of its currency, making its products less competitive in world markets and the products of other countries more attractive in its own market. At the same time, the cost of capital is reduced. However, the industries that benefit from the lower cost of capital will generally not be those most hurt by the increase in the exchange rate. Capital flows can be very volatile, as the experience of the past few years has proven. Given the potential for such disruptions, the educational system has an obligation to prepare people for a life of change. Teaching how to learn new skills may be more important than actually teaching specific skills.

Finally, the educational system must help increase awareness of the benefits of international ties and the costs of economic isolationism. The disruptions arising from international ties are very apparent and fall very

For the United States to continue to incur trade deficits, the rest of the world must continue to add to its holdings of U.S. assets — and it will not do so forever.

heavily on specific groups. The benefits of such links, while great, are more diffuse and consequently far less obvious. The educational system must make people aware of the importance of international ties to maintaining high living standards and technological leadership. Through trade, U.S. consumers have access to lower-cost, higher-quality goods and services than would otherwise be the case and U.S. busi-

nesses have access to the cheapest supplies and materials and the most advanced capital equipment. These products may be American or they may be produced overseas; but whether goods are produced at home or abroad, the pressures of world competition ensure the lowest possible costs and the highest possible quality.

The country that withdraws from this competition by erecting trade barriers not only denies its consumers access to the products of other countries but also risks that domestic producers, protected from overseas competitors, will relax their efforts to increase productivity. The incentive for such improvements will be reduced, and businesses as well as consumers will no longer have access to the cheapest supplies and materials, and will thus experience higher costs. Educational institutions must help people understand the nature of these dangers. □



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It's how they work
— not for how
much — that
matters to the true
lifestyle
entrepreneur.

be in place next fall at the Portland campus.

Conforti, a New England native who holds a PhD in American civilization from Brown University, says the program will explore New England's mythic role in American history, the relationship of New England's past to its present and the interaction of change and tradition in today's regional decisions.

"The symbolic images of New England to a large degree still constitute our traditional image of

America — white clapboard houses, red barns, church spires and stone walls — but New England's past also includes the birth of the Industrial Revolution in America and the assimilation of waves of immigrants and their culture," Conforti says. The program will place students as interns at institutions involved with regional issues.

"Lifestyle entrepreneurs" make more than money

A growing number of people who could make more money in large companies are choosing instead to become "lifestyle entrepreneurs," people who savor the independence that comes with being their own bosses, say University of New Hampshire business professors *Stephen Jenks* and *William Wetzel*, who coined the term.

Some lifestyle entrepreneurs work alone, out of basements or garages. Others oversee several employees, but what they all have in common is the desire to choose where, how and when they work, says *Kit Cox*, a consultant with the New Hampshire Small Business Development Center, which last year provided counsel to more than 800 New Hampshire firms. Lifestyle entrepreneurs, whose businesses typically have sales volumes of less than

\$1 million and fewer than 10 employees, comprise the bulk of the center's clients.

Ten years ago, *Andy Bangs'* career options included well-paying jobs in investment counseling and trust banking. "But I didn't want to move to Boston from Portsmouth," he says. "The thought was hugely unappealing." Instead, he and a partner established the Upstart Publishing Company, Inc., which originated on Bangs' dining room table and now occupies offices in Dover. Today, the company provides managerial publications to clients including Price Waterhouse and the Chase Manhattan Bank.

"There are thousands of new businesses I've helped out there, and that's kind of fun," Bangs says. He also gives seminars and speeches on business management, which bring professional recognition hard to come by behind a bank desk. "Of course," he adds, "I'd also probably be making a lot more money there."

But, as Cox points out, it's how they work — not for how much — that matters to the true lifestyle entrepreneur.

Yale professor teaches compassion for the homeless

Why were 18 Yale undergraduates forced to spend the day roaming the streets of New Haven without any money?

To complete a class assignment. The exercise, part of the university seminar, "Down and Out in Paris, London and New Haven: The Homeless and the Mentally Ill," was designed to allow students to experience first-hand what it is like to be homeless.

Seminar students "had no books, no money, no watches, no Walkmans," says Yale Professor *Ann T. Ameling*, who taught the course. "They ate a breakfast at their residential colleges equivalent to what they would be given if they had spent the night in a shelter — a roll, coffee, juice — and they got a list of the soup kitchens in the area that

Laurie Ortyl is executive assistant to NEBHE President John C. Hoy and an assistant editor of *Connection*.

serve free lunches. It was a lesson in what it is like to have blocks of unstructured time with very limited resources," she says.

Society needs followers as well as leaders, says UNH researcher

In a culture that stresses the importance of effective leadership, *Gene Boccialetti*, a professor of organizational behavior at the University of New Hampshire, is examining the role of subordinates in contemporary society.

There's a place
between complete
obedience and
revolt . . . the place
where we bring
out our values.

"Our whole focus, whether it's getting a college education or climbing the career ladder, is getting ahead, getting closer to the top. We have seminars on leadership and how to be a good manager," says Boccialetti. "My belief is that we also ought to try to be good, ethical, empowered subordinates." Ethical subordinates, he adds, could help prevent mistakes in organizations.

"There's a place between complete obedience and revolt," Boccialetti says, "and that is the place I'm talking about — the place where we bring out our values." — The Guggenheim Foundation of New York has asked Boccialetti to submit a grant proposal for funding his research.

Tufts Vet School teaches health care for guide dogs

Little did Tufts Veterinary School resident *M.J. Larue* suspect that when she treated a guide dog for frequent nosebleeds, it would lead to a health education campaign for owners of guide dogs across the nation.

The dog's owner, Mary Lewis of Worcester, Mass., suggested to Larue that members of the Guide Dog Users of Massachusetts would

like to learn more about caring for their dogs. The result was a health care presentation by Larue to members of the group and the first Braille printing of a newsletter published by Tufts for Guide Dog Users, Inc., which has more than 400 members nationwide.

"Guide dog users have the same kinds of concerns and questions about modern veterinary care that any pet owner would have, but they don't always have access to the available information," Larue says.

You're as young as you think, says Brandeis professor

Some elderly people not only avoid senility but surpass the memory and comprehension skills of college students, according to psychologists at Brandeis University who are challenging the myth that people naturally grow helpless as they age.

"The elderly are doing as well as our Brandeis undergraduates," says *Arthur Wingfield*, professor of psy-

chology and director of the university's memory lab where experiments are being conducted on the effects of natural aging on memory recall and understanding. Some test subjects aged 60 to 80 "are running circles around students aged 18 to 22," he says.

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The Brandeis experiment is one of the few in the nation that documents what the elderly retain rather than lose in language processing, Wingfield says. "What we're trying to do is to understand why the elderly are as good as they are," he says. The experiment, in its fourth year, has found no conclusive evidence to prove or disprove that senility is inevitable. □



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Soviet and American students discuss arms race via satellite

A revolutionary course linking American and Soviet students via satellite was introduced this semester at Tufts University and Moscow M.V. Lomonosov State University. The course, entitled "The United States, the Soviet Union and the Nuclear Arms Race in Historic Perspective" is co-taught by Tufts Professor Martin J. Sherwin, director of the university's Nuclear Age History and Humanities Center, and Evgeny P. Velikhov, vice president for applied physics and mathematics for the Soviet Union's Academy of Sciences. Velikhov is a principal adviser on nuclear arms to Soviet Premier Mikhail Gorbachev, and helped supervise the cleanup of the Chernobyl nuclear plant accident.

