

NEW ENGLAND'S JOURNAL

OF HIGHER EDUCATION AND ECONOMIC DEVELOPMENT

VOLUME IV, NUMBER 4

WINTER 1990

TURF

Budget SQUEEZE

New England campuses face spring chill

ALSO IN THIS ISSUE:

Massachusetts Leaders on Higher Education in the '90s

Sen. John Chafee on Environmental Education

Rushworth Kidder on New Century's Resolutions

For Women Only?
Single-sex Colleges
Weigh Coed Option

Multiple choice.



Apple introduces a family of computing solutions for New England colleges and universities: the Macintosh ® product line.

Start with the Macintosh Plus, the Macintosh SE, and the Macintosh SE/30. They offer the ease of use, affordability, and consistency of applications traditionally associated with Macintosh.

And their compact design makes them easy to transport, wherever you go.

Now meet the modular side of the family: the Macintosh II, Macintosh IIx, and the newest member, the very versatile Macintosh IIcx.

These expandable, high-performance computers can be configured for virtually any task—you choose the monitor, storage capacity, and RAM you need.

All these computers run existing Macintosh software including the university developed Kinko's Academic Courseware.

You can further support your existing computer base with software to interconnect Macintosh with MS-DOS®, UNIX®, DEC®, and IBM® mainframes, so your entire environment can share information.

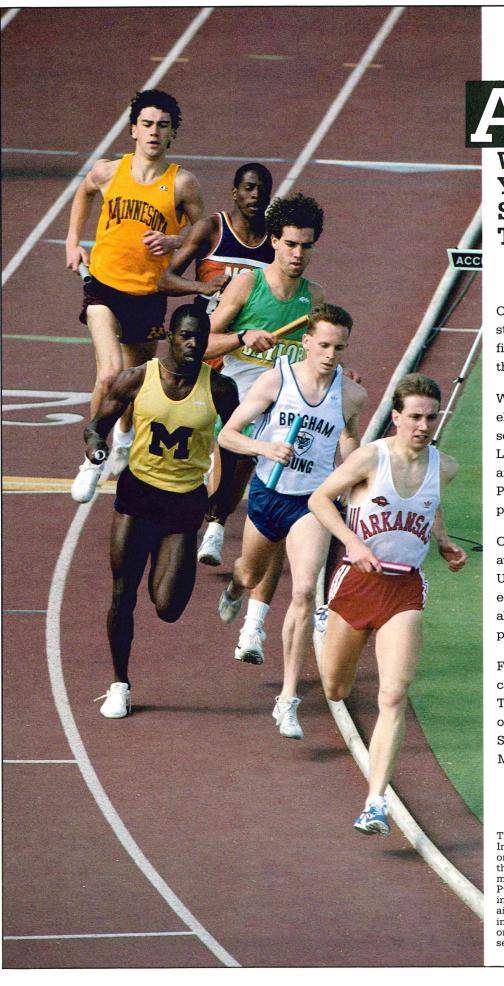
No matter which system you choose, Macintosh provides powerful, creative solutions for student, faculty, and administrators—from word processing to desktop publishing; from research to desktop communications.

Call Apple today at 508-481-2840 for more information. We'll help you choose the Macintosh that's best for you.

The Power To Be Your Best."



1989 Apple Computer, Inc. Apple, the Apple logo, and Macintosh are registered trademarks of Apple Computer, Inc. The Macintosh Plus comes with a CPU, keyboard, mouse, and built-in monitor. The Macintosh SE and SE/30 come with a CPU, mouse, and built-in monitor. Each computer in the modular Macintosh family comes with a CPU and mouse. Keyboards and monitors are sold separtely. MS-DOS is a registered trademark of Microsoft Corporation. UNIX is a trademark of AT&T Information Systems. DEC is a registered trademark of International Business Machines Corporation.



T TERI,
WE'RE WITH
YOU EVERY
STEP OF
THE WAY.

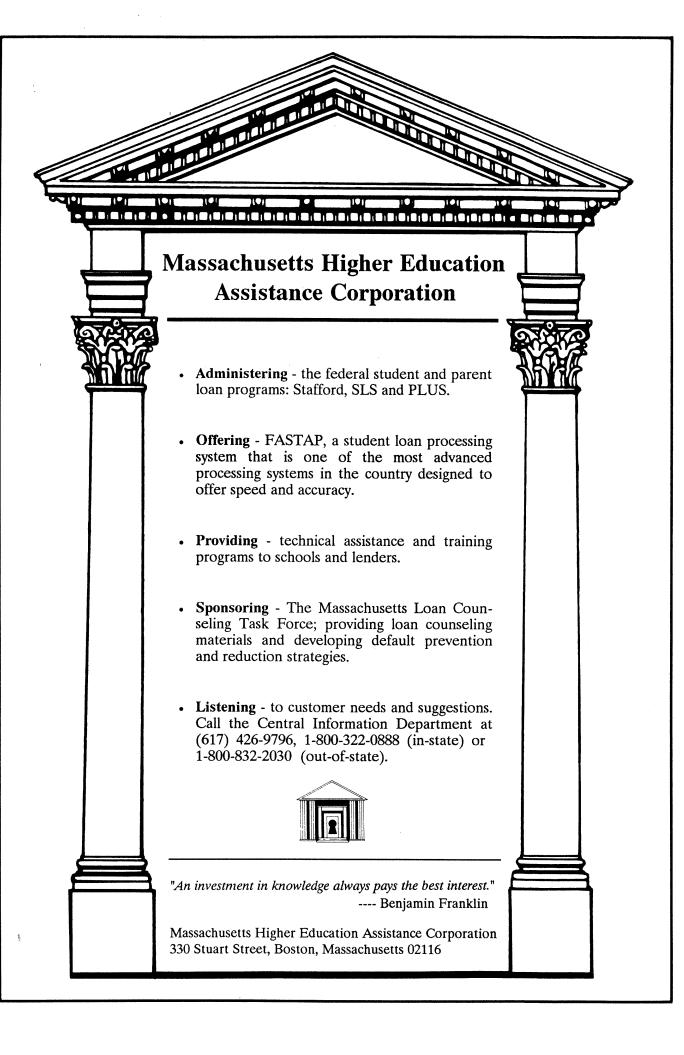
Our loan programs help students and families finance every step of their education.

We offer PLEASE Loans for elementary and secondary school, TERI Supplemental Loans for undergraduate and graduate study, and PEP Loans for graduate and professional education.

Our low-cost loans are available throughout the United States. What's more, educational institutions pay absolutely no fees to participate in any of our programs.

Find out how your school can be a step ahead with TERI. Call **1-800-255-TERI**, or write: TERI, 330 Stuart Street, Suite 500, Boston, MA 02116.

TERI (The Education Resources Institute), a private, non-profit organization, also sponsors the Higher Education Information Center at the Boston Public Library, which offers free information about financial aid and college admission. For information, call (617) 536-0200 or 1-800-442-1171 (Massachusetts only).



Q:What Does NSPRAIERAASAERDI

Spell?

These letters represent several educational organizations that actively support our American educational system.

What do each of these groups have in common with The ServiceMaster Company? Together, their commitment, dedication, and inspiring leadership are making a difference in education today.

NSPRA, The National School Public Relations Association developed the Flag of Learning and Liberty which symbolizes the link between education and the democratic way of life. In promoting this symbol, ServiceMaster assists in developing public awareness of the importance of the key foundations of education: high expectations and effective teaching, as they relate to our economic well-being and future as a nation.

IER, The Institute for Educational Research, is a non-profit consortium of school

systems and agencies that have provided customized research and creative solutions to the education community for the past 25 years. ServiceMaster proudly supports IER through the funding and distribution of practical, student-oriented, self-help brochures.

AASA, The American Association of School Administrators, and The Service-Master Company devel-

oped the prestigious National Superintendent of the Year Program which highlights the outstanding contributions of superintendents in our public schools. This program honors the dedication of these men and women who provide an inspiring example for our children.

ERDI, The Education Research and Development Institute initiated, funded and developed by ServiceMaster, is a unique organization that provides a "Think Tank" forum for progressive educators and Fortune 500 companies. Superintendent members share working knowledge about today's educational needs and, in turn, gain access to corporate leaders. This beneficial partnership provides refined products and services for the children in America's schools.

ServiceMaster is privileged to provide Management Support Services to over 500 schools and colleges in the areas of: □Plant Operations

and Maintenance
□ Custodial □ Grounds
Care □ Food Service
and □ Pest Control.

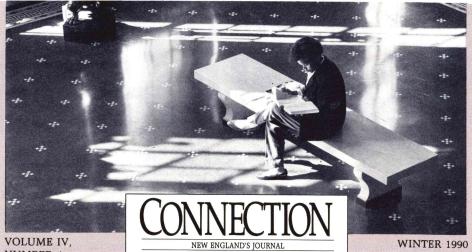
It is the goal of ServiceMaster to provide the extra time that will allow educators to concentrate on their most important task... educating America's youth; for it is through education that today's student will grow to become tomorrow's leader.



ServiceMASTER.

Better Schools for Better Tomorrows

ServiceMaster East Management Services 983 Old Eagle School Road Wayne, Pennsylvania 19087 215-687-6950



NUMBER 4

OF HIGHER EDUCATION AND ECONOMIC DEVELOPMENT

6 EDITOR'S MEMO About This Issue John O. Harney

10 DIRECTLY SPEAKING New England's Next Economic Miracle John C. Hoy

COVER STORY

- 14 THE BIG SQUEEZE New England's Public Investment in Higher Education Skids and the Price May Be Excellence John O. Harney
- 22 FOCUS ON MASSACHUSETTS Bay State Leaders on the Outlook for Public Higher Education in Massachusetts

FEATURES

- 26 Time for New Century's Resolutions But Will We Pass the Vision Test Our Ancestors Failed? Rushworth M. Kidder
- "Colleges Are Businesses" and Other Metaphors Richard G. King
- 30 Agriculture Is Environment Franklin M. Loew
- 34 FOR WOMEN ONLY? Single-sex Colleges Weigh the Coed Option Wendy A. Lindsay

- 38 EDUCATION AND ETHNICITY Reactions and Afterthoughts Toby E. Huff
- 38 Equity, Pluralism and College Athletics Gordon A. Martin
- Excerpts Jay A. Halfond on Ethics in Business Schools William R. Grogan on Engineering Manpower
- 56 NEBHE Program Seeks More Aid for Black South Africans Charlotte Stratton

EQUITY AND PLURALISM UPDATE

- 44 Minorities in Science and Engineering Looking for a Degree of Progress
- State and Campus Steps Toward Equity and Pluralism JoAnn Moody

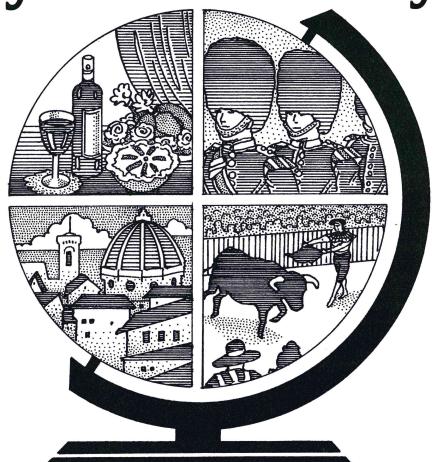
DEPARTMENTS

- 7 SHORT COURSES: News Briefly Noted
- **LETTERS** Washington Reacts to Law and the Information Society
- WASHINGTON AND BEYOND **Environmental Protection** Should Begin in the Classroom Senator John H. Chafee
- 28 DATA CONNECTION

- 41 INTERNATIONAL New England's Global Competitiveness-a Scorecard Judith A. Beachler
- 49 To Order NEBHE Publications
- PEOPLE 51 Woodbury is New NEBHE Chairman
- REGIONAL STUDENT SERVICES UPDATE RSP Majors Poised for Hot Fields

Cover photo of student rally by David Zadig, Mass Media, (U/Mass Boston photo.)

Study Abroad Through Syracuse University.



Study in one of SU's 27 academic programs conducted in **England, France, Italy, Spain,** and other locations. Grants are available for a semester, a year, or a summer of study abroad.

SEND TODAY FOR OUR CATALOG!

Name	de la companya de la		
Address			****
City	State	Zip	
dipa	Phone		
SYRACUSE UNIVE		ERNATIONAL PROGRAM	MS ABROAD

SYRACUSE UNIVERSITY DIVISION OF INTERNATIONAL PROGRAMS ABROAD 119 Euclid Avenue, Syracuse, New York 13244-4170 (315) 443-3471

OF HIGHER EDUCATION AND ECONOMIC DEVELOPMENT

Connection: New England's Journal of Higher Education and Economic Development is published quarterly by the New England Board of Higher Education, 45 Temple Place, Boston, Mass. 02111. Phone: (617) 357-9620. Vol. V, No. 4 Winter 1990 ISSN 0071-3643 Copyright © 1990 by the New England Board of Higher Education.

Publisher: John C. Hoy Editor: John O. Harney Managing Editor: Charlotte Stratton Associate Editor: Wendy Lindsay

Staff Contributors: Judith Beachler Richard G. King JoAnn Moody

Art Direction, Typesetting, Production: Inga Soderberg, Janet Grover; The Pressroom, Gloucester, Mass.

Coordinator, Advertising Sales: Betsy Keady Subscription Information: \$15 per year (4 issues); \$6.00 per issue. Printed by Wellesley Press, Framingham, Mass. Advertising rates available upon request.

The New England Board of Higher Education was established as a nonprofit agency by the New England Higher Education Compact, a 1955 agreement among the six states that was 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.

Chairman: Robert L. Woodbury, chancellor, University of Maine System President: John C. Hov

Connection Editorial Advisory Board

Chairman: Kenneth Hooker Editor New England Business Magazine Richard Barringer Augusta, Maine Kevin E. Booth, Esq Booth, Mattern and Clarke **David Buchdahl** Regional Director Community College of Vermont Laura Freid Publisher Harvard Magazine Peter A. Gilbert Former Editor The Andover Bulletin **Betsy Keady** Boston, Mass Arnold Koch Arnold Koch and Associates Senator Victoria Lederberg Providence, R.I Thomas L. McFarland Director

University Press of New England

Ian Menzies Senior Fellow

John W. McCormack Institute of Public Affairs

Representative Neil Rolde Sewall's Hill, Maine

EDITOR'S MEMO

he New England Board of Higher Education and Connection editorial offices are a stone's throw from what little is left of downtown Boston's Combat Zone. A recent lunchtime walk through that regional mecca of sleeze revealed, among other things, that Connection shares its moniker with a less wholesome publication. While the "Connection" magazine displayed in the window of one of the few surviving zone haunts is not remotely like ours, the revelation naturally prompted a very brief rethinking of our

We're keeping our name, and this issue of Connection (ours) is full of reasons to do so. The name works remarkably well on two levels. First, it connotes collaboration, interrelatedness, the limitless promise of elbow-to-elbow cooperation among New England's universities and governments, colleges and local school districts, community colleges and businesses, campus-based engineers and venture capitalists - all the vital combinations. Second, it prepares readers, we hope, to view news and trends in higher education with an eye toward economic development and vice versa.

In fact, the "connections" that we are all about are so prevalent in this issue, they presented a bit of an editorial dilemma. The problem was the temptation to repeat a single caveat in nearly every story. We could be talking about virtually any step to expand knowledge or enhance prosperity, and the insidious qualifying sentence would come calling. It would go something like: But with state fiscal problems worsening and public investment in higher education slowing down, don't count on it.