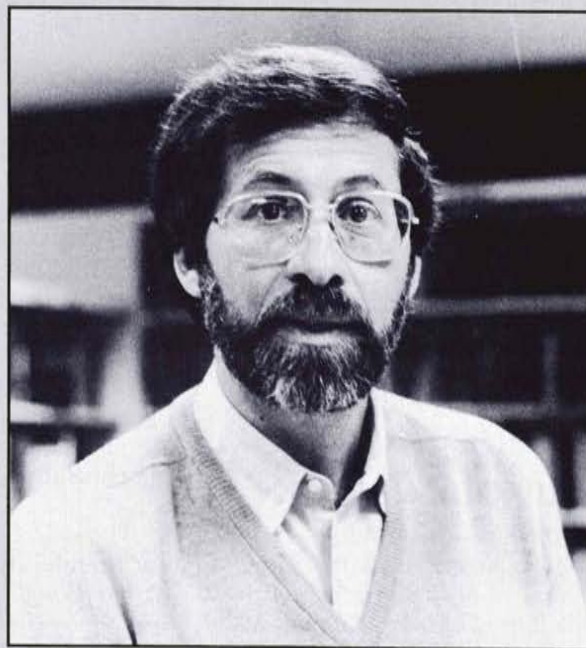
In addition to classroom instruction, the course features international discussion by satellite, scheduled for four Saturdays throughout the semester. The first three discussions will focus on strategic stability in a historic perspective, the nuclear age from Hiroshima to the hydrogen bomb and the Cuban missile crisis. Sherwin comments: "Although it is not firm, I hope that our final discussion will cover the cultural, intellectual and psychological impact of the nuclear arms race."

Course readings are parallel

Students at Tufts and at Moscow State University follow a similar syllabus, although some course material is different because of problems in translation.

"Our intent is to broaden the materials and the resulting discussions to encompass a more historical and human perspective on the arms race," Sherwin says. Material on the reading list for Tufts students ranges from general introductions to contemporary Soviet society to works dealing directly with the arms race: Heddrick Smith's *The Russians* and David Holloway's *The Soviet Union and the Arms Race*, for example. Students are also reading Sherwin's acclaimed work, *A World Destroyed: The Atomic Bomb and the Grand Alliance*, a runner-up for the 1976 Pulitzer Prize. Course materials will also be incorporated into an American-Soviet reader on the arms race.

Enrollment in the Tufts course is unrestricted; 350 students from many disciplines at both the undergraduate and graduate levels registered this semester. Eighty of those students will travel to Moscow during spring break to meet with their Soviet counterparts. The Soviet students probably do not share the same diversity, according to Sherwin. "The Soviet university is more like the European system," he explains.



Martin Sherwin, Walter S. Dickson Professor of American and English History, Tufts University.

"The students choose their area of specialization very early on, and those participating are most likely students of international relations."

Satellite course is part of larger plan

The course is an outgrowth of Professor Sherwin's Nuclear Age History and Humanities Center, established in 1986 to enhance teaching and research on the history of the arms race. It will serve as a model for the worldwide peace curriculum proposed by Tufts President Jean Mayer in December 1986, and set to be finalized in September 1988 during an international meeting of university presidents at Tufts' European Center in Talloires, France. (See *Connection*, Winter/Spring 1987, "Planning Global Studies on Arms Control.")

The course represents the first step in Tufts' Global Classroom Project, which promotes the creation of a central facility where any university can take advantage of satellite linkages with classrooms across the globe. Ideally, Sherwin says, "each university could have a sister university around the world with which they could hold joint class meetings. Our aim is the internationalization of the study of international relations."

Charlotte Stratton

The Pendulum is Swinging for Liberal Arts Graduates

More are skipping grad school to go to work. But the glamour of the "fast track" is wearing off.

BARBARA-JAN WILSON

A liberal arts education does provide what the college brochures promise: preparation for a wide array of careers. And if there is a down side to this flexibility, it is that undergraduates may be overwhelmed by the available options and have trouble choosing an initial career.

In fact, the majority of today's liberal arts graduates are choosing to delay further education for a few years while they explore the world of work.

About 75 percent of the class of 1988 at New England's most selective colleges will go directly into the job market after graduation, a drastic change from the early 1960s, when nearly 70 percent went straight on to graduate or professional school.

Eighty percent of the graduating class at Williams College will wait

five to 10 years after completing their undergraduate education to pursue an advanced degree.

Most educators attribute this change in career direction to the high cost of undergraduate education and the need to "take time off and find oneself" before spending another \$50,000 to \$75,000 on graduate school.

Has the corporate world lost its appeal?

According to Karen Hansen, director of career development at Central Connecticut State University, a student who pursues the corporate track in New England is likely to end up working in finance, insurance, accounting, or retailing, fields that dominate on-campus re-

cruiting programs at the region's colleges. In recent years, investment banking jobs have grown in demand, particularly among Ivy League institutions.

But while Wall Street and the Fortune 500 companies still lure many of New England's "best and brightest," the glamour of these high-paying corporate jobs may be wearing off, say career placement officers across the region.

"Even before October 19, many students were questioning the investment banking route," says Skip Sturman, director of career and employment services at Dartmouth College, referring to the "Black Monday" stock market crash.

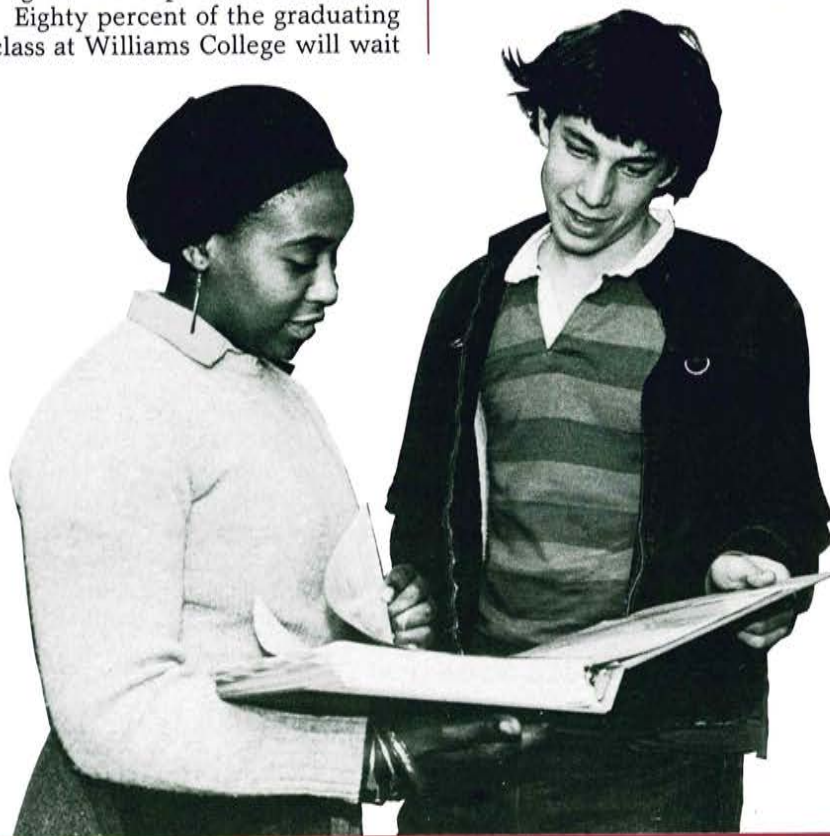
Who will benefit from this reduced interest in high finance, if Sturman's prediction comes true? Consulting firms, commercial banks, and advertising agencies, he says. Andy Thomson, director of career planning at Tufts University, points to consumer products and brand management positions.

More grads opt for nonprofits, teaching

The nine investment banks that recruited at Wesleyan University in November attracted no more than 30 students each. The Peace Corps information session held at the university, however, attracted over 50 students.

Steve Johansson, who heads the career placement office at Middlebury College, reports a renewed interest this year in non-profit and teaching careers. "Students are cautious of Wall Street and of succumb-

Barbara-Jan Wilson is director of career planning at Wesleyan University. She is also a guest editor of *Career Insights*, a magazine for college seniors.



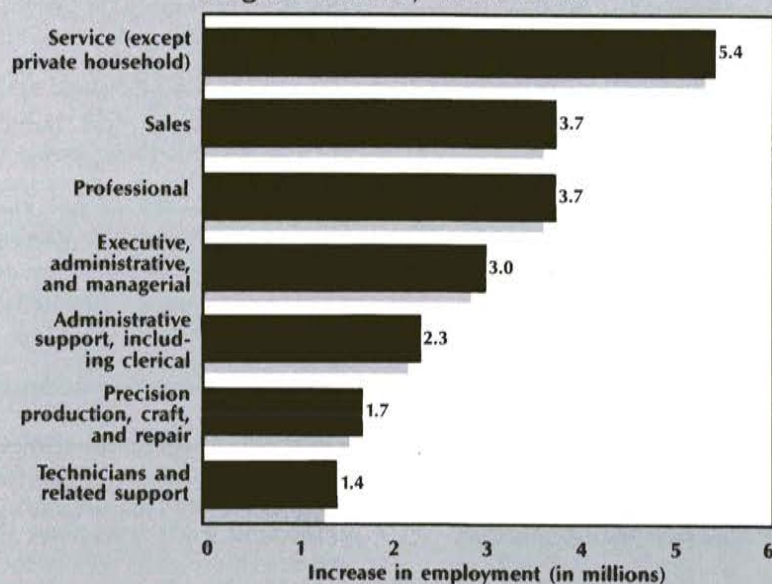
The best jobs will require more education

According to the Bureau of Labor Statistics, the U.S. economy will create more than 21 million jobs between 1986 and the year 2000. Based on the bureau's moderate-growth projections:

- The labor force will reach 139 million in the year 2000. The size of the labor force will grow more slowly than it did between 1972 and 1986. The labor force of the future will be older and made up of more women and minority workers than in the past.
- Employment in the broad occupational groups requiring the most educational preparation — such as executive, administrative and managerial workers; professional workers; and technicians and related support workers — will grow faster than the average.
- The occupational groups requiring the least educational preparation are expected to grow slowly or decline, except for a rapid increase in the number of service workers.
- Despite the faster-than-average growth in employment for occupations requiring a bachelor's or higher degree, the surplus of college graduates that began in the early 1970s is expected to continue through the end of the century.

Andrew G. Malizio, American Council on Education, Division of Policy Analysis and Research, in *Higher Education and National Affairs*, Oct. 5, 1987.

Occupational Groups Expected To Show Largest Growth, 1986-2000



Source: U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*, September 1987.

ing to peer pressure to choose the glamorous corporate job," he says.

"ACCESS: Networking in the Public Interest," a data base and job listing service for public sector jobs that is available to college placement offices nationwide, is flourish-

ing this year, says ACCESS Director Jim Clark. Seventy colleges already subscribe to the service, which enables over 500 non-profits to list job openings via computer each month. Sturman calls the resource "well-received." Positions in social service

and government offer students increased responsibility and a chance "to make a difference," Clark notes.

Thomson, of Tufts, points out that liberal arts graduates have always been involved in non-profit, education, and social service work. "Late-ly, they simply have not received the same press that those going into the corporate world have received," he says. The Peace Corps, for example, has been the single largest employer of Middlebury, Williams, and Wesleyan graduates for the last 10 years.

Marcie Schorr-Hirsch, director of the Career Center at Wellesley College, says that women in particular are pursuing careers in social work and education. After an initial flood of women into more technical, corporate fields, "women are choosing careers on a 'values driven model,' unlike men, who still appear to choose jobs on the basis of power and monetary rewards," she says. "This year's increase in applications to schools of social work and education can be attributed to more women applicants," Schorr-Hirsch says.

A renewed interest in doctoral work and academic careers is being cultivated on many college campuses, where there is widespread concern that the most accomplished undergraduates are being lured away from teaching careers. The Ford Foundation recently awarded Wesleyan University a \$250,000 matching grant to "stimulate student interest in academic careers." Students spend the year after graduation on campus collaborating on research with a faculty member and teaching, before pursuing a professional career.

Some of the most popular options on today's college campuses include teaching internships at selective prep schools, the Coro Foundation Fellowship for a year of public service internships, and the Thomas I. Watson Foundation Fellowship for a year of travel and study abroad. Law and medical schools continue to attract a strong group of applicants — but now, more frequently, after graduates have spent one or two years in the workforce. □



Biotechnology Transfer: The UConn R&D Corp. Model

JUDITH A. BEACHLER

In every New England state, colleges and universities, medical schools and teaching hospitals are taking steps to improve the transfer of their faculty's research findings and inventions from the laboratory to the marketplace. Technology transfer can bring beneficial new vaccines, drugs, instruments, and other products to the public, as well as royalty income to the faculty inventor and the home institution's research budget.

Several experts have recently pointed out an acute need for improvement within many in-house licensing offices at academic institutions. Edwin C. Whitehead, a prominent venture capitalist and head of Whitehead Associates in Greenwich, Conn., the founder and former chairman of Technicon Corp., and founder and benefactor of the Whitehead Institute for Biomedical Research at MIT, calls in-house efforts at the present time "generally ineffective." He adds: "I think it is almost a disgrace that so much royalty income has escaped the research institutions over the years."

Neils Reimers, head of the Stan-

ford University Office of Technology Licensing, laments the fact that many in-house offices overplay the legal aspects of patenting and licensing, and underplay the "hand-holding" support and encouragement of faculty, as well as the competent and aggressive marketing of faculty inventions to large and small busi-

nesses, which will bring the inventions to the marketplace. Two years ago, Reimers, on loan from Stanford, was asked to overhaul the MIT Technology Licensing Office. Reimers recruited a new staff of eight with engineering, business, biotechnology and computer science backgrounds. The MIT office is now consummating more licenses with businesses in a two month period than it achieved in an entire year with its former, primarily legal-oriented staff.

Harvard University is currently seeking biotech transfer experts, while the University of Vermont has hired a seasoned business leader to redirect transfer efforts.

A case study

In its infancy, the University of Connecticut Research and Development Corp. is experiencing modest but real success. This one-person operation is valuable as a model for other academic institutions.

Before it was created in 1984, UConn had contracted with an outside technology transfer firm whose job was to assist faculty with patenting and licensing. University officials were not satisfied with this arrangement: it seemed inefficient,

Judith A. Beachler is director of research services at NEBHE.



Lyle A. Hohnke, president, University of Connecticut Research and Development Corp. (left) with Thomas M. Benedict, president, BioPolymers, Inc., at BioPolymers World Headquarters, Farmington Research Park, Farmington, Conn. Gregory Kriss photo. Reprinted with permission from the University of Connecticut Health Center *QUARTERLY*.

ineffective and costly.