Indeed, the state budget woes and subsequent declining public investment in higher education that we have documented in "The Big Squeeze" directly undercut progress on other matters covered in this issue - things like training a competent workforce, raising international awareness, increasing minority participation in higher education and protecting the environment.

In a few cases, we couldn't resist. For example, in "New England's Global Competitiveness – a Scorecard," Judy Beachler warns that budget constraints already may have compromised the competitive strengths of some states. Our "short course" on biotech would be overly optimistic without the caveat that state-funded efforts to nurture the industry are in jeopardy.

Most of the connections illustrated in this issue are tidier. Take U.S. Sen. John Chafee's plan to put education on the frontline against environmental catastrophe. Or Wendy Lindsay's report on the evolution of women's colleges from finishing schools to key economic contributors with missions like training welfare-dependent mothers for good jobs.

In this issue, we also inaugurate "Data Connection," a new department that presents facts in a sort of shorthand. The connections are left for the reader to make. Is there a link, for example, between the fact that just 10 percent of U.S. college freshman did extra reading for courses in 1989, and the fact that 64 percent of Americans think the U.S. economy will be dominated by foreign companies in the next 10 years?

In "Time for New Century's Resolutions," prize-winning columnist Rushworth Kidder examines the handful of "make-it-or-break-it issues which, if we don't deal with them, will hand us a 21st century none of us cares to inhabit..." Not surprisingly, Kidder says higher education could play a key role in addressing those issues. But with state fiscal problems worsening and public investment in higher education slowing down, don't count on it.

A footnote: In the Summer 1989 issue of Connection, we presented Thomas Small as a model adult learner. You may remember that Small received his master's degree at age 90. Then, when his eyesight deteriorated, he chose to continue his education using audio-cassettes provided by the Massachusetts Commission for the Blind. Well, the budget squeeze that permeates this issue of Connection now threatens to eliminate the Talking Book program through which the audio-cassettes are distributed. Who's losing their sight now? □

John O. Harney is editor of Connection.

Openings, Closings

Just two New England colleges closed their doors in the 1980s, compared with 26—including 11 single-sex colleges—in the 1970s, according to a recent analysis by the New England Board of Higher Education.

College closings also declined nationally. From 1980 to 1988, 54 U.S. institutions shut down, compared with 141 institutions in the 1970s, according to the National Association of Independent Colleges and Universities (NAICU).

College openings also were down in the 1980s. An informal NEBHE survey reveals that four higher-education institutions were founded in New England during the 1980s. All four are independent, specialized institutions: a culinary institute, a graduate institute offering an engineering management program, a Bible college and the nation's only institution tailored to dyslexic students. By contrast, 25 New England colleges opened in the 1970s, 12 of them state institutions.

The NAICU reports 74 openings nationally in the 1980s, compared with 76 in the 1970s.

The 1990s may be marked by less stability. A NEBHE analysis of national demographic trends projects that the size of New England's traditional-age, high-school graduating class will shrink by more than a fifth from 1988 to 1994. The sharp decline in high-school graduates could mean financial trouble for colleges that have raised tuition significantly in recent years, maintained small endowments and relied heavily on full-time undergraduates.

Farmington Beckons

With a severe faculty shortage forecast for some top colleges by the turn-of-the-century, recruitment is bound to take some new turns. In fact, it already has. Take the University of Maine at Farmington's seductive helpwanted ad in a winter issue of *The Chronicle of Higher Education: "Nutrition/Dietetics* The University of Maine at Farmington invites applications for a tenure-track position at the

Assistant Professor level... The home of Chester Greenwood (inventor of earmuffs), Farmington enjoys unrivaled fall foliage, fine skiing, scenic mountain views and lakes, not to mention cold, snow, mud and other assorted challenges..."

Systemwide Approach

The University of Maine System is in the midst of an unprecedented systemwide fundraising campaign, aimed at raising \$65 million for the sevencampus system over five years.

In the first year, the *system* is approaching major statewide donors to raise \$20 million. In subsequent years, *individual campuses* will do the soliciting. It may be the best of both worlds. The system can appeal to larger interests and ask for more money than each campus can. But the campuses enjoy stronger loyalty among alumni and local businesses.

Funds will go toward endowed faculty chairs, scholarships, fellowships, academic programs, construction and renovation and cooperative ventures among campuses.

Planning for the campaign began long before indications of a slowdown in state support for higher education in Maine and throughout New England. UMaine officials are stressing that contributions are not simply replacing state dollars.

Chancellor Robert L. Woodbury concedes that the same economic slowdown affecting state revenues may pinch donors. Still, an early individual gift of \$5 million, followed by Bath Iron Works' contribution of \$1.2 million seemed to make a case for the systemwide approach. Besides, says Woodbury: "The campaign has already succeeded in reinforcing the Maine business sector's view of how important the public university is to the future of the state."

An Idea Ferments

Two years after a New England Board of Higher Education commission concluded that, with the right incentives, biomedical research could create job-generating "replacement industries" for the region's maturing

.....

computer industry, promoting biotech is in vogue. Consider:

- The New England governors devoted much of their winter meeting in Maine to the industry's future and created a New England Biotechnology Cooperative to encourage biotech activity;
- Massachusetts Gov. Michael S. Dukakis announced his intention to make the state the world's leading center for biomedical research and manufacturing;
- the Boston Redevelopment Authority targeted biotech as a focus of a major real estate development project at Boston's South Station;
- Tufts University and Worcester Polytechnic Institute developed a dualdegree program to prepare veterinarians for biotech careers; and
- several local school districts in the region formed partnerships with colleges and businesses to familiarize teachers and students with biotech.

The activity seems a natural outgrowth of the region's unequaled health-research capacity. With just over 5 percent of the U.S. population, New England garnered 14 percent of National Institutes of Health research funds in 1988.

But the problem raised in the NEBHE report Biomedical Research and Technology: Prognosis for International Economic Leadership remains—fledgling biotech enterprises will go elsewhere if New England cannot supply incentives such as long-term, low-cost loans, R&D tax breaks, special grants and, of course, a competent workforce.

The fiscal cloud hanging over New England's statehouses could restrict some of those incentives for now. "But it also will highlight the fact that, as the economy slows down, we need to be very aggressive in making sure we have new replacement industries, and biotechnology is one of them," says David C. Driver, chairman of the New England Biotechnology Cooperative and executive director of Connecticut Innovations Inc., a quasi-public financing and technical-assistance agency.

The regional Cooperative, comprised of business leaders, educators and policymakers, is considering several collaborative projects such as

a regional directory of biotech-related businesses and academic programs. But the six-state effort will take time. "There are going to be constraints to regional cooperation, especially when you're talking about an aspect of economic development that is competitive," says Driver.

Dateline Hartford

The University of Hartford will offer half-price tuition and fees to graduates of Hartford high schools, starting in the fall. The plan could save qualified city residents \$22,000 over four years and forge an important ''town-gown'' partnership for UHartford. Minority students make up 92 percent of the city's publicschool enrollment, but only about 6 percent of the university's.

The plan was announced amidst a series of events that made UHartford a major stop along the education beat in recent months. Around President Humphrey Tonkin's inauguration in October, the campus hosted a meeting of the American Council on Education and the Conference of European Rectors. The higher-education leaders from 20 North American and European countries called for, among other things, stepped-up government and industry support of international education and student exchanges.

UHartford meanwhile announced new initiatives ranging from a bachelor's program in occupational therapy to an Office of International Studies. And new buildings. A \$20.8 million museum, library and conference center was dedicated, appropriately enough, with an address by Brown University President Vartan Gregorian, former president of the New York Public Library. Then a \$10.3 million sports center opened its doors. Tennis great Arthur Ashe spoke at that ceremony.

Even before those events, U.S. News & World Report in its popular, if controversial, annual report on "America's Best Colleges" dubbed the university an 'up-and-comer." From a media-relations standpoint, that's the real coup. The magazine stays on newsstands until June, right through college-search time.

... More of the "Best"

U.S. News & World Report's 1990 college-rating issue ranked Worcester Polytechnic Institute No. 1 among 170 "regional colleges and universities" in the North. Other New England institutions in the top 15 of that category include Simmons, Fairfield and Providence. New England also is heavily represented in the magazine's ranking of "national universities." Yale is first. Harvard, MIT, Dartmouth and Brown grace the list of the top 25. Nearly half of the magazine's top 25 "national liberal arts colleges" are in the six-state region. They are Amherst, Williams, Wellesley, Smith, Wesleyan, Middlebury, Bowdoin, Mount Holyoke, Trinity, Bates and Colby. Other New England institutions that get prominent ink: Saint Anselm, Albertus Magnus, Saint Joseph, Colby-Sawyer and Bradford.

Common Market

Education commissioners from the six New England states and New York have signed an agreement establishing the first regional teaching certificate in the United States.

In the past, a teacher moving to a new state had to spend months meeting state-specific requirements before being allowed to teach. The new Northeast Regional Credential allows a qualified teacher, counselor or other specialist in any of the seven states to take a job immediately in another participating state, and have up to two years to complete unmet requirements for certification. One exception: In Maine, which recently began requiring teachers to take a national exam, the grace period will be one year.

The new credential, effective in April, is provided by the Northeast Common Market Project, a collaborative effort among the seven states and the Andover, Mass.-based Regional Laboratory for Educational Improvement of the Northeast and Islands, a federally funded organization.

Project sponsors say the credential will allow educators in 23 specialties to move more easily to states where their specialty is needed. The Regional Laboratory plans to operate a clearinghouse to match credential-holders to job openings in the participating states. The Massachusetts Institute of Social and Economic Research is working with the project to provide state education officials with data on educator supply and demand.

Says Vermont Commissioner of Education Richard Mills, "The heart of the matter is talent. It makes no sense to have trade barriers that block the free exchange of talent."

Bolstering Competitiveness

Coming soon... a National Endowment for International Education and Competence?

That's the major recommendation to emerge from two years of study by the Coalition for the Advancement of Foreign Languages and International Studies (CAFLIS), an assembly of 165 education, business and government groups, including the New England Board of Higher Education.

CAFLIS calls on Congress to create a national endowment to support programs in international business, foreign languages and area studies. The coalition also urges each state to provide loan-forgiveness programs to college students who pursue second languages and international studies and apply their knowledge to teach within the state.

The recommendations are intended to bolster U.S. competitiveness by improving international education. Vermont Gov. Madeleine M. Kunin is a member of the leadership council appointed to implement the CAFLIS action plan.

Come East ACE

When the American Council on Education (ACE) elected new members to its board of directors in January, something was missing-New Englanders. In fact, neither of the two new officers and none of the seven new institutional board members hail from north of North Carolina or east of Indiana. For now, Lesley College President Margaret A. McKenna is the sole New Englander on the 37member board, according to ACE.

Washington Reacts to Law and the Information Society

ew England's ratio of lawyers to population has doubled since 1960 to a current level of roughly one lawyer for every 300 residents. But growth in the marketplace for lawyers has not worked to curb legal costs, reach more middle-class and poor people or ensure professional competence in the ranks, according to Law and the Information Society, a report by the New England Board of Higher Education.

The report, released to leaders of the region's legal community, culminates three years of study by NEBHE's Commission on the Legal Profession and the Economy of New England, a 37-member panel of distinguished New England lawyers, judges, law school deans and business leaders. The commission was chaired by former Vermont Gov. Thomas P. Salmon.

The commission found that the much-maligned lawyer played an often indispensable role in New England's transformation from a dying industrial region to an economic success story of the information age.

But the commission also noted that the legal profession is not adequately dealing with a range of issues. The group's recommendations range from a plan requiring new lawyers to provide a minimum number of hours of *pro bono* service to the poor and elderly, to mandatory continuing-education programs aimed at ensuring that lawyers attain and maintain competence throughout their careers.

After garnering praise as a blueprint for change—and ruffling a feather or two—in New England, Law and the Information Society has had a "congressional hearing" of sorts. Reactions from members of New England's congressional delegation are excerpted below. Copies of Law and the Information Society can be ordered from NEBHE. Please use the order form in this issue.

I am delighted that [Law and the Information Society] has received the notice it deserves ... The panelists have put together a unique regional analysis of the legal profession in New England. Furthermore, released as we enter the 1990s, this report is particularly timely. Certainly many of the issues examined in the study—the cost of legal services, legal education and training and the administration of civil justice—warrant immediate attention at the local, state and federal level.

Sen. John H. Chafee (R-R.I.)

Law and the Information Society [is] a fine analysis of legal education and the responsibilities of the legal profession in New England. I am particularly pleased to see that the Commission focused on the role of at-

torneys in the economy of the region. At a time of uncertainty about the New England economy, it is encouraging to read that attorneys and law schools play such a positive role.

The suggestion of more pro bono work by young attorneys is a very good idea. Our Legal Services and Legal Aid offices in New England are overburdened with the demand for representation of the poor. I am also encouraged that the Commission recommends mandatory continuing legal education for practicing attorneys, as we already have in Vermont. This is an important step in ensuring the competency of practicing lawyers.

Sen. Patrick Leahy (D-Vt.)

I found [Law and the Information Society] very thorough and informative. The discussion of educating and training lawyers, the analysis of the role of lawyers in New England's economy, and the general overview of the legal system in the region is important and necessary information in evaluating the current system in the area and formulating changes. A wealth of important data is contained in this report, and some significant concerns and suggestions have been raised.

Sen. George J. Mitchell (D-Maine)

I am impressed by the thoroughness of [Law and the Information Society] and am struck by a number of the findings. I was interested to read, for example, that the percentage of lawyers in the New England population has increased at roughly the growth rate of the region's economy. I was pleased to read that the region's law schools have been able to offer equal opportunity to women and I am hopeful that the Commission's recommendations on minority admissions will broaden the diversity of these institutions. In short, I find the report a fascinating study and I am sure that I will continue to find it a useful source of information.

Sen. William S. Cohen (R-Maine)

[Law and the Information Society] offers a refreshing look at the role of law in New England society. I find its recommendations concerning the responsibilities of the legal profession to the poor particularly compelling.

Sen. Claiborne Pell (D-R.I.)



New England's Next Economic Miracle

JOHN C. HOY

n the 1980s, New Englanders attained a level of prosperity that the other 95 percent of Americans emulated, but could not duplicate. New England created 885,000 new jobs in the 1980s as its labor force reached 7 million. The region ended the decade with the lowestin-the-nation unemployment rate of 3.9 percent and the highest level of per-capita income of any region in the United States—all symbolic of New England's now-fading economic "miracle."

This corner of the United States became so prosperous in the 1980s that New Englanders, caught up in the momentum of success, neglected to prepare for what might occur in the 1990s, or for that matter, in 1989. What occurred was a major change in the economic landscape. Joblessness is now rising and personal income growth has slowed, relative to the rest of the country.

This place, historically proud of its prudential wisdom, squandered part of its prosperity by not making the strategic investments in the future that prosperity warrants. Now, New England is paying the price. Much of the burden is falling on education at all levels, which is just where strategic public investments should have been made, and must be made now.

Many of us have been too slow to address the relationships between education and economic well-being. Much of the credit for New England's brisk economic growth in the 1980s has been attributed to high educational attainment among residents and world-class scientific research and technological innovation, generated primarily by the region's more than 260 colleges and

universities. Our higher-education institutions saw steady increases in public investment between 1978 and 1988. But when the economy slows down, this investment immediately becomes a target for cutting, and so begins a damaging spiral.

New England built its 1980s miracle on the foremost concentration of educated, professional, skilled workers in the nation. That's exactly what we stand to lose in the 1990s.