In-house discussions led to the creation of a for-profit corporation specializing in technology transfer. Such an independent entity, it was believed, could more flexibly and comprehensively address faculty needs and potentially secure greater profits for the university, its health center, and the faculty inventor.

According to its charter, the UConn R&D Corp. will "seek and evaluate technologies developed primarily at UConn, select those with significant commercial potential, complete the research and development necessary for commercial viability, and arrange for commercialization in a manner appropriate to each technology and the market it will serve."

At the present time, the UConn Medical School and teaching hospital in Farmington are receiving the lion's share of attention from the UConn R&D Corp. According to UConn R&D Corp. President Lyle Hohnke, who holds a PhD in physiology, medical research findings are often easier to commercialize, with medical researchers typically engaging in applied research as opposed to basic, bench research.

The UConn R&D Corp. operates at arm's length from both the university and the state. It contracts with the university for rights to intellectual property, patents, and copyrights for the purpose of developing their commercial potential, through joint ventures, spinoff companies, and licensing arrangements with established firms.

Often the more formal process of assigning the rights to a given technology to the UConn R&D Corp. occurs after a solid working relationship between the faculty member and UConn R&D Corp. staff has been established. A medical school professor describes the relationship: "There is a scientific liaison [Hohnke] at the UConn. Health Center who gets to know the faculty. The trust is embodied in that. Someone like myself feels very comfortable picking up the phone to say I have a specific new technol-

ogy. I'd be much less enthusiastic about picking up the phone to call some outside person because I don't really know their objectives. With the UConn R&D Corp., I know they are out to protect my interests along with all the other partners."

The UConn R&D Corp.'s board of directors is a small and active working group whose members have important expertise. They include: an insurance company executive, a corporate lawyer, a pharmaceutical company executive, a banker, an executive of Xerox Corp. (one of Connecticut's largest employers), an engineer, a venture capitalist, a manufacturing executive and a rep-

Job creation, capital formation and new products are a few specific examples of the benefits from initiatives such as UConn R&D Corp.

resentative of the University of Connecticut Foundation. Members work on behalf of the UConn R&D Corp. through their own extensive contacts in the business community. This expanding network strengthens the UConn R&D Corp.'s vital link to Connecticut's industrial community. Further, Hohnke's background in corporate drug research serves the organization well in building working relationships with the broader business community.

The relationship to the state's economic development department is informal. Small pockets of funding are potentially available to university spin-off ventures through such programs as the Connecticut Product Development Corp., the Connecticut Seed Venture Fund, and a new state-level Small Business Innovation Research Grant Program.

Funding mechanisms

Presently, approximately 30 percent of the UConn R&D Corp.'s funding is provided by cash flow from existing projects, with the remainder provided through UConn Health Center accounts. Eventually the corporation will draw its operating funds exclusively from the cash flow generated by equity, royalty and payment for services agreements negotiated with corporations or new ventures that license a given technology. The model in practice will be an agreement with the university whereby the first \$250,000 of annual net cash income from ventures is retained by the corporation in order to recover operating costs. This figure will be adjusted as the number of new technologies to be managed increases. Income exceeding \$250,000 will then be divided with 85 percent going to the university and 15 percent to the corporation.

After the corporation receives the initial \$250,000 of income from existing corporations or new ventures, the 85 percent of all additional net cash income due to the university will be returned to the University of Connecticut Research Foundation, which is charged with management of the campus's intellectual property activities. A second foundation, the University of Connecticut Foundation, sole stockholder of the UConn R&D Corp., also serves as the financial conduit through which UConn R&D Corp.-generated funds are returned to the university.

Financial return to the faculty researcher can be arranged in several ways. Connecticut law requires that a faculty inventor at a public institution receive a minimum of 20 percent of the financial return to the university. In the case of new ventures, the faculty member may also receive an equity position with the company itself. Under a contractual arrangement, income may also be derived through consulting to the company that has purchased the technology.

Venture capital funds, private in-

vestors and debt financing mechanisms are presently underwriting new business spin-offs. Ventures may also be eligible to apply for federal government Small Business Innovation Research Grants to aid in product development. In all cases, the UConn R&D Corp. provides consultation to the faculty member and assists with negotiating the specific financial package that is most appropriate for the technology, and for the protection of the university and the faculty member's interests.

Several venture capital clubs in Connecticut bring together institutions and investors who want to be involved in new growth enterprises. Connecticut Venture Group in Stamford is the largest and oldest venture capital club in the world. The Central Connecticut Venture Group was established as a chapter in January 1985 by UConn R&D Corp. President Hohnke and a Hartford attorney. The Hartford-based club is yet another example of how technology officers can become active in improving the climate for commercialization of faculty inventions. As the UConn R&D Corp. becomes more solvent, working capital or start-up funding from this source will also be available to new university spin-offs.

Success stories

Several technologies have been successfully transferred through the UConn R&D Corp. The first success was BioPolymers, Inc., a privately-held corporation founded in 1984 and based upon the work of then-UConn Medical School Marine Biologist J. Herbert Waite. Waite discovered the active ingredient of the adhesive generated by ocean mussels that bonds on virtually any man-made, living, wet or dry surface. BioPolymers, Inc. is developing the protein to serve as a surgical adhesive. In addition to its medical and dental applications, this adhesive will also be developed for industrial applications after scale-up of its production is accomplished.

A U.S. patent for this discovery was awarded to Waite and assigned

to the UConn R&D Corp. by the university. BioPolymers is the exclusive licensee for this patented technology. The UConn R&D Corp. holds an equity position in the company for itself and the university, as does the inventor.

The second project has evolved out of research conducted at the medical school's Structure Center by Leo Herbette. Herbette and his staff have developed a new drug delivery system that works as a multi-layer release wafer. This system functions by combining natural or synthetic lipids with one or more different drugs in the form of a dehydrated wafer. By preparing the system as layers of lipids containing different drugs and lipids containing

Medical research findings are often easier to commercialize, with medical researchers typically engaging in applied research as opposed to basic, bench research.

no drugs, it provides for controlled dosage rates of drug release. The UConn R&D Corp. has been granted the rights to this technology, and the staff have assisted Herbette with the patent application process.

The original evaluation regarding this system's commercial potential found that the project required further feasibility testing. This was completed by Scientific Research Associates, an independent consulting firm. The SRA evaluation found that presently this technology does not have a sufficient competitive advantage over existing products,

and needs more time in the laboratory prior to development. It has been placed on hold until the additional work makes it feasible for commercial use.

A third medical school technology involves a gene insertion technique. Dr. George Wu, and Kathy Wu, who holds a PhD in biochemistry, have discovered how to deliver a specific single gene into a cell. Upon completion of more applied studies, this technique is expected to be useful in correcting diseases, such as hemophilia, that are caused by a single defective gene. Start-up funding for this venture may occur through Connecticut's newly formed \$10-million Seed Venture Fund.

In yet another case, UConn R&D Corp. has served as a legal consultant and interpreter advising a medical school research team led by Dr. Roger Thrall and the administration on their rights to a novel biological effect discovered in a drug previously patented by a major pharmaceutical company. A new use for the derivation compound having been devised, these university scientists may have patent rights to the new product, which will be sold to the major pharmaceutical company that developed the original drug. This arrangement will provide more income to the medical school team through the UConn R&D Corp. for further research.

In August 1987, a small company, Phase V Technologies, Inc., was founded in Massachusetts with some assistance from UConn R&D Corp. staff. Marsha Testa, a former UConn researcher, joined with two Harvard Medical School faculty to found Phase V, a specialized clinical research and consulting firm that holds a \$6-million contract with a major area pharmaceutical company. Lacking a model to move their work from the lab to a company, the three researchers relied upon Hohnke and his advisors to guide them. In addition, Hohnke was responsible for the contract negotiation between Phase V and the pharmaceutical company. UConn

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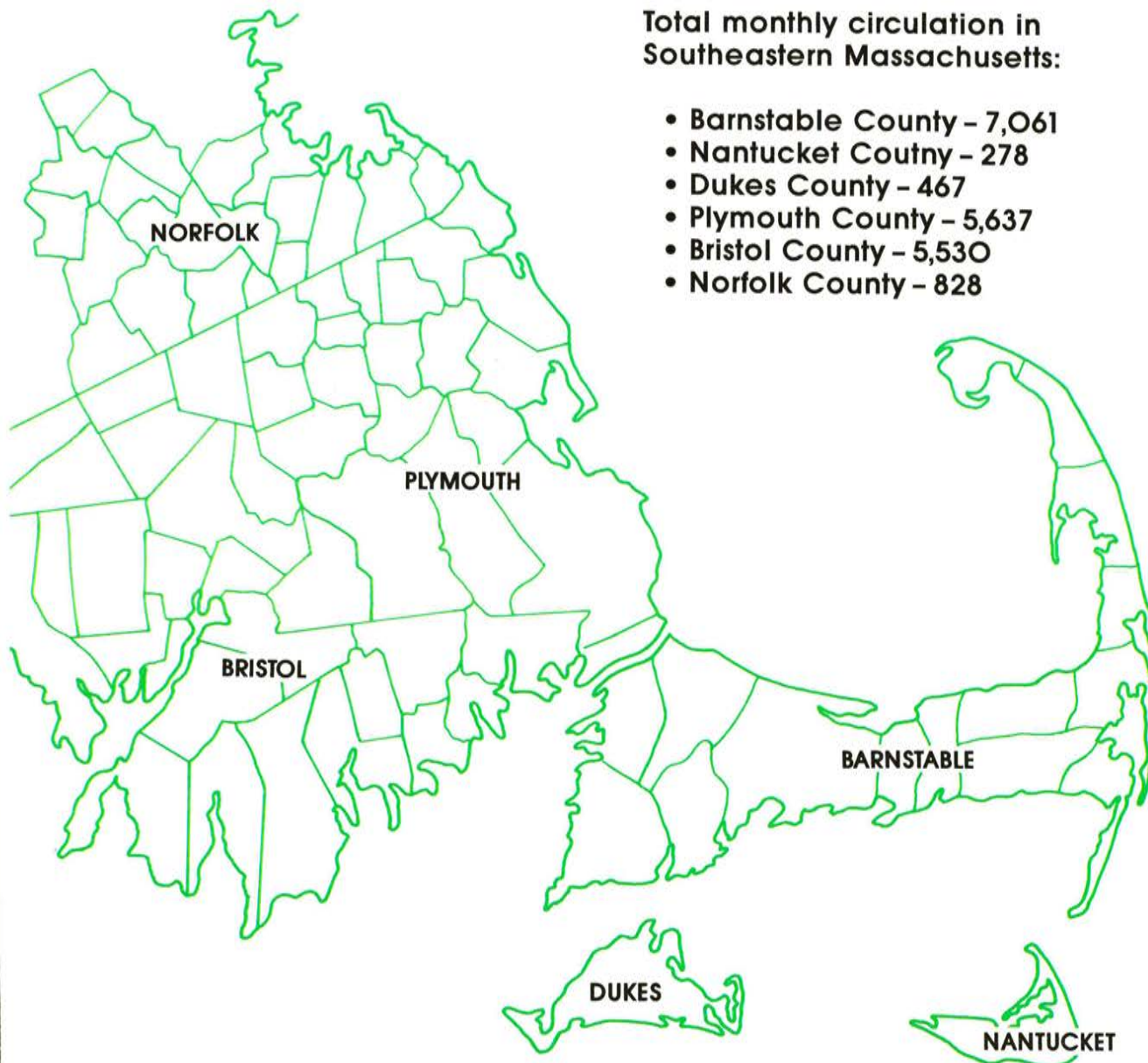
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R&D Corp. now has a three-year consulting contract with Phase V Technologies that will likely be renewed.

The UConn R&D Corp. has recently branched out in one non-medical direction. George Hoag of the UConn School of Engineering has devised a process known as induced soil venting, which removes residual gasoline wastes from contaminated underground areas. This

Several technologies have been successfully transferred through the UConn R&D Corp. The first success was BioPolymers, Inc., a privately-held corporation founded in 1984.

soil remediation technology has been successfully field tested in three contaminated sites in Connecticut. The UConn R&D Corp. has coordinated the review of both the technology's patentability and the spin-off company's business plan, has located possible investor groups and is organizing early-stage funding for the venture.

This sampling of projects shows that in each case the UConn R&D Corp. has played a slightly different role in the technology transfer process. The flexibility of the organization and its proximity to the university seem to be a plus. With each technology transfer project, a slightly different return of investment to the university has been negotiated.

The UConn model provides

unique opportunities for researchers and the broader business community to exchange knowledge on an interactive and synergistic basis. Already, the UConn R&D Corp.'s first spin-off venture, BioPolymers, is collaborating further with the university's health center scientists in a series of joint research projects. It is this secondary level of interaction that can more easily evolve through an in-house technology transfer organization. Relationships established to date through the UConn

R&D Corp. have primarily been with New England-based corporations. Initiatives such as the UConn R&D Corp. serve as prime examples of enterprises that might enhance the state's and thus New England's economy over the long term. Job creation, capital formation and new products are a few examples of the benefits of initiatives such as the UConn R&D Corp. Time will show whether it will become financially self-sufficient and expand its base of operation. □