Indeed, New England's next miracle is already restricted by a severe decline in high-school graduates that will last well into the 1990s. If the region is to make the best of a bad demographic situation, leaders of higher education must revisit another complex relationship, the one that exists among colleges and universities and their host communities in behalf of publicschool systems—the greenhouses our future ''prudential wisdom."

With the six New England state legislatures facing a collective biennial regional deficit well in excess of \$2 billion, severe fiscal burdens have been loaded upon town meetings and city councils across the six states. Local efforts to improve public schools, like state efforts to bring excellence to higher education, will see their historically modest level of support shortchanged in community after community.

Higher-education faculty and staff, who have been among the most concerned observers-and vociferous critics - of public education, now must become actively engaged at the local level. Why? Because colleges and universities, with their tax-exempt status, are among the principal fiscal burdens a host municipality faces (in exchange for substantial benefits). And because higher education's search for excellence will be sustained only by excellence in the public schools that prepare tomorrow's college students.

Despite their own budget woes, colleges and universities now must display responsible citizenship (and their survival instinct) by:

 Supporting local tax initiatives that will directly improve the

- quality of schools in their communities;
- Taking renewed action to provide substantive school/college commitments; and
- Prioritizing their own local, corporate fundraising in support of school/college collaboration to enrich public-school programs.

With few notable exceptions, college and university presidents have remained statesmanlike and aloof in their encouragement of excellence in the schools. In the new decade. town meetings and school committees require an earthier message and a shared commitment from leaders of higher education.

The "partnerships" of the 1980s will not produce New England's next "miracle." The 1990s require a far deeper level of collaboration.

This collaboration cannot wait. New England's continuing fiscal crisis and resulting decline in highereducation funding, as well as support of public schools, is not lost on financial analysts, corporate relocation experts, foundation executives or federal agencies. There is the specter of economic development teams across the country penciling higher-education and public-school funding data into case statements, ready to dissuade corporate CEOs from choosing New England as a site for expanded operations.

The message being sent to outstanding faculty and campus leaders who are considering relocating to New England is that the region may not be a place to call home in the 1990s. The same goes for gifted students and researchers. Their reluctance to remain in New England-or relocate to the region—will threaten our leadership in job-generating technological innovation.

In short, economic prosperity and quality of life in New England will continue to depend on higher education's capacity to turn out welleducated workers and spur economic development through research. That capacity, in turn, depends on excellence in our public schools. \square

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

We'd like to show you a path that often holds the greatest reward.



Rewarding careers for people who care.

Down the road a few years from now, you're going to be glad you chose a career path today that's right in the heart of Boston. It's Northeastern University's Boston-Bouvé College of Human Development Professions - the smart choice that leads to a greater reward for people who really

The graduate programs offered by Boston-Bouvé College provide you with a wide range of career opportunities in health, sport, and leisure studies, rehabilitation, counseling, communication

disorders, and education.

Our faculty have received national and international recognition for their research, teaching and service to others and to their profession. Boston-Bouvé College has well-established clinical affiliations with some of Boston's leading medical, educational and research facilities.

Study may lead to a master's degree, certificate of advanced graduate study (CAGS), or doctoral degree. Most programs are offered on a part-time as well as full-time basis, combining classroom theory with practical hands-on experience. Courses meet in the late afternoon and early evening, so students can continue to work.

Graduate programs are offered in the follow-

ing areas:
Athletic Training

Audiology Biomechanics

Clinical Exercise Physiology College Student Personnel Work

& Counseling **Consulting Teacher of Reading Counseling Psychology Curriculum & Instruction Educational Research Human Development**

Human Resource Counseling Human Services Specialist Physical Education Recreation, Sport & Fitness Management Rehabilitation Administration Rehabilitation Counseling **School Counseling School Adjustment Counseling School Psychology** Speech-Language Pathology Special Education **Teacher Preparation**

Call (617) 437-2708, or write Graduate School, Boston-Bouvé College of Human Development Professions, 107 Dockser Hall, Northeastern University, Boston, MA 02115. Because some of life's greatest rewards come to those who care.

Boston-Bouvé College



An equal opportunity/affirmative action university.

Environmental Protection Should Begin in the Classroom

A plan to put environmental education on its feet, using fines paid by polluters

SENATOR JOHN H. CHAFEE

lacksquare opping the news tonight is a report from scientists at the South Pole that the hole in the ozone layer appears to be getting bigger...

Midwestern senators today again defeated a proposal to curb levels of smokestack emissions responsible for acid rain...

Day after day, we read newspaper articles and watch television reports about the serious problems plaguing our environment. Many of these complex and interrelated problems cannot be explained adequately in a newspaper article or a two-minute segment on the evening news. Yet the majority of Americans receive no formal education or training on environmental issues. The media remain their major source of information on the environment.

Some environmental issues, such as the oil spills that occurred last year off Alaska, Rhode Island, Delaware and Texas, are easier to understand than others. Pictures of ducks and seals drenched in oil and coastline rocks mired in black are vivid images that we all share in the aftermath of these tragic occurrences. The immediate damages were evident to all. Wildlife suffered grotesque deaths. Tourism was affected by beach and waterway closings. Fishermen were asked to assess financially their loss of livelihood. For shoreline residents, the pungent odor of oil in the air served as a daily reminder of the spill. Yet we are just beginning to learn the extent of damage our marine environment has suffered.

People remain outraged about the oil spills because they were avoid-



Chafee: Education is the key.

able. Congress and state governments have responded by imposing new restrictions on oil tankers and improving our ability to respond to spills when they occur.

But not all environmental problems—nor their solutions—are as straightforward as this. How many people understand the devastation of the earth's ozone layer by such chemicals as chlorofluorocarbons or the resulting greenhouse effect? I would guess not many. Yet this is potentially the most serious problem facing the United States and the entire planet.

Solutions to this problem have been slow in coming. People have difficulty understanding how a hole in the atmosphere, located thousands of miles away, can threaten their livelihood. It is not as tangible as a glob of oil, nor is its remedy as forthright as enhancing safety measures on oil tankers.

My colleagues on the Senate Environment and Public Works Committee and I understand the national and global threat posed by such serious problems as the greenhouse effect and acid rain. Our committee is working to find solutions. But we cannot hope to implement these solutions without the support and involvement of people throughout the country.

Citizen participation

The best way to encourage active citizen participation in environmental matters is to demonstrate how each of our lives is directly affected by the environmental problems we face. Environmental education, both formal and informal, is the key to developing public understanding and support for national and international efforts to protect our earth.

The concept of environmental education is not new. In 1970, Congress passed a national environmental education law that was never aggressively implemented and was repealed in 1981. In 1977, the United Nations sponsored a major intergovernmental Conference on Environmental Education. Yet the need for a broad, interdisciplinary approach to environmental education—both in formal settings such as school curricula and through informal channels such as the media-has never been more urgent than it is today. We must instill in our population, especially the younger generation, an understanding that everyday actions such as garbage disposal and the burning of fossil fuels have a direct impact on our life-sustaining ecosystem. If we do not succeed in that effort, then we face the continued deterioration of our environment.

Until this century, man has been largely incapable of causing irreparable harm to the environment. As Americans, we inherited a seemingly limitless expanse of land and water. If we used up the available land, we could always push further west. Our oceans seemed to supply us with an inexhaustible supply of fish, and always rebounded from the impact of human development.

The industrial revolution, however, dramatically changed those assumptions. Within the past few decades, we have become painfully aware that the collective action of mankind can wipe out plant and animal species, cause acid to fall from the sky and damage atmospheric ozone, with the dire consequence of global warming. The most important tool we have to subvert these assaults on our environment is education. We must arm the next generation not only with a keen awareness of environmental problems, but also with skills to solve them.

That is why I and a number of my colleagues have introduced the National Environmental Education Act. This bill's goal is to expand and improve environmental education in our country. Students all across the academic spectrum-from the early grades through postgraduate studies-will benefit from the environmental education provided by this bill. And increased public understanding of environmental problems can lead to widespread public support for measures to address them.

Our bill establishes an Office of Environmental Education within the Environmental Protection Agency and authorizes \$15 million per year in funds to be awarded through grants to local and state education agencies, colleges and nonprofit organizations to promote environmental education programs and projects. This should put environmental education on its feet and give it the visibility and vitality it lacked in the 1970s. It is noteworthy that funding for this measure will come from penalties paid by violators of environmental laws.

Under the bill, universities, or a consortium of universities and non-profit agencies, will be chosen to establish and operate an *Environmental Education and Training Program*. This program will offer teachers

and other professionals training in the development and presentation of environmental-education curricula and field studies.

To attract young people to careers in environmental protection, up to 150 college-level internships will be made available each year in federal agencies that are involved in environmental issues. And to recognize excellence in environmental education, the bill creates three awards in honor of great advocates of the environment: Theodore Roosevelt, Henry David Thoreau and Rachel Carson.

I am pleased that six New England senators have joined me in cosponsoring this bill. They are Sens. Christopher J. Dodd (D-Conn.); Joseph I. Lieberman (D-Conn.); William S. Cohen (R-Maine), George J. Mitchell (D-Maine); John F. Kerry (D-Mass.); and James M. Jeffords (R-Vt.).

Lifestyle Changes

Although the citizens of New England are very protective and con-

cerned about the quality of their environment, environmental illiteracy is still rampant. In the suburbs, we still use excessive amounts of environmentally harmful chemicals on our lawns. As consumers, we often do not consider the amount of solid waste or household hazardous waste in the products we buy; and for many people, recycling is too much of a "bother." Environmental education can help people understand that the solutions to our environmental problems may often entail changes in lifestyle, such as separating household waste for recycling and using public transpor-

tation. It is heartening to see the environmental education efforts that currently are taking place in our schools. Schools in Rhode Island and throughout New England have expressed interest in an environmental education curriculum developed by the National Wildlife Federation. The Conservation Learning Activities for Science and Social Studies (CLASS) project assists middle-school teachers in the presentation of such environmental issues as watershed management and wildlife habitat. I hope the National Environmental Education Act will help foster public awareness and support for environmental measures in every state.

Without an informed constituency, there will be great resistance to changing environmentally harmful behavior and great reluctance to supporting the costly measures needed to clean up our environment. It is very important to begin environmental education as early as possible, so that environmentally sound behavior is inculcated before bad habits begin.

To ensure a cleaner environment for future generations, we must begin to educate children today. The National Environmental Education Act is a step in this direction. There has been much interest and support for this bill, which we hope will be signed into law by Earth Day, April 22, 1990. □

OF HEALTH PROFESSIONS

CAREER OPPORTUNITIES IN THE HEALTH PROFESSIONS

If you are seeking an advanced career in the health professions either in dietetics, nursing, or physical therapy and want a rigorous but small environment within a prestigious medical setting, then you should know about the MGH Institute of Health Professions. The Institute is affiliated with the Massachusetts General Hospital which oversees the largest research budget of any hospital in the U.S. and offers one of the most challenging yet innovative clinical environments anywhere.

Graduate study leading to Master's Degrees in Dietetics, Nursing, or Physical Therapy blends this excellence in research with expert teaching and clinical practice. The Graduate Program in Nursing is uniquely designed for non-nurse college graduates with advanced placement available for RNs.

The interdisciplinary environment and clinical specialties of the Institute join with the world renowned resources of the Hospital to offer health care professionals unmatched leadership opportunities.

For more information concerning admissions or professional opportunities call or write:

MGH Institute of Health Professions Dept. C 40 Parkman Street Boston, MA 02114 (617) 726-3140

The MGH Institute of Health Professions is an equal opportunity institution.

John H. Chafee is a U.S. Senator from Rhode Island and a ranking Republican member of the Senate Environment and Public Works Committee.

The Bi

New England's public investment in higher education skids and the price may be excellence

JOHN O. HARNEY

olicymakers in the nation's most prosperous region are wrestling with a high-stakes conundrum: Public colleges and universities produce much of the brainpower that fuels New England's economic engine. But the fortunes of public higher education are tied closely to the regional economy. And that economy has softened.

Massachusetts-based Wang Laboratories' 1989 loss of \$424 million underscored the once-booming computer industry's new frailty. A persistent labor shortage delivered on its promise to deter local expansion by some companies. The redhot New England real estate market crashed and burned, searing some of the region's major banks along the way. Retail sales slid.

Result: Just as public campuses begin a push toward excellence in the land of Harvard and Yale, the state tax dollar that supports them is shrinking. As University of Rhode Island President Edward Eddy puts it, "We're competing with prisons for diminishing revenues."

For four years straight, the New England states increased public funding for higher education at nearly double the national rate. That ended abruptly in fiscal 1989. as the six states upped their combined investment a modest 3.9 percent over fiscal 1988.

Now the 1989 increase doesn't look so bad. In fiscal 1990, which began in July, the six states appropriated \$1.74 billion for higher education, posting a dismal twoyear funding increase of 2 percent, compared with 14 percent nationally, according to the Center for Higher Education at Illinois State University, which compiles national data on state tax appropriations for campus operating budgets, state scholarship programs and other higher-education items such as state governing boards.

The Center's figures understate the problem. They don't account for the mid-year budget recisions that are the rule in New England this year. Nor do they reflect the pervading pessimism among highereducation officials that fiscal 1991 budget requests will be summarily rejected by cash-strapped state governments.

Life with the fiscal 1990 budgets has proved tough enough. Public colleges and universities throughout New England have raised tuition to compensate for lagging state funds. Massachusetts and New Hampshire even took the rare step of instituting mid-year hikes. Campuses have put off major academic and capital projects and dug into reserves. Students, particularly in the southern New England states, have complained that classes are so crammed, it will take them five years to earn a four-year degree. All around, there is talk of lost momentum.

No Federal Student-Aid Relief

s New England college tuitions head upward, A President Bush has proposed cutting student financial-aid programs.

For starters, the "education president's" \$1.2 trillion federal budget proposal for fiscal 1991 would underfund the popular Pell Grant program. The budget plan would not replenish \$67 million cut from the Pell Grant program during fiscal 1990 as a result of acrossthe-board federal cuts under the Gramm-Rudman-Hollings deficit reduction law.

Bottom line: 1.3 million of the more than 3 million Pell Grant recipients would see their awards reduced in academic year 1990-91, and 14,000 students would be dropped from the program entirely, according to the American Council on Education (ACE).

In addition, the president's budget proposal would not increase maximum Pell Grant awards in academic year 1991-92. "In effect, it would reduce the amount of aid available to the neediest students," says ACE Senior Vice President Charles B. Saunders, Jr.

Funding would be increased for certain graduate assistance programs for minorities and disadvantaged women. But the plan would abolish the State Student Incentive Grant program that currently serves 197,000 students and end federal capital contributions to the Perkins Loan Program that serves 109,000 students. Supplemental Educational Opportunity Grants and College Work-Study would be funded at the fiscal 1990 level after the Gramm-Rudman-Hollings cut.

Overall, the Education Department budget would rise 2 percent over the adjusted fiscal 1990 appropriation. That wouldn't even keep pace with inflation.



The bigger they are, the harder they fall. In Massachusetts, public colleges and universities and their more than 170,000 students are reeling from a second straight year of funding cuts and preparing for a third.

Massachusetts began the new decade with a deficit pegged between \$500 million and \$800 million. After months of "read-my-lips, no-new-taxes" sentiment squashed efforts to raise revenue, Standard & Poor's voiced its disapproval by dropping the state's bond rating to "BBB,"

the worst in the nation.

Beacon Hill's fiscal problems made a beeline to the state's 29 public campuses. The Bay State appropriated \$816 million to higher education in fiscal 1990, posting a 9-percent drop in higher-education funding since fiscal 1988. That's the weakest two-year performance of any state in the nation, and it doesn't even reflect a \$25 million cut ordered in the fall.

In the 1980s, Massachusetts shot from 40th in the nation to 10th in per-student spending. Between 1982 and 1988, state funding of higher education more than doubled to \$894 million. UMass was on its way to becoming a world-class research institution.

Two years and \$20 million in cuts later, the three-campus university has canceled plans for an Amherst biotechnology facility and delayed construction of a polymer-science building, also slated for Amherst. Some UMass researchers say the university can't even afford the journals they need to keep up with their fields. And a fall survey indicated that one in four junior faculty members at UMass-Amherst were actively looking for new jobs.

With a current fiscal 1990 budget of \$241 million, UMass has cut enrollment, left vacant positions unfilled, slashed equipment funds and laid off administrators. A long-range capital plan is history. The landgrant university's Cooperative Extension Program has been cut 36 percent since fiscal 1988, and will be cut further in 1991. UMass-Boston plans to bring its staff vacancy rate to 16 percent. And \$2.7 million that was supposed to be used for new projects such as improving graduate enrollment among minorities has been diverted to cover operations.

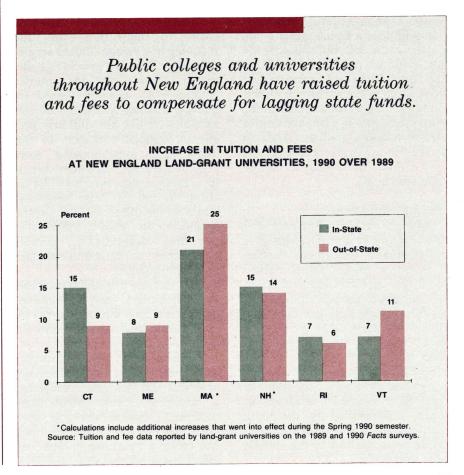
"The basic message is we will have to become a smaller institution," says a university spokesman.

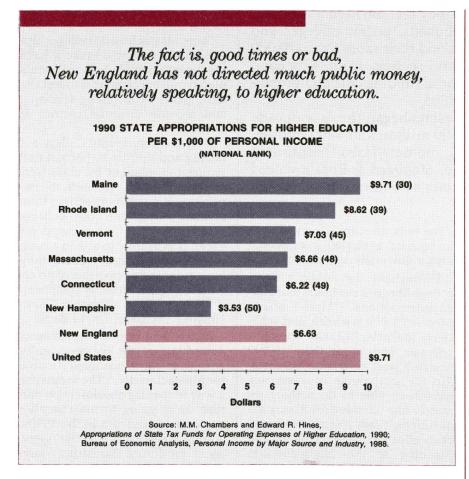
Throughout the public system, college libraries cut hours and ended subscriptions. UMass-Amherst canceled 2,000 scientific and scholarly journals, 13,000 standard volumes and more than 10,000 research and reference volumes. "In the last couple of years, we have been able to do nothing remotely like planning for library acquisitions," says Norma Rees, vice chancellor for academic policy and planning at the Massachusetts Board of Regents of Higher Edu-

Some Massachusetts colleges also predict the cuts will make it hard for them to comply with a Regents plan requiring campuses to test the basic skills of incoming students, and provide remedial courses if needed.

Holyoke Community College cut faculty and staff by 10 percent and reduced enrollment by about 400 students. For those students, the implication is much more serious than another bout with the collegesearch rigmarole. "When they don't get an opportunity to attend a community college near where they live, sadly their opportunity [to attend college] is certainly postponed if not terminated altogether," says Holyoke President David Bartley.

In the long run, say economists and educators, the lost opportunity will mean more economic trouble for Massachusetts. "These cuts are a way of making absolutely certain that we're going to have smaller amounts of seedcorn in the 1990s. And that seedcorn is a vital ingredient for future industries," says





Boston economist James Howell.

In addition, a ripple effect bears watching. Campus officials concede that national publicity about the Bay State's higher-education budget woes could seriously hinder efforts to recruit important administrators from presidents to grant-writers, as well as talented graduate students and faculty, who are expected to be hard to come by anyway as the decade advances.

Shouldering Costs

Throughout New England, the cost of public higher education has shifted steadily to students, hinting of a larger philosophical debate about the very mission and structure of public systems. Simply put, nearly all state funding of public higher education takes the form of direct subsidies, designed largely to keep tuitions low. Public higher education at low tuition is viewed as a public good, a way for states to keep their brightest students at home, contributing to the state economy and a way to extend education opportunities to the middle class and poor.

But some reformers say state subsidies to institutions-and the resulting low tuition-fail to accomplish those goals, provide inadequate incentives for public campuses to compete based on quality with independent colleges and universities and unfairly provide low-priced education to students from upper-income backgrounds. The solution, some say, is to eliminate state aid for public institutions entirely, raise tuitions to make up the difference—and if the system is to remain viable and equitable-dramatically expand need-based student aid to maintain and expand access.

Well, in New England during this difficult budget year, the student aid is not rising, but state aid to institutions is slowing down and tuitions are going up-fast.

Massachusetts public campuses raised tuition rates about 16 percent over the past two years, following a four-year freeze. Most Massachusetts tuition revenue goes right into the state's general fund. But under a rule change that took effect last academic year, the institutions can keep revenue they receive from tuition increases, theoretically to pay for new projects in their search for excellence. Theoretically. With state cuts, the added revenue is being used to cover increases in the cost of items such as fuel and utilities, according to campus officials.

Those costs will keep going up and so will tuition. At Massachusetts public campuses, tuition has historically covered about 20 percent of education costs for state residents and about 70 percent for out-of-state residents. A band of fiscal conservatives have argued that puts too much burden on taxpayers. Not surprisingly, they've been especially vocal about the subsidy for students who do not live-or votein Massachusetts.

So in January, the Regents announced a mid-year tuition hike for non-Massachusetts residents-all part of a two-year effort to bring nonresident tuition rates to 100 percent of the cost of education. Over four semesters, starting with the current one, nonresident tuition at UMass will rise 35 percent for undergraduates and 61 percent for graduate students.

By this year's New England standards, recent Massachusetts tuition hikes are relatively modest. But look at tuition in Massachusetts, and you see about half the story of student costs. When students at the University of Lowell asked the Regents for a 29-percent tuition increase to help the university keep an array of accreditations, the Regents suggested a "fee" instead. That's become almost a reflex.

The fees, unlike tuition, are levied by the individual institutions. If "fee increase" somehow seems less ominous than "tuition hike," consider: Tuition for Massachusetts residents at UMass-Amherst rose 8 percent from \$1,404 in 1988-89 to \$1,512 in 1989-90. Fees rose 38 percent from \$1,065 to \$1,468. In fact, fees rose 175 percent statewide in seven years, that before the recent round of hikes. The main culprit is the so-called "curriculum support fee," pumped up and up since the fiscal problems began.

The fees are mostly stopgap measures. Fitchburg State College lost almost \$1 million in the fiscal 1990 budget. Rather than turn away students, the college dropped funds for repairs and equipment and added fees. But repair and equipment needs will be such next year that the college will have to shut out some students and leave positions unfilled, according to Fitchburg President Vincent Mara.

"Most institutions can suffer through a bad year, but we have had diminished resources now for three straight years," says Mara. "In the long haul, clearly you're going to have some intrusions into the [efforts] we were making toward improving quality."

Massachusetts campuses will endure at least another year of diminished resources. For fiscal 1991, the Regents asked the state for a \$100 million increase over the current year. But Gov. Michael S. Dukakis, whose fiscal 1990 budget request and \$604 million tax package was trounced by no-tax forces, submitted a fiscal 1991 budget with no new taxes. Higher education gets hit some more. The plan would cut \$21 million from the operating budgets of public campuses, offset by likely fall tuition increases between 12 percent and 16 percent.

To make matters worse, if public campuses ever could count on the political muscle of Massachusetts independent colleges and universities to help fight cuts, they probably cannot this year. The governor's fiscal 1991 budget also would cut more than \$20 million from the state's \$80 million financial-aid fund, much of which goes to Massachusetts residents attending independent colleges and universities. The independents now have their own battle on Beacon Hill.

The public higher-education system, on its own, may be less than fit for more budget battles. In the heat of the last one, some lawmakers proposed elimination of the Board of Regents itself. That effort failed, initially, at least. But a few months later, Regents Chancellor Franklyn Jenifer announced he would leave his post to become president of Howard University in Washington. (UMass President David C. Knapp and the governor's special education advisor Robert Schwartz were among other public higher-education advocates who had announced their departures by March.) Acting Regents Chancellor Randolph W. Bromery is widely respected, but his task will be formidable: Since Jenifer's announcement, some campus presidents have voiced dissatisfaction with the whole idea of centralizing power with the "superboard."

Dissatisfaction has been a common theme. Since the latest \$25 million cut, thousands of dissatisfied students marched '60s-style on the Massachusetts State House, but changed few minds in the state Legislature. Dissatisfied state budget officials, sensing that the public wants to see layoffs, not just savings, badgered colleges and universities to cut positions by about 700. Most recently, a dissatisfied Board of Regents named a 16-member task force, made up mostly of business leaders, to study how to further cut

By January, the problems plaguing the Massachusetts economyand the state's campuses-had crossed state lines with remarkable speed, and the dissatisfaction seemed to be close behind.



Connecticut plugged holes in its fiscal 1990 budget with more than \$800 million in new taxes. But even with the biggest tax hike in Connecticut history, the state appropriation for higher education dropped to \$463.8 million, down nearly 3 percent from fiscal 1989. And in

February, \$5 million more in higher-education funds was targeted in a budget recision.

Most of the 3-percent drop in appropriations recorded by the Center for Higher Education reflects a complicated change in fringe benefit funding, but the rest of the higher-education budget also decreased slightly.

To cover fiscal 1990 operating costs, Connecticut public colleges and universities raised tuition and raided reserves set up to cover longterm needs. In each of the past two academic years, the University of Connecticut has hiked tuition 15 percent. The tuition increases, with the use of reserves, allowed UConn to boost its "tuition fund" by about 40 percent in fiscal 1990. But that solution is temporary. "It's obviously something that can't continue for very long because they're almost out of their reserves," says Thomas Anderes, assistant finance commissioner with the state Board of Governors for Higher Education.

In addition, the growing share of costs covered by tuition has stirred controversy among the more than 100,000 students at Connecticut's 24 public institutions. Says Anderes, "A lot of people were hoping this was going to be kind of a one-shot deal, and it isn't going to be, so we're going to try to emphasize that you can only shift so much more of that burden over to the students."

Even with the new tuition money, Connecticut institutions have had to leave positions unfilled and cut library hours. When the state offered employees an incentive to retire early, about 450 faculty members and administrators at public campuses grabbed it. "That has essentially wreaked havoc on the system, because there's been a great deal of difficulty in refilling those positions," says Anderes. The early-retirement program resulted in about 70 faculty vacancies at UConn alone, forcing some class sections to be canceled.

For fiscal 1991, the Board of Governors requested a 15-percent increase over current estimated higher-education expenditures. Most of the increase would go toward meeting inflation and collective bargaining contracts and regaining basic support for faculty, libraries and maintenance. The \$3.7 million of "compelling" new initiatives covered in the budget request include a proposed basic skills program at the community-college level and planning for expansion of the UConn branch campus in Stamford.

But with Connecticut's deficit estimated between \$90 million and \$150 million by February—and the tax bullet already bitten—none of this was compelling enough. The governor's budget would increase higher-education funding next year by just over 1 percent.

Tuition at UConn and the state

universities already is set to rise 15 percent next academic year for Connecticut residents and out-of-state students. For many students, costs such as room and board will also rise 15 percent. But that won't off-set the cuts, according to campus officials who warned that next year's proposed budget would force them to lay off faculty and cut enrollment for the fall. □



Maine can claim the region's largest two-year jump in higher-education funding. The fiscal 1990 appropriation of \$176.9 million represents a two-year increase of 25 percent, according to the Center for Higher Education. But even in Augusta, the legislative largess that

replaced years of tight funding is not what it used to be. In fiscal 1989, the seven-campus University of Maine System received a 16-percent increase in appropriations. When the system argued for a similar increase in fiscal 1990, lawmakers weren't buying. The 1990 increase was 9 percent.

As the 35,000 students enrolled at public institutions in Maine began their spring semester, the state's revenue shortfall for the two-year budget period ending in June 1991 was pegged at \$210 million. Gov. John R. McKernan proposed cutting \$10 million from the UMaine System over that period.

That public campuses account for nearly 75 percent of higher-education enrollment in Maine, compared with 50 percent in the rest of New England, gives UMaine System Chancellor Robert L. Woodbury reason for optimism. "There's more of a sense that public higher education is 'decisive' in Maine," he says.

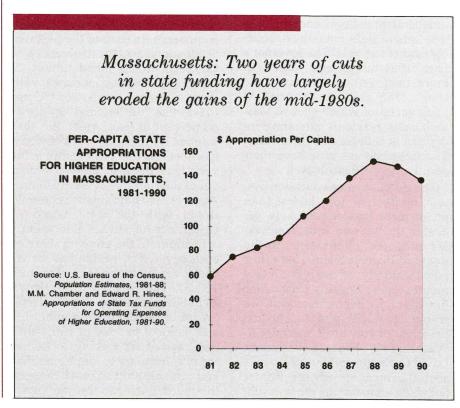
But for now, the chancellor has had to institute restrictions on hiring, travel and equipment purchases. He says there is virtually no flexibility for the kind of new program initiatives that helped the system increase enrollment by about 14 percent in two years. The initiatives that are in place, such as a major interactive-telecommunications system that beams classes to rural areas, are safe this year. But some of them could be hurt if bad times continue.

Whether Woodbury is wearing the hat of Maine chancellor or chairman of the New England Board of Higher Education, his view of the situation is pragmatic. "We did very, very well when the economy was booming, and we're going to have to accommodate to some extent, the economic slowdown," he says.

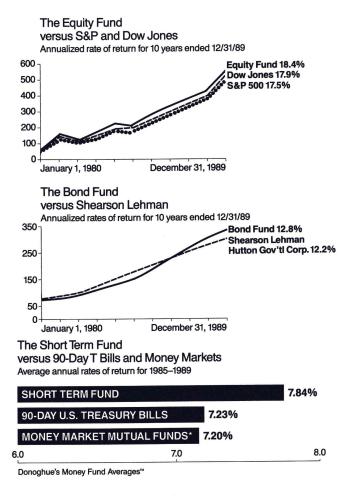
"What we're going through now in all the states is a very demoralizing exercise," he adds. "It's not that our budgets still aren't significant. It's that as we cut, we hurt morale and we break a sense of momentum and progress."

And of course, student costs go up. For the current academic year, the UMaine System planned to raise tuition by about 5 percent for Maine residents. But with the slowed growth in state funding, actual increases averaged 9 percent, with similar hikes for out-of-state students. For next year, the system planned a 7-percent tuition increase. When the \$10 million cut was proposed, officials began considering hikes as high as 12 percent.

The recision will also cost Maine's six technical colleges about \$3.6 million over the two-year budget period; Maine Maritime Academy, with its heavy dependence on up-to-date equipment, will lose \$899,000. "If the revenues continue to slump, we have the potential to be hurt much worse," says Maine Maritime President Ken Curtis. "We can probably find a way to defer things, but if the deferral of expenditures lasts over a long period of time, you really are eroding the quality of education."