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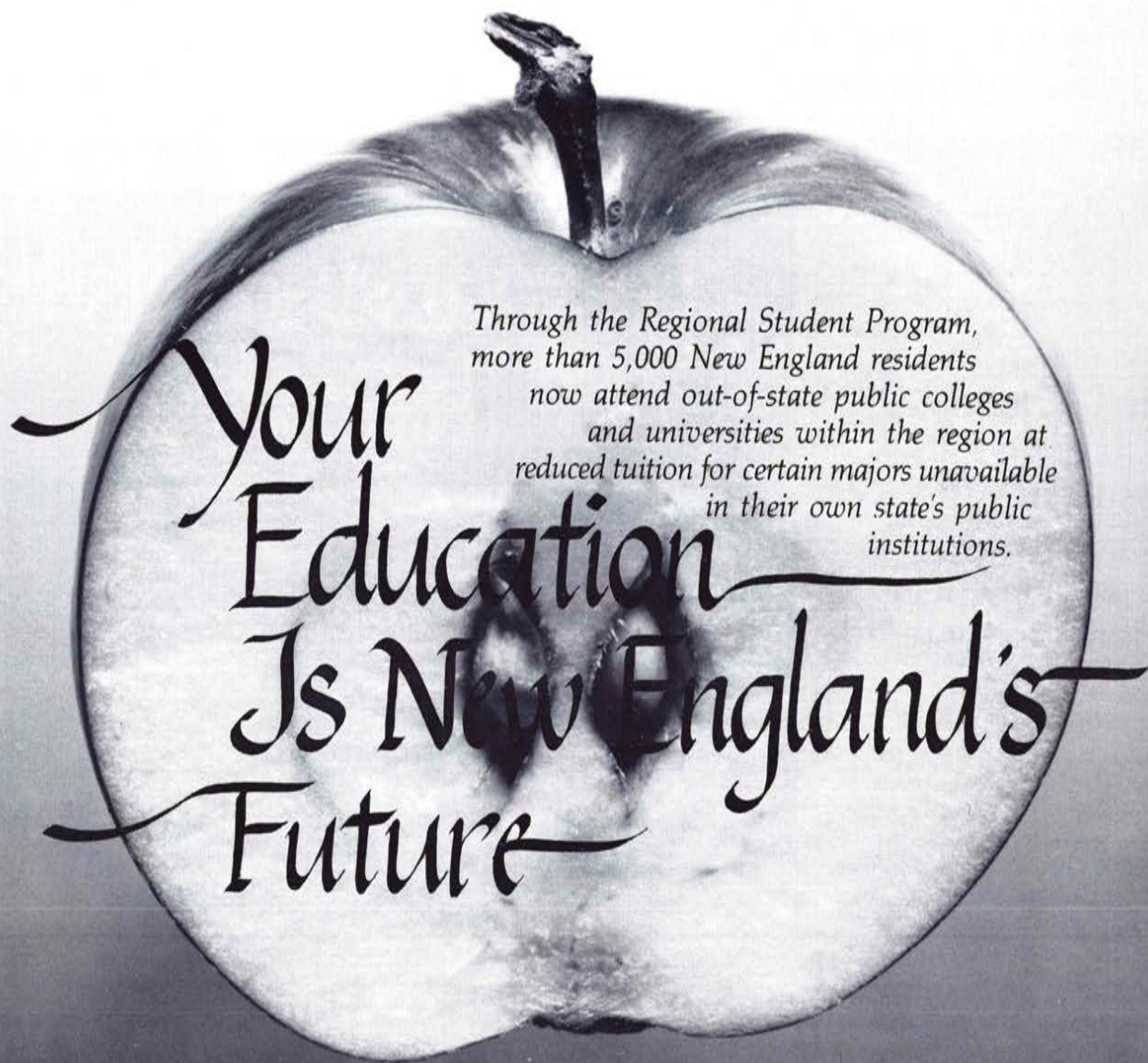
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Three new programs in marine studies will be available to students through the New England Board of Higher Education's Regional Student Program beginning this fall.

The program in marine affairs, an interdisciplinary social science program, was previously part of URI's undergraduate geography department. Chemistry and chemical oceanography, and physics and physical oceanography, represent a joint venture between URI's undergraduate departments of physics and chemistry and its graduate school of oceanography.

The new programs represent an effort by the university to expand marine studies programs at the undergraduate level.

"Marine-related industries are very important for New England," says Larry Juda, director of the marine affairs program. "Many people think only of the importance of fisheries, but second in importance is tourism, with boating, use of beaches and hotels. This impacts on areas of environmental protection, management of coastal zones, legal questions regarding access to beaches, and fisheries management."

Additionally, in New England as in many areas, "the population is moving towards the coast, bringing a tremendous pressure on facilities and resources," Juda says.

Faculty are a resource

The marine affairs program focuses on the marine environment, coastal zones and waters, fisheries law and management, marine transportation and international waters law and policy. It was designed to help students take advantage of the varied backgrounds of program faculty, who include a political scientist, an attorney, an oceanographer, an economic geographer and a cartographer.

Graduates of the program, says Juda, can go on to obtain degrees in public administration, law, or graduate oceanography. They may also find jobs in New England's vital marine industry, where they are

trained in marine law, policy and management.

"These students should be valuable to state and local governments in policy-making and management of marine resources throughout

According to Mark Rand: "These students should be valuable to state and local governments in policy-making and management of marine resources throughout New England."

New England," says Mark Rand, associate director of admissions and RSP institutional representative at URI.

Marine affairs has already been successful at the graduate level, but it is too early to make predictions about the popularity of the undergraduate offering, Juda says. Nonetheless, URI faculty believe a small, quality program will answer a demand.

New URI Programs Aid Marine Economy

PAMELA QUIGLEY

Oceanography programs hold promise

The chemistry and chemical oceanography program and the physics and physical oceanography program developed from a need "to allow students to experiment with this challenging field at the undergraduate level," Juda says.

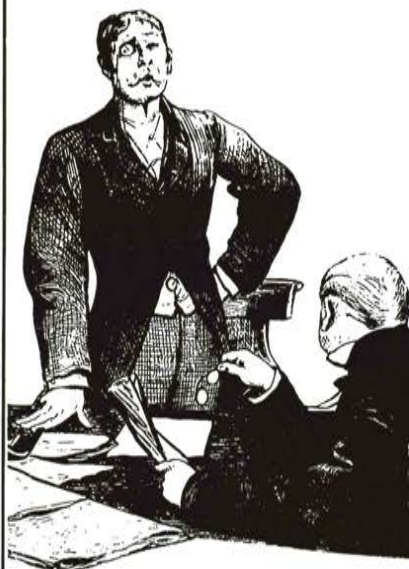
Although the programs have been in place for only six months, "a significant interest is being shown," says James Fasching of URI's chemistry department. If the success of the graduate school of oceanography is any indication, the future of new undergraduate programs holds promise.

According to Juda, the RSP will encourage students from across New England to take advantage of a truly unique program not found at any other public university in the region.

"Many students who have been unable to study at URI, due to tuition constraints, will now be able to do so. The RSP will also afford URI the chance to play a special role in these areas," he says.

URI currently offers degree programs in chemical and ocean engineering, and aquaculture and fisheries technology to 23 out-of-state students through the RSP. □

Pamela Quigley is assistant director of NEBHE's Regional Student Program.



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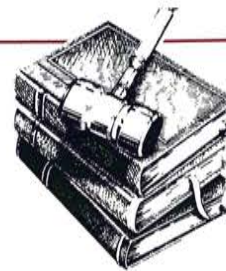
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LEGAL EDUCATION



Paralegals Should Be Licensed

KEVIN E. BOOTH

By most counts, paralegals are the nation's newest "professionals." The U.S. Department of Labor reports that paralegals will be the fastest growing occupation in the United States through 1995. Educators and job counselors are encouraging young people and those re-entering the job market to prepare themselves for paralegal work: work performed in law offices that is essentially non-clerical in nature, that requires more skill than the function of an experienced legal secretary and less than that of a newly admitted lawyer.

According to Professor Quintin Johnstone of Yale University Law School, in his book, *Paralegals: Progress and Prospects of a Satellite Occupation* (Greenwood Press, December 1985), the marks of a true professional are overtraining, collegiality and prestige. As a group, paralegals have none of the above.

By overtraining, Johnstone means that most professionals have wide training in their area of expertise even though they may use only a small portion of it in practice. Thus, the lawyer who does plaintiff's negligence work may well have taken a law school course in antitrust and unfair trade practice.

Collegiality, Johnstone writes, is a sense of togetherness that members of a profession share to the exclusion of others. Teachers identify with teachers, doctors identify with doctors, nurses identify with nurses and lawyers identify with lawyers.