These three charts show what The Common Fund has earned for the endowment funds and operating cash of its member schools.



This brochure shows

how we do it. Write or call for your copy today.



0000	The Common Fund
	363 Reef Road P.O. Box 940
	Fairfield, Connecticut 06430 (203) 254-1211
	(===)=====

The Common Fund 363 Reef Road, P.O. Box 940, Fairfield, CT 06430 Please send me a copy of your brochure. "The story of The Common Fund: Education's own investment management organization." Please call me for an appointment.		
Name		
Title		
School		
Address		
CityStateZip		
Telephone () CO		



In New Hampshire, the fiscal 1990 higher-education appropriation of \$74.4 million represents an increase of 3 percent over fiscal 1989, and a two-year increase of 11 percent over fiscal 1988, according to the Center for Higher Education. But by winter, New Hampshire's

two-year budget deficit had reached \$170 million, and the memory of a 3-percent budget recision ordered more than halfway into fiscal 1989 suddenly became very clear. Only this time, it was worse.

February's 7.5-percent recision will cost the University of New Hampshire System \$4.2 million of its fiscal 1990 budget of \$55.8 million and \$4.4 million of its fiscal 1991 budget of \$58.6 million.

The UNH System is absorbing about half the cut by restricting hiring-leaving about 240 staff positions vacant across the systemreducing travel and supply budgets, deferring more than \$250,000 in planned physical plant maintenance and postponing equipment and library purchases. The system offset the other half with a springsemester tuition increase for New Hampshire residents who attend UNH and Keene and Plymouth State colleges.

UNH System officials reasoned that non-New Hampshire residents already pay the full cost of education in the state, so the fairer tuition offset would fall on the shoulders of state residents. It will fall hard. The tuition hikes range between 9 percent and 12 percent annually. But because the recision came in the middle of the year, the \$300 addition to spring-semester bills for New Hampshire residents at UNH reflects a 24-percent increase over the tab for the fall. The \$150 added to state college bills for the spring reflects a 17-percent rise over the

The mid-year hike comes on top of academic year 1989-90 increases for the 31,000 students at the state's public institutions. UNH tuition rose 9 percent for New Hampshire residents and 11 percent for out-ofstate students. State college tuition rose about 9 percent for all students.

The budget of the New Hampshire Postsecondary Education Commission was also cut. The commission, which administers financial aid to state residents, was appropriated \$1.9 million for fiscal 1990, down from \$2.2 million in fiscal 1989. Loan programs for medical and veterinary students were slashed, and the state portion of a matching scholarship program shrunk from \$400,000 to \$347,000.

There were some modest victories. The state managed to appropriate \$50,000 for new matching grants to part-time nursing students. The UNH System instituted a program to address salary deficiences.



Rhode Island appropriated \$144.5 million to higher education in fiscal 1990, up almost 4 percent from fiscal 1989, according to the Center for Higher Education. But that gain is not what it seems; \$3.9 million has since been lost to budget recisions.

Even before the recisions, the Rhode Island Board of Governors for Higher Education ordered the state's three public institutions to freeze hiring, with the exception of faculty and others involved directly in academic services or safety. A fiveyear plan to funnel money toward maintenance and renovation of college buildings is off kilter, causing some improvements to be postponed.

URI's large number of out-of-state students pay enough tuition to cover 80 percent of their education. But President Eddy says slower growth in state funds has the university delaying appointments, cutting back on temporary faculty and staff and reducing necessary capital expenditures. By February, the university was canceling library subscriptions and putting equipment purchases and maintenance on hold.

The roughly 36,000 students at Rhode Island's public institutions made up for some of the slowed growth in appropriations. This academic year, URI undergraduate tuition for Rhode Island residents rose 6 percent; and 5 percent for out-ofstate residents. Rhode Island College undergraduate tuition rose 8 percent for state residents, and 5 percent for out-of-state residents. Community College of Rhode Island tuition rose 6 percent.

When tuition and fees are counted, Rhode Island's total 1990 higher-education budget rises over \$200 million. But the tuition solution is viewed as both a blessing and a curse. "On average, we got hit a little harder than other state agencies," says Peter Miniati, budget coordinator with the Board of Governors. "The legislators keep telling us that we have another source of revenue where the other state agencies don't."

The campuses almost certainly will have to tap that source again. For fiscal 1991, Rhode Island higher-education officials asked for a 12-percent increase over what they are spending this year for the three institutions and the state governing board (not including scholarships and other items tallied by the Center for Higher Education). But realistically, they are seeking a modest 1.7-percent increase, Miniati says. With the state's deficit estimated at \$100 million, even that may be a fight.

Americo Petrocelli, commissioner of the Rhode Island Board of Governors for Higher Education, is ready for more trimming if that's what is needed. "It's very difficult when there's an enormous change in the economic climate to say that there isn't an iota of inefficiency in our own systems," he says. "The challenge to higher-education administration at this point is to maintain its credibility for running a good tight ship. Once that credibility is maintained, I am very confident that the public funds will flow.''



Vermont's new budget realities are complicated by a unique historical mix of low state appropriations and high tuitions. The state's \$59.9 million higher-education budget for fiscal 1990 reflects a hefty two-year gain of 20 percent. But since the academic year began, the state

has ordered three separate higher-education budget cuts. First, a 2-percent budget recision cost higher education \$1.2 million. Then \$850,000 in specific "program" cuts. In December, another recision, this time .5 percent.

The specific program cuts halved budget items such as a special appropriation to the University of Vermont designed to offset a loss of out-of-state tuition revenue. Out-ofstate students at UVM pay about \$8,000 more than Vermont residents. The problem, which the special appropriation was supposed to alleviate, is that the out-of-state students who are so important to UVM's financial health make up a smaller and smaller part of the university's enrollment—about 50 percent today, compared with 60 percent a few years back.

State appropriations cover just about 25 percent of UVM's budget and not much more of the state college budgets. So, as operating costs have jumped, tuition hikes have become the norm for the 19,000 students who attend Vermont's public campuses. The state tries to boost financial aid accordingly, but many Vermonters say the scholarships do not keep pace with inflation and aren't adequately targeted to the neediest students. "We know students are not staying away from college... what we suspect is getting worse is the level of indebtedness,' says Suzanne Villanti, executive director of the Vermont Higher Education Planning Commission.

Vermont tuitions are bound to rise again. UVM officials were planning to raise tuition 7 percent next year even in the highly unlikely event that the Legislature approved the university's full fiscal 1991 funding request.

At Vermont's five state colleges, a higher-education outreach project in the southern part of the state and a budding initiative to bring educational courses to rural areas through interactive television are on course for now. But budget reductions have claimed one-time expenditures on equipment and forced the colleges to reduce or delay hiring. Lost momentum? "I think we're now talking about survival," says Vermont State Colleges Chancellor Charles I. Bunting. "The short-run goals for Vermont State Colleges now are: How can we maintain existing programs and services? And how do we do so keeping tuition increases at a reasonable level?"

Noting that the recisions may not erase the current year's fiscal problems, Bunting warns: "If we don't have an adequate appropriation base, something has to give. Either we have to cut programs in a major way or we'll have to have skyrocketing tuition increases." In most states, the second option is far more palatable than the first. But in Vermont, recent 6-percent tuition increases at the state colleges come on top of the highest state college tuition levels in the country. There's a real concern that the colleges could price themselves right out of the market.

"We'll all get through this year," says Bunting. "The question is next

year, how bad will it be?"

It could be rough. For fiscal 1991, Vermont higher-education officials requested a 15-percent funding increase for UVM and a 17-percent increase for state colleges and community colleges. Gov. Madeleine M. Kunin recommended 4-percent increases for the institutions, which higher-education officials acknowledge is more likely to fly, but not a sure bet with the state's twoyear budget deficit pegged around \$69 million in February. "Some people are saying that if we were able to get the governor's recommendations for modest increases, we would be very lucky," says Bunting.

The Vermont Student Assistance Corp. would not be so lucky. Under the governor's plan, the agency, which provides financial aid for state residents who attend public or independent institutions, would be level-funded until it makes changes in governance.

The modest fiscal 1991 increase for the institutions could be funded by the governor's proposed 1.5-percent temporary income-tax surcharge, which would boost elementary- and secondary-school spending and raise the adjusted fiscal 1990 appropriation to highereducation institutions by 7 percent. Why not? Personal income growth in the region has not quite kept pace with national growth, but income remains high—22 percent above the national average in 1988. Last year, the state of Illinois, with its more modest per-capita income, passed a temporary income-tax hike that allows a 17-percent rise in highereducation financing for fiscal 1990. But Illinois is not in New England.

The fact is, good times or bad, New England has not directed much public money, relatively speaking, to higher education. The Center for Higher Education compares states on the basis of tax appropriations for higher education per \$1,000 of personal income. In 1990, Maine ranked 30th nationally; Rhode Island, 39th; Vermont, 45th; Massachusetts, 48th; Connec-

continued on page 43.



On MASSACHUSETTS

A Forum

assachusetts' 9-percent drop in higher-education appropriations since fiscal 1988 represents the worst two-year performance by any state in the nation. In the current academic year, state officials estimate that more than 9,000 admissable students have been turned away, more than 1,000 faculty and administrative positions left vacant and more than 1,000 course sections canceled. With survival dominating the higher-education agenda in the state, more ambitious plans like competing proposals to either further unify or decentralize the University of Massachusetts governing system are in limbo.

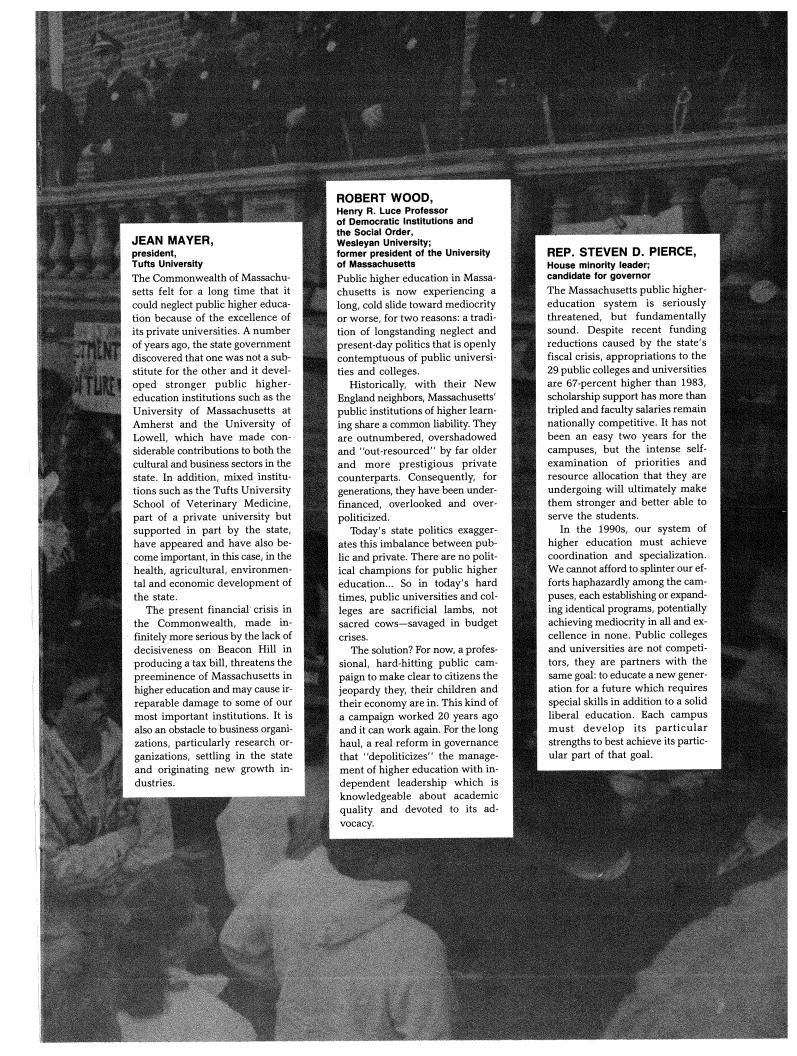
Connection asked distinguished Massachusetts educators, gubernatorial hopefuls and others to answer a two-part question: "What is the state of Massachusetts higher education in 1990? And how do we improve it?" Responses follow.

Background photo of student rally by David Zadig, Mass Media, (U/Mass Boston photo.)

DAVID S. SAXON, chairman of the corporation, Massachusetts Institute of Technology

Higher education in Massachusetts suffers from an impressive number of ills. Its governance structure is flawed. Commitment to excellence-without which excellence is unachievable—is missing. No clear vision has been articulated and certainly none has been subscribed to by the people of the Commonwealth and their elected officials. The higher-education institutions are consistently unable to resist the pressures of local and state politics. The current fiscal problems in Massachusetts must be added to the list, but are not fundamental. Higher education was not responsibly and reliably supported even when times were miraculously good.

Surprisingly, there still is strength in higher education in Massachusetts, but not nearly as much or as deep as is needed. The institutions of higher education must now be seen as endangered species. What to do? Straighten out the governance. Insist on accountability. Commit to excellence. Get the politics and politicians out. Provide a firm, continuing and stable base of support.



JOHN PAUL MATHER, former president, University of Massachusetts at Ambers!

At the beginning of my presidency of the University of Massachusetts (1953-60), the Commonwealth ranked 50th in the nation in percapita support of public higher education. This lack of support was unjustifiable in a state ranked seventh in per-capita income.

Regardless of the tremendous growth and diversification of the entire public higher-education system since 1960, recent cuts in all budgets hark of a shortsighted return to the dark ages prior to 1960. I believe the public would endorse and support an increase in the income tax to restore muchneeded funding of higher educa-

tion. The greatest resource of the Commonwealth is still the trained minds and capabilities of our young people.

I further believe that the system would benefit from restoration of greater *final* decision making and policy determination to the chief operating executives and boards of the individual institutions. Centralization of these powers in final control of a super-commission guarantees division influenced by politics, rather than first-hand knowledge of needs and priorities established by responsible, trained professionals.

CLARE M. COTTON,

president,

Association of Independent Colleges and Universities in Massachusetts

It is regrettable that Massachusetts appropriations for higher education have declined 9 percent in the last two years, but it does not follow that higher education in the Commonwealth has declined by nearly a tenth in value, or quality, or in service to students and the state. The independent sector in Massachusetts still accounts for more than half the total student enrollment; more than 60 percent of minority enrollment; 68 percent of all degrees awarded and 75 percent of all degrees awarded to minorities...

It is an unhappy omen that the governor and the Board of Regents have chosen to polarize their [fiscal 1991] budget priorities, pitting scholarship aid to students in independent institutions against operating funds for state institutions.

Roughly one half of fiscal 1991 higher-education reductions are in what the governor calls "non-essential" student aid, primarily to students in independent institutions. For instance, all funds for

students in graduate programs, and in medicine, health professions and veterinary medicine were cut as well as state support for the veterinary school. It is precisely these ''non-essential'' programs that will produce the trained professionals for the biotechnology industry, which is supposed to be a key to the future.

In the 1987 Carnegie Classification, Massachusetts had eight independent research and Ph.D.granting institutions and one state institution; 12 independent comprehensive institutions and 10 state ones; 21 independent liberal arts colleges and no state one; 16 independent two-year colleges and 17 state ones. At some point, the governor and Board of Regents must accept that the continued strength of this independent sector is vital, that duplication or replication of any significant part of it is fiscally inconceivable, that the state has a real interest in fostering its strength, that access to its programs for eligible students is "essential."

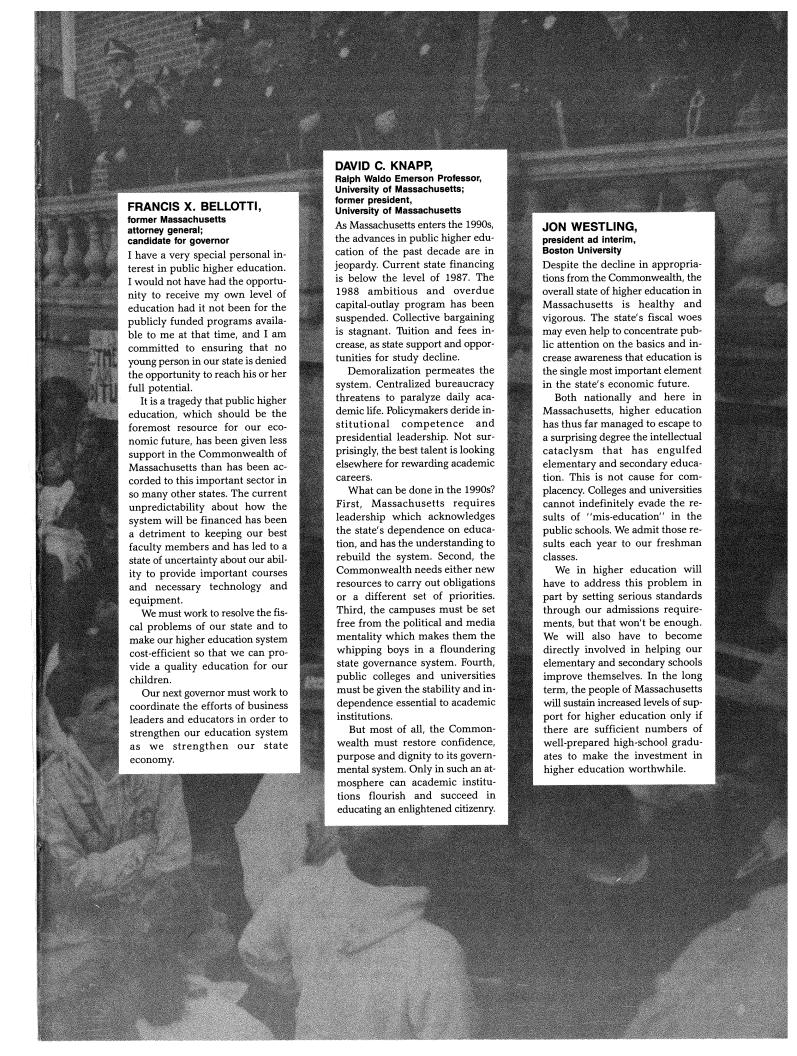
EVELYN MURPHY, lieutenant governor; candidate for governor

Higher education in Massachusetts is poised either on the brink of unparalleled success or of a decline in recent progress. The scenario for success is rooted in having set a goal of excellence and standing ready to challenge the renowned public universities of other states as well as the revered private institutions upon which we have traditionally relied.

Yet the state fiscal debate is threatening the steps which have been taken to pursue the goal of excellence. As we work to bring state spending in line with revenues, we must set strict priorities and understand that education provides our best opportunity for a self-sufficient citizenry and a strong economy.

In the 1990s, we must support the top-notch administrators we have in place. We must attract top faculty and students; provide, in partnership with the business community, challenge grants in research in advanced technologies such as biotechnology, polymers, photovoltaics, lasers and energy efficiency; we must invest in buildings and equipment. Through tuition retention, our public institutions will have greater flexibility and, in return, should be held accountable for the highest level of performance.

Our community colleges, state colleges and state universities hold the key to our future. Through them, we can offer all the Commonwealth's citizens the fairest chance to realize their fullest potential.



Time for New Century's Resolutions

But will we pass the vision test our ancestors failed?

RUSHWORTH M. KIDDER



Kidder: How good are we at foreseeing?

Just as people traditionally make New Year's resolutions, we're beginning to think about making "new century's resolutions." Already, I notice steady increases in the stream of books and papers crossing my desk with the number "2000" in the title. We're increasingly interested in finding out what's coming over the millennial horizon. But how good are we at foreseeing?

It may help to look back at the last time this happened. The end of the 19th century has been described by historians as a period in which the popular faith in limitless material growth rather suddenly evaporated. The Boer War, the Sino-Japanese War, the German Navy buildup, the depression in the United States, bread riots in Italy, famine in Russia, the Turkish massacre of the Armenians-the wave of Victorian certainty seemed to be coming upon the shoals.

Beneath these surface events were deeper trends: growing Bohemianism, a yellowing of journalism, a decline in religion, an increased interest in women's rights, the rising tide of nationalism coming head-tohead with colonialism, and the appearance of tremendous industrial monopolies. It was a turbulent period in many ways, not unlike ours.

How good were our ancestors at foreseeing the future? The answer, I'm afraid, is "Not very." First, they didn't foresee the creation of entire nations of privileged majorities, not privileged minorities sitting on top of a great mass of the underprivileged, which had been the pattern for societies down through the centuries, but genuinely privileged majorities that now characterize the Western world.

Second, they didn't foresee the crumbling of racial segregation. In 1898, Joseph Conrad published The Nigger of the Narcissus, an otherwise fine novel filled with a kind of racial stereotyping no longer acceptable.

Third, they didn't foresee new concerns about the environment. The London fogs of Sherlock Holmes's tales were not seen to be an ecological outrage nor a preventable occurrence. They were simply a fact of life.

Finally, of course, they couldn't foresee television, air travel and the whole process of "worldshrink" so common to us today that it needs no elaboration.

So here we are again at the end of a century, eager to look into the future. But how good are we at doing it? Are we any better than our ancestors? The experts answer, as experts often do, with an unequivocal "maybe." They point out that our foresight depends upon our assumptions. The trouble is, we're still capable of making grave mistakes in our assumptions. When I graduated from college in 1965, I was soberly promised that the state of California alone could absorb every single Ph.D. the nation produced between then and the year 2000-a prophesy that proved sadly untrue even before I had completed graduate school. Then came the dire predictions in the early 1970s of unremitting energy shortages that would last, probably, well into the 21st century.

In fact, we may not be much better than our ancestors at foreseeing the future. So how are we to figure out what should be on the future's agenda? What are the handful of major, first-intensity, high-leverage, make-it-or-break-it issues which, if we don't deal with them, will hand us a 21st century none of us cares to inhabit—or perhaps no 21st century at all?

That's the question that faced us at The Christian Science Monitor in 1986, when I began a series of interviews around the world with 22 leading thinkers and opinion leaders-movers and shakers. They included Barbara Tuchman, Norman Cousins, Jimmy Carter, Robert McNamara, Hannah Gray, the first Black director on Broadway, a former president of Nigeria, the president of West Germany, a Japanese philosopher, a Pakistani Nobel-Prize winning physicist, a Russian poet and many more.

I put to each of them the question, "What's on your agenda for the future?" Six issues emerged. The only one of the six I could put in priority order was the nuclear threat, since as several interviewees said, if we don't deal successfully with that one, there's no point in developing the rest of the agenda.

The other five issues on the list were:

Population Crisis. When our ancestors looked at the future in 1900, the globe had 1.6 billion on it. It will have 6.1 billion in the year 2000, and somewhere between 9 billion and 14 billion by the middle of the next century.

Environmental Degradation. Seen in its broadest sense, this encompasses not only local issues of waste and pollution, but the overriding issues of destruction of the ozone layer and the greenhouse effect.

North-South Gap. The relationship between the developed and the developing world is an increasingly difficult and complex issue. It's worth noting that the developed world, with 25 percent of the world's popucontinued on page 50.

"Colleges are Businesses" And Other Metaphors

RICHARD G. KING

Since the U.S. Department of Education's 1984 publication of Involvement in Learning, officials of government and educators alike have increasingly focused on the "assessment" of learning and examined how this assessment could be related to the budgetary process. More recently, the U.S. Attorney General's office—concerned about possible violations of the Sherman Anti-Trust Act—has ordered colleges to provide historical data on setting tuitions and scholarships and to provide reports on certain meet-

ings among college administrators. In the following opinion piece, NEBHE Senior Fellow Richard G. King traces both issues back to some faulty

metaphors.

Metaphor #1. Colleges are production lines.

"All the world's a stage and all the men and women merely players. They have their exits and their entrances and one man in his time plays many parts."

Given economic and scientific "progress" since the early 17th century, would Shakespeare be more apt now to write "all the world's a production line and all the men and women merely products. They have their inputs and their outputs and one man in his time is programmed many ways"? Not likely.

Yet we and our representatives in Congress, fascinated by the production models brought from industry to

government, have sold ourselves on the validity of the analogy of the production line to any function in life that has an apparent input and output. If Robert McNamara could pick more effective weapons systems (inputs) by studying which ones maximized an output function like the "body-count ratio," could we not likewise measure the value of higher education by developing input measures and output measures of "knowledge" and noting which institutions were able to produce the greatest value added? Is not a university, after all, just like a production line with partially processed material being fed in at one end, with some jolly gnomes (faculty) punching in new knowledge neurons along the way, and the more completely processed material available for purchase (placement) at the end of the line? Can we not place a value on the final product by counting the new knowledge neurons through a universal test? Hardly.

Yet many in government seem to be pressing for some sort of universal measures of inputs, outputs and value added as a way of relating budget to "assessment" the larger the value added, the greater the budgetary reward. "If something exists," said Lord Kelvin, "it exists in some measurable amount." Why are we educators so laggardly in not having developed the universal measuring instrument? Does not a universal law in physics have its analogy in the psychologies of teach-

ing and learning? Not exactly.

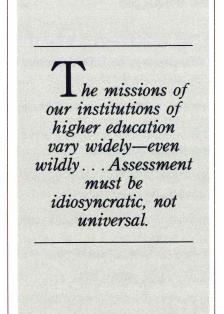
The single best study, I believe, purporting to measure institutional effectiveness through the equivalent of a measure of value added was done by John Stalnaker (of Merit Scholarship fame), when he was research director of the Association of American Medical Colleges. He noted that all American medical colleges required the same admissions tests and all required their students to take the same scientific achievement tests after the first two preclinical years. He was thus able to do a so-called analysis of covariance. This analysis, in effect, predicts, on the basis of the admissions tests, what the average achievement scores should be at each medical school and then notes at each school whether actual results exceed or fall short of the prediction and by how much.

The medical school with the largest increment of actual results over

predicted results, in effect, has provided the largest relative value added. On this criterion, the most selective institutions do not necessarily finish on top.

Does anyone remember this excellent study? The institutional results? Doubtful. Is the approach taken with this relatively homogenous group of institutions applicable to the sprawling diversity that characterizes most state higher-education systems? Seldom. Could budgets be set according to results of a careful analysis of covariance? Conceivably, they could be. But they wouldn't be.

The missions of our institutions of higher education vary widely—even wildly. This is, at once, the glory and the potential weakness of our system. Assessment must be idiosyncratic, not universal. In complex institutions, the assessment probably should be at the level of the department, not the whole institution. The Ascontinued on page 50.



DATA CONNECTION

- New England's share of the "choosiest" U.S. colleges—those accepting fewer than half of their applicants and reporting average freshman SAT scores of at least 1200: 35%
- Estimated 1989-90 enrollment in the New England Board of Higher Education Regional Student Program: 5,715
- Estimated increase in Regional Student Program enrollment over last year: 13.5%
- Increase in cost of attending an independent university between academic years 1980-81 and 1988-89 in constant 1988 dollars: 55.8%
- Increase in total available student aid in those years: 10.5%
- Average SAT score for high-school class of 1989: 903
- Average among students who said they intend to major in military sciences: 905
- Average among students who said they intend to major in education: 846
- Average among students whose parents have a graduate degree: 1003
- Average among students whose parents have no high-school diploma: 757
- Percentage of 1970 college freshman who said they did extra reading for courses: 15.6
- Percentage of 1989 freshmen who said they did: 10.1
- Estimated percentage of Boston high-school seniors who would not have earned diplomas this spring under a controversial plan (now delayed for one year) requiring seniors to read at the eighth-grade level: 40
- Projected spending by U.S. schools and colleges in the 1989-90 academic year: \$353 billion
- Spending by U.S. schools and colleges in the 1979-80 academic year: \$166 billion
- Portion of total U.S. family income received by the richest one-fifth of Americans: 44%
- Chance an American man in 1973 would rise above his father's occupational level: 50%
- Chance an American man will do so in the year 2000: 34%
- Increase in New England's total personal income from the third quarter of 1988 through the third quarter of 1989: 8.2%
- Increase in Maine's total personal income during that period: 9.5%
- Portion of 1988 U.S. exports concentrated in industrial machinery (including computers), instruments and related products and electrical equipment: 34%
- Portion of Massachusetts exports concentrated in those fields: 73%
- Increase in Massachusetts exports to Japan from 1987 to 1988: 41%
- Increase in Massachusetts exports to Canada from 1987 to 1988: 4%
- Percentage of Americans who think the U.S. economy will be dominated by foreign companies in the next 10 years: 64
- State and local government share of fiscal 1988 research and development expenditures at doctorate-granting institutions in Connecticut: 1.6%
- At doctorate-granting institutions in South Dakota: 41.2%
- Estimated increase in enrollment at Connecticut public colleges and universities, fall 1988 to fall 1989: 2.5%
- Estimated increase in enrollment at Connecticut independent colleges and universities: 1.2%
- Attendance at University of Connecticut basketball games, home and away, during the 1986-87 season: 223,944
- Attendance during the 1988-89 season: 360,269

Sources:

1 NEBHE analysis of USA Today research; 2,3 NEBHE analysis; 4,5,6,7,8,9,10 The College Board; 11,12 Higher Education Research Institute and American Council on Education; 13 Boston Globe; 14,15 U.S. Department of Education; 16 U.S. Census Bureau; 17,18 Study by sociologists Daniel Krymkowski of Dartmouth College and Tadeusz Krauze of Hofstra University; 19,20 U.S. Department of Commerce; 2,12,23,24 Massachusetts Institute for Social and Economic Research; 25 Louis Harris & Associates poll conducted for Business Week; 26,27 National Science Foundation; 28,29 Connecticut Department of Higher Education; 30,31 University of Connecticut Office of Sports Information

We'll be here long after graduation.

New Hampshire Higher Education Assistance Foundation's primary purpose is to provide low-cost college financing options to parents and students. But we also play another role.

We're your New Hampshire resource that will be here to serve you throughout the life of your student loan. Even before you apply for a student loan we can help you and your family plan for financing a

college education. We can provide information about sources of financial aid and the application process. Once you receive a loan guaranteed by our nonprofit organization we will maintain information about the status and location of your loan long after graduation.

For more information about loans available to New Hampshire residents attending college either in or out of state, and to non-residents who attend college in New Hampshire, call our toll free number.

1-800-235-2577 1-800-525-2577 (outside NH)



Agriculture Is Environment

FRANKLIN M. LOEW

n New England, as in most of the country, enrollment in what used to be called colleges of agriculture is at a historic low—and declining. Even the word "agriculture" is vanishing from the names of these colleges, often replaced by "natural resources" or "environment." This falling enrollment reflects the existence of a regional population that is also minimally agricultural.

When the first settlers dug into the rocky, sandy New England soil almost 400 years ago, nearly all the population was rural and agricultural—a population that amounted to 4 million by 1790 in the 13 original colonies, according to the first U.S. census. Today, barely 2 percent of the national population is agricultural, including 2.2 million farmers. It is as though about the same number of people that were agricultural in 1790 are so now, but not only do they feed themselves, they also generate food for 235 million fellow citizens as well as people overseas.