And in 20th century United States, Johnstone notes, prestige is commonly associated with those professions that require a high degree of training and whose members command high salaries.

I agree with Johnstone's analysis of the marks of a professional, and in my opinion, none of them describe paralegals. If a paralegal profession is to develop, the training of paralegals must be of such a nature that the attributes of a profession will emerge.

Job vs. profession

No New England state licenses paralegals. Yet licenses for other endeavors are common in New En-

gland. In Connecticut, for example, you need a professional license to become a landscape architect, a home improvement contractor, a hearing aid dealer, or a television and radio service dealer. An auctioneer, a junk dealer and an itinerant vendor are among the 39 nonprofessional occupations that are licensed in Connecticut.

If paralegals were licensed, we could consider allowing them to perform certain functions currently reserved for attorneys. The paralegal, whether reviewing discovery motions, preparing forms for the probate court or examining land titles in the records office, ascertains for the lawyer-employer facts to which the lawyer is expected to apply legal knowledge. While the paralegal should be supervised, he or she must have the training and maturity to produce a work product that can be trusted by the lawyer and accepted by the public. Unless paralegals are licensed, no true paralegal profession will develop.

Paralegals seem to come out of one of three molds: former legal secretaries, many of whom have bachelor's degrees; graduates of proprietary paralegal schools or community colleges that offer a program in paralegal study; and graduates of highly competitive colleges who obtain their first full-time job as paralegals.

If a paralegal is to hold a position

that is identifiably between that of a legal secretary, trained in a high school business course or secretarial school, and a lawyer, trained in a post-bachelor three-year professional law program, then in my opinion a paralegal should have a bachelor's degree and a license.

Teacher training as a model

A logical model for training paralegals is the training of certified teachers. Like the teacher's certificate, the paralegal's license should be awarded either with a bachelor's degree following a four-year course of study; or, following a specialized course of post-graduate study.

My point is that if the paralegal function is allowed to evolve on its own, paralegals will simply be legal secretaries by another name. And I don't believe that this is a sufficient level of training to meet the current and future needs of the legal profession, the public or the economy. If the educational institutions of New England wish to create a true paralegal profession in our region, they must insist upon the awarding of a bachelor's degree as a bottom-line qualification. They must also support and encourage efforts to mandate paralegal licensing. □

Kevin E. Booth, Esq., is a partner in the firm Booth, Mattern and Clarke in Niantic, Conn. He is a member of NEBHE's Commission on Legal Education and Practice and the Economy of New England.

Prudent Management in 10 Steps for Directors, Officers and Trustees

JOSEPH AUERBACH

The following article was adapted from a presentation given by Joseph Auerbach Esq., partner in the Boston law firm Sullivan & Worcester, at a recent conference on "Transformation in Higher Education: Governance and Liability Issues for Trustees and Officers," cosponsored by the New England Board of Higher Education and Peat Marwick Main & Co.

Officers, trustees and directors are reasonably comfortable in meeting their obligations to the boards on which they serve by the requirement that they be "duly diligent" in making business or investment decisions. In other words, that they exercise the appropriate degree of investigatory care given the circumstances. Such diligence has traditionally protected board trustees from



Joseph Auerbach, Esq.

liability.

Many such trustees and directors, therefore, were shocked by the result in the case *Smith vs. Van Gorcom* in Delaware in 1985. In this case, involving Transunion Corp., there was a suit by shareholders seeking to set aside a merger of Transunion approved by its shareholders by a vote of 10 to 1.

By a unanimous vote of nine out of 10 directors present at a meeting, the 10th being absent, Transunion's board of directors approved a merger of Transunion with another company, whereby Transunion shareholders would receive \$55 a share. The stock had never exceeded \$39 on the New York Stock Exchange. There was no question of disloyalty — none of the 10 directors had a personal conflict, and of the nine who voted, five were not members of management. This meeting followed a strategic planning session two months earlier in which the need for corporate restructuring had been thoroughly explored by the board.

The dissident shareholders stressed that the approval vote had been taken in a meeting whose duration was only two hours, and that no independent financial advice had been sought by the board.

Splitting three-to-two, the court agreed with the dissidents on the grounds that the directors had not exercised due care in reaching an informed judgement. While the merger would not be set aside, the court held that the plaintiffs would be permitted to show that the stock was worth more than \$55 and to hold the directors responsible.

In a minority opinion, one judge recited the credentials of the five nonmanagement directors. One could hardly have created, as a scholarly exercise, a more impressive example of a board endowed with business sophistication. Each had long service with Transunion as a director as well as extensive executive, professional, financial and educational expertise in major corporations.

In the aftermath of the decision, the case was settled by the directors for \$23 million, of which \$10 million was derived from Directors and Officers Insurance. The settlement represented slightly more than \$1 per share of Transunion stock.

What was the diligence failure in this case? The majority opinion expressed disturbance that the directors had not employed independent financial advisers. At the same time, however, it noted that there was no legal requirement to do this. Similarly, the court seemed impressed by the directors' lack of personal review of the instruments and documents involved in the transaction. But again, it noted that the directors could rely on others.

How can a director, trustee or officer meet the requirements of corporate action in a manner so impeccable as to be without fear of the consequences of shareholder suits? And how can a director or trustee cope with possible adverse interpretation of new statutes meant to limit financial liability? The answers are contained in the following 10 rules for diligence.

1. Cautiously determine the scope of your required diligence. Each director must determine the scope of diligence required under the circumstances. This is then discussed by the board members. Answer such questions as: Are we equipped to value this property? Do we need an investment banker? What do we need to complete a strategic plan? While answering these questions must involve a democratic decision, a strongly held minority view must be honored.

2. Seek and be mindful of the views of your senior management. This step entails appraisal of both the quality and expert authority of the staff presentations. The staff work should be in writing and available to you and your colleagues long enough to study it thoroughly.

3. Have recourse to skillful experts on technical and extraordinary matters. This third step may be necessary if you don't have sufficient in-house capability to give you and your colleagues the kind of data you need.

4. Ensure that financial questions are analyzed by non-management experts. You should double-check significant financial determinations by having them separately reviewed again by nonmanagement personnel. Bear in mind that signifi-

How can a director, trustee or officer meet the requirements of corporate action without fear of the consequences of shareholder suits?

How can a director or trustee cope with possible adverse interpretation of new statutes meant to limit financial liability?

cant determinations may require independent review by an actuary, an investment banker, a management consultant, an economist or a political scientist.

5. Be familiar with all pertinent transaction documents. Request that adequate summaries be prepared for you by the authors of those documents. Each director should then attend an oral briefing by the authors so as to hear their colleague's questions.

6. Do not rely on management to establish guidelines for your conduct. You must not rely on management to establish dili-

gence guidelines for your consideration of the matter. As director, this function is yours alone. Most business proposals reach the determining board via the management route, and human factors bear on the determination of what would otherwise be an objective, diligent appraisal of the proposal.

7. Do not passively accept assurances of the absence of conflicts. Determine that there is an absence of conflict at the staff level in carrying out the diligence you have required. While the directors are aware that liability may attach to them individually and jointly if conflicts are not disclosed to other members and steps taken to obviate them, this atmosphere is unlikely to exist at the staff level.

8. Do not overreact negatively to proposals from persons you dislike personally. One's function in being diligent is to determine the best interests of the enterprise, not how to win a battle.