> Science of any kind appears as a major focus in only 20 percent of network prime-time programs.

This enormous power in agricultural productivity, brought about by many factors including the New England-originated (Morrill) Land Grant Act, the Hatch Act and the creation of the Agricultural Experiment Stations, is increasingly viewed as having come at the expense of the environment.

The nation's topsoil, its fresh water and its native plant and animal habitats are being sacrificed, according to environmentalists, at the altar of an agricultural production monster that produces commodity surpluses in most years. Farmers often view those who voice these concerns as know-nothing urban Cassandras who wouldn't know a dairy cow from a dairy bar. For their part, environmentalists often unfairly portray farmers as narrow-minded peasants who dispense toxic chemicals in the guise of pesticides just for fun or because their I.Q.s are so low that they can't read the labels. Public policy is not well-served by such stereotypes and assertions.

Agricultural production people tend to feel improperly constrained by environmental concerns. On the other hand, environmentalists are concerned about open space, pesticides, fertilizers, tilling practices, water quality and the release of genetically engineered organisms.

In New England, home to Henry David Thoreau and Rachel Carson, environmental concerns have always rated higher with the public than in any other region of the country. Can New England's agriculture survive this increasing concern and regulation, or should it go

belly-up and concede its remaining tillable land to cities, shopping centers, ski resorts and highways?

New England's higher-education institutions, especially those established by the Land Grant Act, are in a position to leverage the kind of social and political changes needed for our pluralistic society to sustain both the agriculture and the environment society wants and needs. Colleges and universities can provide education and informed choices for students, alumni, legislators, and rural and urban residents.

While television could be an effective educational tool, it is disturbing to note that at present, science of any kind appears as a major focus in only 20 percent of network prime-time programs. Somehow, we simply must raise the environmental and agricultural literacy of urban America. Natural history is virtually not taught today. How can an urban or even a rural dweller vote on or understand agricultural or environmental issues if she or he can't tell an elm from an oak, a bald eagle from a herring gull, or poison ivy from a Virginia

Agriculture and environment must be taught as if both matter, and have a vital relationship to food and to our health. We must devise legitimate ways to teach all students about the complex web woven from agriculture, environment, health and quality of life. For example, about 40,000 new lawyers graduate from law schools every year in the United States, many of whom find their way into state legislatures, state houses, the U.S. Congress and, possibly, the White House. How many of them have ever even heard of integrated pest management, milk-marketing orders, Japanese beetles or soil testing?

> Agriculture and environment must be taught as if both matter. and have a vital relationship to food and to our health.

Agriculture needs to find new partners, such as the health sciences. Medicine, veterinary medicine, public health and epidemiology share with agriculture and biology a major interest in, and commitment to, nutrition and a healthy environment. New England has what may be the nation's most powerful biotechnology research and development base in its universities and private industry. Much of this research is agricultural or could be turned toward agriculture. Exciting new opportunities in biotechnology, for example, may emerge that are unique to our region, such as pestresistant livestock requiring little or no antibiotics, or New England climate-adapted crops and ornamentals.

Keeping farms green, and in the black

Open space in rural, formerly agricultural areas is diminishing. Public policy is best served by keeping farmland both green and on the tax rolls. This can be achieved in three ways:

 Find new agricultures to replace old ones. Nursery crops, specialty food crops such as cranberries, and



Public policy is best served by keeping farmland both green and on the tax rolls. Tufts University School of Veterinary Medicine, Grafton, Mass. J.D. Sloan photo.

horse breeding are New England examples, in light of declining land use for tobacco and dairying (the latter of which has not declined but has become more efficient).

- Government or private buyers can acquire unused farmland through state-run tax-deferral or abatement programs. Of course, once the government owns land, there are no taxes forthcoming to local municipalities. But we can't fairly expect farmers to turn down lucrative land deals from developers so the rest of us can enjoy the benefits of "open farmland."
- Exchange farm debt for certain environmental obligations. A clause in the 1988 federal budget bill requires the U.S. Treasury to explore ways in which the World Bank and International Monetary Fund can promote debt relief in developing countries in exchange for conservation of animal and plant habitat, especially tropical rain forests. A "debt-fornature" swap occurs when a discounted national debt is purchased by a nongovernmental organization and then forgiven if the country's government agrees to conserve specified lands or habitats. Why don't we develop such a system for domestic use?

In terms of farming practices, there may be other innovative approaches. Why not, in this era of surpluses, remove some of the pressure on farmers to produce even more as the only way to raise their incomes, and at the same time, encourage more environment-concious agricultural practices? We could restructure some of the current commodity and other subsidy programs so that farmers are financially rewarded more for restrained pesticide use or anti-erosion tillage practices, and less for production.

It is not generally recognized that farmland is as much about plant and animal habitat and groundwater as it is about food. In fact, for this region, it may be more about environment than about food. The good news from an environmental standpoint is that the total amount of land devoted to intensive agricultural

production in the Northeast is considerably less than in other areas of the nation. We also tend to use less fertilizer and less insecticide and herbicide in the Northeast, on a per-unit basis. A 1982 report by the National Academy of Science's Board on Agriculture and Renewable Resources, entitled *Impacts of Emerging Agricultural Trends on Fish and Wildlife Habitat*, predicts continued gradual reduction in pasture, cropland and forage acreage and increased seasonal vegetable production in the Northeast.

Agriculture needs to find new partners, such as the health sciences.

Other factors that affect agriculture and the environment in New England include the acid rain problem (which has its origins elsewhere and is therefore out of our practical control), and the Canada-U.S. Free Trade Agreement, which will probably impact on agriculture in New England more than elsewhere. Agriculture in New England cannot keep adjusting to changing economic, demographic and environmental realities if it is not well-enough informed to make strategic choices. And New England's city- and towndwellers are in danger of driving the last of this region's food-production agriculture away, making New England a total importer of food, not merely a net importer. Let's not wind up with that famous tombstone inscription in Connecticut, "I told you I was sick." Agriculture is environment. Let's embrace it.

Franklin M. Loew is dean of Tufts University School of Veterinary Medicine. For his work in advancing animal protection concerns within the field of veterinary medicine, Loew was named Veterinarian of the Year by the Massachusetts Society for the Prevention of Cruelty to Animals at the society's Annual Humane Awards Ceremony in Newton on October 12, 1989.

PEOPLE SUM UP THE SERVICE THEY GET FROM TIAA-CREF WITH ONE COMMON EXPRESSION.



© 1990 TIAA-CREF

Knowing that the future will be comfortable and secure will bring a smile to anybody's face.

Getting the best service anywhere will make that smile even broader.

At TIAA-CREF, we believe that good retirement planning takes more than just helping you get what you want down the road. It also takes making sure you get what you need, every step of the way.

THE INDIVIDUAL SERVICE YOU WANT, PLUS ALL THE INFORMATION YOU NEED.

Our retirement planning specialists are experienced professionals who can work with you, one-on-one. You can call them for accurate answers to your questions about retirement goals and allocating your retirement premiums.

We send you clear, informative quarterly and annual reports about your accounts. We also provide newsletters and booklets on taxes and other important retirement issues. You'll even have access to easy-to-use PC programs to help you plan for retirement, and a special network of automated 800 numbers—available 24 hours a day.

TAKE ADVANTAGE OF SERVICES NO OTHER ORGANIZATION CAN MATCH.

TIAA-CREF is a nonprofit organization. For over 70 years, we've been dedicated to

serving the retirement needs of the academic community. We're helping over 200,000 people enjoy a comfortable retirement now. And we're working on behalf of over 1,000,000 others to build a strong financial future.

WHAT CAN OUR COMMITMENT TO SERVICE MEAN TO YOU?

You can select from a variety of investment options. If you participate in TIAA-CREF, you can continue in the program even if you move—to any of 4,300 institutions. You can retire when you want, and choose from many different income options. And we give the administrators at your institution all the help they need to make sure your retirement plan is working for you.

Our special combination of personal attention, expert counseling, an array of choices, and useful information gives you all the tools for retirement—the way you want it.

TIAA-CREF. There's no one else like us: dedicated to one group of people and one purpose—you and your future.

Now that's something to smile about.



Ensuring the future for those who shape it.™

For Women Only? Single-sex colleges weigh the coed option

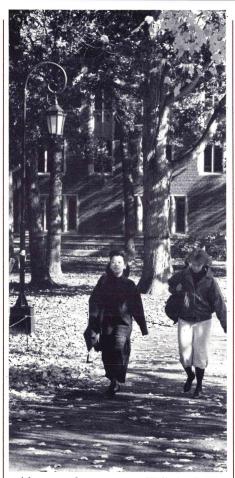
WENDY A. LINDSAY

n the early 1970s, Mount Holyoke, Smith and Wellesley colleges carefully reconsidered their more-than-century-old commitments to remain women's colleges. Two decades later, those commitments are as strong as ever. As a Mount Holyoke committee on coeducation stated during its 1971 self-examination, "At the present time, when the status and roles of women in American society are being re-examined with a view to their improvement, an important option that should remain open to women is attendance at a college of the highest caliber in which women are unquestionably first-class citizens."

The three institutions are among 22 New England women's colleges that have held fast to their single-sex status despite a trend toward coeducation. Thirty years ago, there were 300 women's colleges in the United States; today there are 94. Large numbers went coed or closed in the late 1960s and 1970s. A handful survived that mass shift only to find compelling social and financial reasons to go coed in the 1980s.

Of New England's surviving women's colleges, 14 are four-year institutions. Mount Holyoke, established in 1837 in Massachusetts, is the oldest of these. Wheaton College, established in 1834 also in Massachusetts, held that distinction until 1987 when it opened its doors to men. Lasell College, founded in 1851, was one of the country's first two-year women's colleges. When it opened, Harvard College was the only other institution in the Greater Boston area—and women weren't allowed.

Seven of the remaining women's colleges in New England opened in the 1800s as expanding industrial production and an increasing school-age population created demand for teachers and other wo-



After more than a century, Wellesley College remains committed to women's education.

men workers. Ten more of the 22 were founded between 1900 and 1940. The other five opened between 1954 and 1964.

Conversely, the few existing men's colleges in New England today are seminaries; the majority of men's colleges went coed in the 1960s and 1970s. Enrollments held strong through the 1970s, but many of the institutions were watching and responding to projections of enrollment declines in the 1980s. The women's movement and antidiscrimination legislation were also factors in the demise of men's colleges. Under a 1972 federal antidiscrimination law, no new single-sex institutions were allowed, though a grandfather clause allowed existing ones to retain their single-sex status.

More recent shifts to coeducation by women's colleges have been attributed to marketing trends and societal pressure to go with the mainstream. As Colby-Sawyer President Peggy Stock noted last year when the New Hampshire college decided to go coed, "Most young women today want to be educated in an environment with young men. If you're selling something people don't want, you'd better change your product line."

But advocates of women's colleges make the case for remaining single-sex with convincing statistics, such as steadily increasing enrollment and impressive numbers of alumnae who succeed in graduate school and careers.

"Women have taken on a societal expectation that they are best educated in the presence of men in a coeducational setting, but this is not borne out factually at all," says Anita Pampusch, president of the College of St. Catherine's in St. Paul, Minn., and chair of the Women's College Coalition (WCC), a national organization.

"Women actually do much better in women's colleges precisely because they're in an environment which is supportive of them as women. But unfortunately women's colleges are looking at other trends that are tough to go up against," says Pampusch.

Not for blue-stockings

Women's colleges have come a long way since the "finishing" schools more typical of the 19th century. But even 150 years ago, there were exceptions like the college founded by Edward Lasell, a Williams College professor who was impressed with the scholarship exhibited by women at Mount Holyoke Seminary where he was teaching on sabbatical. Lasell College, said its founder, was started "not to make bookworms or bluestockings... but to graduate firstrate, all-round women, full of practical knowledge for daily duties and versed in the classics, as well."

Women's colleges tend to be strongly grounded in their mission to afford students first-class treatment. Some of them, such as Aquinas and Regis colleges in Massachusetts, were founded by religious orders whose mission was to empower and serve women, and they continue to take that mandate seriously.

These days, many of the colleges fulfill their missions with pioneering adult-education programs, often tailored to the needs of working women and women with children. Ten years ago, Trinity College in Vermont was the first college in the state to establish a weekend degree program. That program has grown from 38 students in 1979, to 200 students today.

Adult learners are well-integrated into the student body at Aquinas College in Milton, which recently had a 43-year-old student government president.

Hartford College for Women, started in 1933 by two women YWCA directors, was designed to serve women who could not afford to leave the community to pursue education. The Connecticut college now provides various associate's degree programs, as well as significant community outreach programs. Those programs include a counseling center for displaced homemakers and a highly successful entrepreneurial program that enables welfare-dependent single mothers to become self-supporting. The college established a women's research institute in 1983 to support gender studies such as the recent, nationally cited report "Women in Divorce.'

Rethinking commitments

Mount Holyoke would not be alone in its late 20th-century reaffirmation of women's education. But some of the two-year women's colleges that considered, then rejected, shedding their single-sex traditions, instead dropped their two-year status.

Prompted by declining enrollment and uncertainty about institutional identity—and survival, Endicott College in Massachusetts considered going coed in 1985. Shortly after a study on coeducation was completed, Richard Wylie assumed the presidency. The president, who had worked at both a women's college and a coed institution, told the trustees that he "was convinced that there was a place for a women's institution, that Endicott was doing something important and essential-career education and career development for womenand that it was the wrong decision to go coed." Endicott remained a women's college, and enrollment

Endicott made one change,

however. While the college wants to maintain its two-year tradition, according to Wylie, it has implemented a Two-Plus-Two program, giving students the choice of being readmitted to a bachelor's program after earning their associate's degrees.

With enrollments already on the upswing (up 22 percent in fall 1989 over the previous year), Lasell College has also adopted the Two-Plus-Two program. Lasell's three most popular associate's degree programs—early childhood education, fashion and retail merchandising and hotel, travel/tourism administration—will expand to bachelor's degree programs in the fall.

Three years ago, Pine Manor College in Massachusetts, considered,

then firmly rejected, the coed option as a way of increasing enrollment. Pine Manor had become a four-year institution in 1977, and enrollment has since risen steadily, propelled by a 30-percent increase in continuing-education enrollment over the past two years.

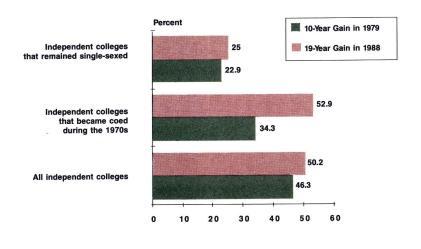
Jody Cale, assistant to the president at Pine Manor, says the majority of students choose the college for its choice of programs and personal attention reflected by a 12-to-1 student-faculty ratio. Most realize the benefits of attending a women's college only after enrolling, according to Cale.

Evidence suggests that older women students are more likely than recent high-school graduates to choose a women's college because it

Enrollment: Women's Colleges vs. Coed Institutions, 1969 to 1988

Undergraduate enrollment at women's colleges has increased steadily over the past two decades, but not as dramatically as it has at coed institutions, according to a New England Board of Higher Education enrollment analysis. The significant difference in enrollment growth between women's colleges and coed institutions may be attributed partly to the large number of institutions that went coed in the 1970s and the fact that some women's institutions have chosen to limit their enrollments. The NEBHE analysis excluded all-male institutions because of their limited but stable enrollments. Also excluded were the eight women's colleges that closed in the 1970s and those that went coed in the 1980s.