9. Do not be stampeded into decisions by presumed exigent circumstances. In cases where you are given a time limit, if you determine that you cannot complete the necessary diligence in that time in order to properly appraise the situation, you have fulfilled your duty.

10. Do not fail to review and edit meeting minutes. Have minutes taken and review them carefully. They will be invaluable as an *aide-memoire* to what occurred and how a director or trustee acted.

In conclusion: History provides a solid foundation of personal protection for the diligent trustee, director and officer. Appropriate diligence is the most reliable shield against liability so long as the individual is loyal. You can meet the test by observance of the 10 points outlined above. □

International Space University Takes Off

GOLDIE ECKL

An innovative educational program headquartered in Boston is receiving national and international attention: the International Space University.

ISU is the first graduate-level program devoted entirely to space studies. The opening instructional session will be held at the Massachusetts Institute of Technology from June to August. This summer session will bring together 100 accomplished graduate students from around the world for nine weeks of study, with a prestigious faculty drawn from academia, private industry and government.

ISU was the dream of three young space enthusiasts in their mid-twenties, Robert D. Richards, Todd Hawley and Peter Diamandis, directors of the Space Generation Foundation, which founded ISU in April 1987. Leaders of government, academia and industry from the United States, the People's Republic of China, Canada, Europe, the Soviet Union, India and Japan attended an April 1987 founding conference held at MIT. Six months after the conference, thanks to ISU's many supporters, the project had received \$500,000 in funding commitments towards its first-year operating budget of \$1.3 million. Leaders of the project hope it will become the leading center for training tomorrow's space professionals.

The primary goals of ISU are:

- Developing and implementing an international space-related curriculum providing students with the means to meet the scientific, technological and political challenges of the future;
- Identifying, assembling and educating talented graduate students from all participating nations;
- Conducting research and design projects of interest to industry;

The ISU summer session will bring together 100 accomplished graduate students from around the world for nine weeks of study, with a prestigious faculty drawn from academia, private industry and government.

- Cultivating the leadership abilities of participating students, and forging lifelong ties among these potential leaders;

- Enhancing and expanding international collaboration on space-related projects.

To achieve these goals, ISU has hired 30 outstanding faculty members to teach the 120-hour summer session. They include astronauts, physicists, medical specialists and astronomers.

ISU will offer each student a comprehensive understanding of a wide range of space-related fields. The ISU curriculum for 1988 covers eight introductory areas: space policy and law; space sciences; space engineering; space architecture; human per-

formance in space; space resources and manufacturing; and space business and satellite applications. In addition to participating in all curriculum areas, the students will collaborate on a special project: the design of an international lunar initiative.

Applications for the 1988 session are now being received from students worldwide. One hundred finalists will be selected on the basis of academic excellence, interest in space exploration and development, and demonstrated leadership abilities in both scholastic and extracurricular areas.

The fee per participant is \$10,000, to be paid with full scholarships through the ISU international sponsor network, as well as through governmental agencies, private corporations and foundations.

The ISU will develop as an intensive summer program for each of the next five years. Sessions will be hosted annually by prominent universities worldwide; the 1989 session is planned for a European site. It is anticipated that after 1992, ISU will become a permanent institution with facilities suited to its administrative and technical needs.

What is the significance of ISU? In response to this question, Arthur C. Clarke, scientist, author of *2001: A Space Odyssey* and a member of the ISU International Advisory Board, states: "The first universities helped to bring mankind out of the Dark Ages and into the Renaissance. They demonstrated a potential to unshackle the minds and spirits of the people of their time. In our day, there are few institutions that satisfy any higher individual aspirations or greater interests of humanity ahead in space and on earth in the century to come."

Goldie Eckl is a member of the ISU staff.

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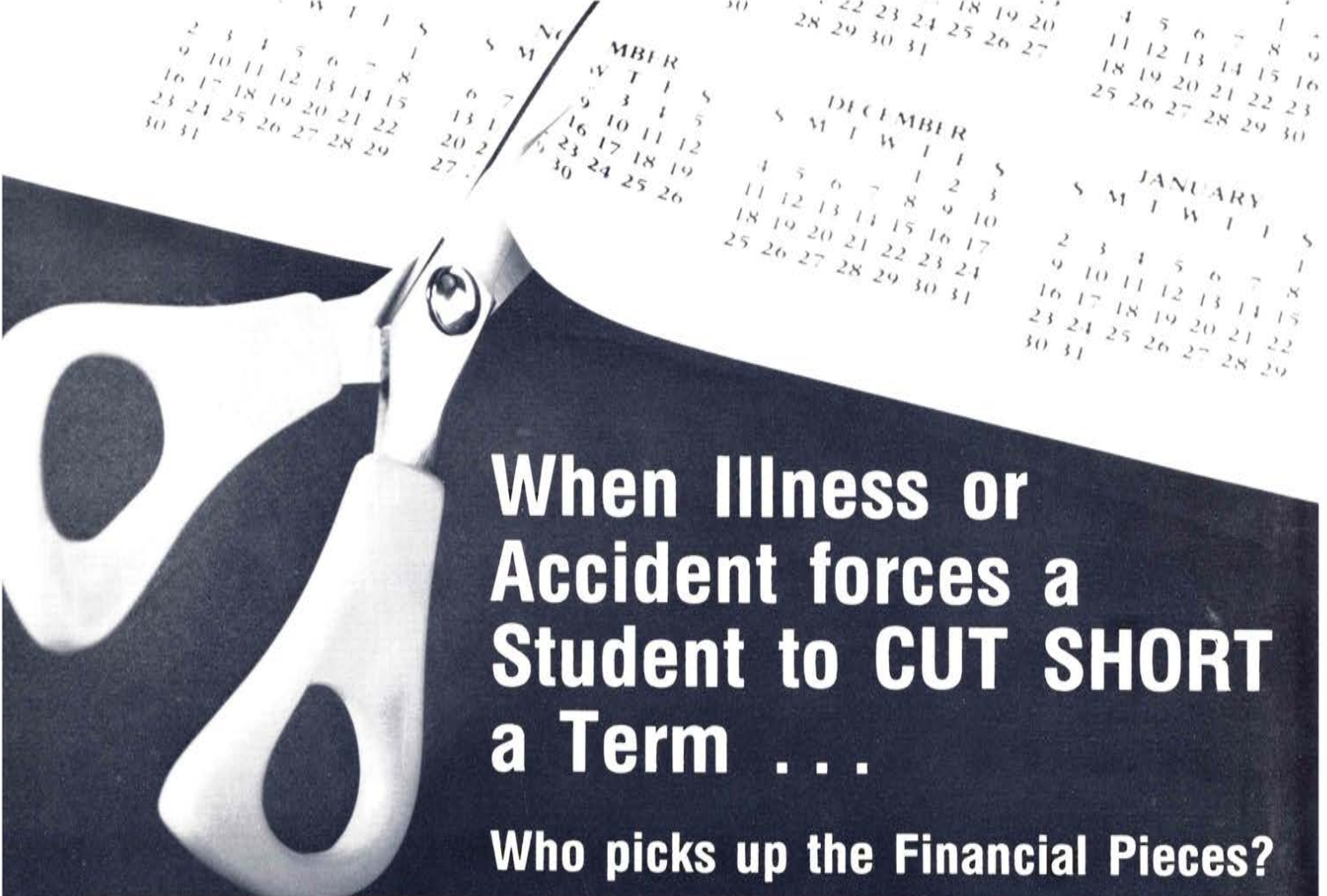


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