Undergraduate Enrollment Changes in New England Independent Colleges and Universities from 1969 Levels



Source: NEBHE, Facts: The Directory of New England Colleges, Universities and Institutes, 1970, 1980 and 1989 editions. is a women's college. "The schools that are recruiting on the basis of 'what can we do for you as women' are probably fighting a losing battle, because that is not an argument that appeals to the young women of today," says WCC president Pampusch. "But I can't say that it doesn't appeal to the older women, it does."

Making the case

Women's colleges have been touted for their abundance of role models, student leadership opportu-

PERSPECTIVE

n coeducational settings, the women students intervene less frequently in class. In fact, statistically fewer of them go on into science, and no coeducational undergraduate institution in the country has approached some of the women's colleges in the number of scientists and engineers which they have produced who've gone on to Ph.D.s, gone on to be scientists, who've entered patents for their work...

"The statistics which show the usefulness of women's education to young women do not show that education which is exclusively male will 'advantage' males in the society. After all, the males are already advantaged in the society, and it is not a loss for young men to be in a coeducational setting really quite the opposite...

"You have to put the whole question of discrimination in its largest context... discrimination exists against women in the large context. In order for our students, and indeed all young women in the country, to overcome those barriers, they need to have special training and the kind of sense of self and sense of mission which they can only get, we believe, at a women's college..."

> Elizabeth T. Kennan President, Mount Holyoke College Excerpted from Voice of America interview

nities, positive attention and encouragement to pursue traditionally male-dominated fields. The WCC backs up those attributes with some powerful facts:

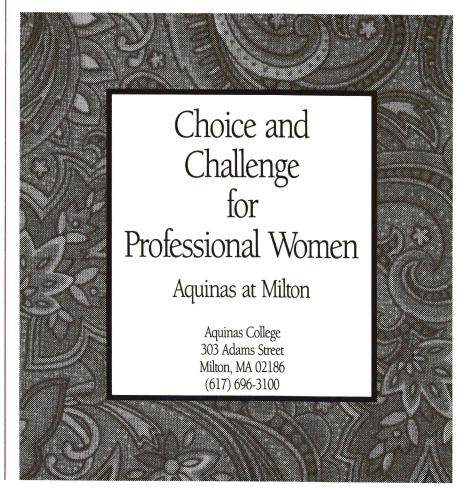
- a higher proportion of women's-college alumnae give to their alma mater and give a larger amount than do alumni at comparable coed institutions;
- 44 percent of the 27 women members of the U.S. Congress attended women's colleges;
- 33 percent of women board members at 1988 Fortune 1000 companies were graduates of women's colleges; and
- between 1970 and 1986, only 4.3 percent of women graduates received their bachelor's degrees from women's colleges, but these graduates went on to comprise 7.2 percent of women with doctorates in math and physical sciences and 6.6 percent of women with doctorates in the life sciences.

There are other arguments in favor of women's colleges. A report called "The Chilly Classroom Climate for Women," published by the Association of American Colleges, documents disparate treatment of men and women in coeducational settings. "In coed classes, women get less eye contact from professors, they get more interruptions, and when women speak out in class, they are most likely to get a bland response," says Bernice Sandler, the report's author.

Going Coed

Nonetheless, according to a 1986 WCC study, just 3 percent of college women nationally were enrolled in women's colleges, while 11 percent of high-school women (15 percent in Boston) were considering a women's college.

Indeed, the number of women's colleges has continued to dwindle, if more slowly, than in previous decades. After 60 years as a women's college, Colby-Sawyer will begin admitting male students this fall. In March 1989, the college began studying coeducation in anticipation of a major capital fundraising



campaign scheduled for the near future. Administrators said they hoped to avoid the experience of Wheaton College, which went coed after a major capital campaign that stressed its tradition as a women's college.

Colby-Sawyer considered coeducation from a position of strength having experienced a 50-percent increase in new student enrollment over the previous three years - but in anticipation of the projected dramatic dip in numbers of high-school graduates through the 1990s. Before deciding to go coed in April 1989, the college put the question to the entire campus community for consideration. Responses were about 60 percent in favor of coeducation, 25 percent "vehemently opposed," and the balance "not pleased but supportive."

You don't change society by changing women. You change society by changing women and men. [America] hasn't done a terribly good job of educating men and women to work together. But we are small enough to be able to offer N ew England's 22 remaining women's colleges, by state, are: Hartford College for Women, Mount Sacred Heart College and Saint Joseph College* in Connecticut; Aquinas-Milton*, Aquinas-Newton, Bay Path, Our Lady of the Elms*, Emmanuel, Endicott, Fisher*, Lasell, Lesley*, Marian Court Junior, Mount Holyoke, Pine Manor, Radcliffe, Regis, Simmons*, Smith and Wellesley colleges in Massachusetts; Castle Junior College in New Hampshire and Trinity College in Vermont.

*These women's colleges enroll men in graduate and/or continuingeducation programs. Note: Rivier College in New Hampshire, a coeducational institution, enrolls women only in its undergraduate school; the college's other three schools-school of graduate studies, school of continuing education and nursing school-are coeducational.

HARTFORD COLLEGE FOR WOMEN

Fifty years of excellence for women.

- Associate in Arts degree transferable to accredited colleges and universities throughout the country
- New Associate in Science degree in Legal Assistance, approved by the Board of Governors for Higher Education in April, 1989
- -Career-related services through The Counseling Center, 236-5838

1265 Asylum Avenue, Hartford, CT 06105 (203) 236-1215

a new model of coeducation," said Stock, Colby-Sawyer's first woman president. At the time of the decision, Stock pledged not to compromise the college's commitment to women's issues and women's education. She said she wanted to make sure Colby-Sawyer would not follow the pattern of some women's-turned-coed colleges that lost most student-leadership roles to

Wheaton College began admitting men to degree programs in the fall of 1988. In 1985-86, 59 percent of those who inquired about Wheaton but did not apply cited the college's single-sex status as one reason for not applying.

But Wheaton president Alice F. Emerson said the most compelling reason to consider admitting men came from an examination of "massive shifts" in work and family patterns which called for the creation of a "new kind of partnership" between the sexes. "We need a new model, neither male nor female, through which men and women together can reshape the institutions of society, combining their unique strengths to achieve shared, common goals," said Emerson at the time of the decision.

"Wheaton must continue to educate women to fulfill their potential at the center, not the periphery, of human endeavors," according to Wheaton Trustees Chairman Paul E. Gray, the outgoing president of the Massachusetts Institute of Technology. But, he noted at the time of the decision, "it must also bring its unique experience to the challenge of educating women and men together for partnership."

Leaders of colleges that have shifted to coeducation say another decade will pass before male and female enrollments approach equal numbers and the wisdom of the conversion can be evaluated. The critical question to be settled, in many cases: Will the broad reach of coeducation prove more effective than the distinctiveness of singlesex education in tapping New England's shrinking pool of highschool graduates.

Wendy A. Lindsay is associate editor of

Education and Ethnicity:

Reactions and Afterthoughts

TOBY E. HUFF

The following is Toby E. Huff's report on community and media reaction to Education and Ethnicity in Southeastern Massachusetts, his monograph published in the August 1989 edition of the New England Board of Higher Education's Issues in Planning and Policymaking newsletter. Huff is a professor of sociology at Southeastern Massachusetts University. His monograph notes that southeastern Massachusetts is culturally, economically and educationally distinct from the rest of the state. Portuguese-Americans make up 36 percent of the population age 18 and over. The area's economy has consistently lagged behind the rest of the state's, with unemployment rates in its two chief cities—New Bedford and Fall River—roughly double the Massachusetts average through much of the 1980s. The level of educational achievement is comparatively low. In the two chief cities, the percentage of individuals age 25 and over with no highschool diploma has ranged from 22 percent to 35 percent higher than the Massachusetts average. Copies of Education and Ethnicity in Southeastern Massachusetts may be ordered from NEBHE. Please use the order form in this issue.

■ he most startling result of my analysis was that 50 percent of southeastern Massachusetts adults age 25 and over, and 47 percent of those age 18 and over, had no high-school diploma in 1980.

Introducing an ethnic variable revealed that among Portuguese-Americans in southeastern Massachusetts age 18 and over, 65 percent had no high-school diploma. A parallel analysis of Rhode Island and Connecticut-states with comparable Portuguese-American populations—yielded similar figures. In Rhode Island, 59 percent of Portuguese-Americans had no highschool diploma. In Connecticut, 56 percent had no diploma.

Another factor affecting educational achievement was the level and recency of immigration. I discovered that among immigrants who arrived from Portugal or Portuguese territories, 78 percent had only eight years of education or less. Of those born in a foreign place, 65 percent of the Portuguese-Americans immigrated between 1965 and 1980, a much more recent date of arrival than for any other large immigrant group in the region in 1980. Moreover, 19 percent of the population of the "central core" of southeastern Massachusetts-the 21 cities and towns surrounding Fall River and New Bedford-was foreign-born, compared with about 9 percent for all of Massachusetts.

The intent of this analysis was to account for the low level of educa-

tional achievement in southeastern Massachusetts. My analysis indicated that immigrants coming from Portugal and Portuguese territories started off with the greatest educational deficiencies and that this would account for some of the differences between groups in southeastern Massachusetts. The analysis suggests that Portuguese-

Americans, as the dominant minority in southeastern Massachusetts, deserve special attention insofar as education resources and special programs are concerned.

I also reported that there is a "regional" effect such that levels of educational achievement generally are lower in the central core than in the surrounding area, which I called the "outer ring." I later discovered that this regional effect pertains also to occupation, income and "entrepreneurship." In other words, there are proportionately fewer professionals, technical and kindred workers, managers, administrators and entrepreneurs in the central core than in the outer ring. In addition, even when one compares the same job classifications, full-time workers in the central core earn about 22 percent less than those in the outer ring.

None of this analysis was intended to "blame" the Portuguese-Americans of the region. However, the Portuguese-American community's initial reaction to Education and Ethnicity in Southeastern Massachusetts was defensive, largely becontinued on page 60.

Equity, Pluralism and College Athletics

GORDON A. MARTIN, JR.

s a judge dealing with juveniles and young adults in Boston's Roxbury section, a predominantly minority area, I was particularly interested in the New England Board of Higher Education's Task Force report, Equity and Pluralism, which pointed out the inadequate participation of Blacks and Hispanics in higher education here. Daily I see our court staff attempting to play catch-up with young men and women who often have little family support, and who are falling farther and farther behind the normal grade level for their age or dropping out of school altogether.

For six years, while I was a NEBHE delegate, I was also a lawyer frequently called upon to represent the civil rights of college athletes (and occasionally the

schools themselves). I found it interesting that, in January 1989, the same month Equity and Pluralism was released, the country's primary governing body of intercollegiate athletics, the National Collegiate Athletic Associa- Gordon A. Martin, Jr.



tion (NCAA), passed the legislation known as Proposition 42. After three years with Proposition 48, which set the minimum freshman continued on page 62.



Halfond: Business schools cannot subcontract ethics.

Business Schools Should Teach Ethics

Higher education should play a critical role in the public debate on moral character "by attempting to stimulate the capacity for ethical reasoning on the part of its graduates," according to Jay A. Halfond, associate dean of the College of Business Administration at Northeastern University. The following is excerpted from Halfond's article which will be published in the Winter 1990 issue of Business and Society Review.

he fatalist argues that any discussion of ethics at the university level comes too late. In fact, research has demonstrated that students in their 20s and 30s are in a very important formative period of their ethical development, and that higher education can have an impact on translating personal values into a professional context. Ironically, those educators who profess to develop "leadership" and other nontechnical aspects of professionalism often forget the role that integrity plays in the emergence and demise of prominent individuals.

Still others argue that what is moral is obvious and should not be elevated to the university level. In fact, professional and business ethics can seem like a crusade to bring religion to the heathens. This is unfair to the responsible and intelligent leaders in their fields who might be faced with their own questionable deci-

sions. Were morality always obvious and profitable, it would be practiced consistently.

Even among those who accept the presence of ethics in the university, some would claim that ethics should not be taught by the "amateur" in the professional school, but only by the formal ethicist in philosophy or theology, who might claim that business ethics are only a degeneration of what has been debated and refined by the great thinkers over the millennia.

I would argue that the locus of discussion on ethical issues *does* belong in business and professional schools and that their faculties should take the lead in raising these issues in the context of their teaching. In part, this is a matter of opportunity: The one common experience of both professionals and managers is that almost all now pass through higher education, and most through professional schools. These schools are conveying not only the "stuff" of their fields but socializing students in their values as well. Faculty have the opportunity to sanction discussion and simulations of the personal conflicts students can anticipate in their professional lives.

But consideration is also a matter of responsibility: Business and professional schools cannot ignore or subcontract ethics. Faculty in these fields can use cases and examples, not to convey an established dogma, but

Excerpts

to work through the competing pressures that the graduate might have to face. They can encourage debate on how best to respond to these pressures. Even more importantly, faculty can raise the larger questions of the social value and purposes of the future endeavors of their students.

Experimentation in the classroom should be the beginning, not necessarily a refined end-product, of an examination of the ethical issues inherent in a given field. Once ethical debate is sanctioned, faculty might be surprised at how pervasive ethical issues are in any discussion that has managerial, behavioral or professional dimensions.

Somehow, professional-school and business-school faculty have persuaded themselves that ethics are not only peripheral but can be removed and relocated outside their domain. This is a convenient and irresponsible distortion. Faculty need to ask themselves: What are the greater goals beyond the transmission of their subfield? How should they help prepare students for leadership in their professions? If they are waiting for someone else, somewhere else, to address these issues, public confidence in American institutions will continue to wane. \Box

A Solution for Engineering?

Scores of studies indicate that U.S. students have lost their taste for engineering fields. Though foreign engineering students pick up much of the slack, the nation's growing dependence on foreign sources of engineering manpower is increasingly worrisome, particularly for certain government agencies. Now, William R. Grogan, dean of undergraduate studies at Worcester Polytechnic Institute, suggests industry and government could go a long way in addressing the problem, using incentives such as a variation of the Reserve Officer Training Corps (ROTC) program to attract U.S. students to the field. The following is excerpted from "Engineering's Silent Crisis," Grogan's article which appeared in the Jan. 26, 1990 issue of Science magazine (Vol. 247, No. 4941, p. 381).

▼ igns of trouble in American engineering are getting little more than a shrug from government and industry, even though both have much to lose. A serious shortage of engineers is a distinct possibility by the year 2000, caused by falling numbers of engineering graduates (down by 9,350, or 12 percent, since 1986) and the retirement of the large cohort of engineers who entered the profession after World War

... Engineering education is demanding and costly, and new investments in technology and curricular reform will strain engineering school finances to the limit. Industry and government—today concentrating on the precollege part of the educational process—should help at the university level in three ways.

First, they should provide additional engineering scholarships for low-income students. During the 1970s, industry funding resulted in a surge of such scholarships, but the numbers have since dwindled. Studies show that engineering students, on average, come from families of lower socio-economic status than those of students aspiring to other professions. This means that scholarships are particularly important in engineering and will be more so in the coming decades.

Second, industry should work with engineering schools to expand cooperative education and summer employment programs. Beyond the financial help and learning experience these programs provide, they give a tremendous psychological boost, especially to minority students who have just struggled through their freshman year and badly need the reinforcement that comes from early contact with real-world engineering. Yet, industry has been reluctant to involve freshmen and sophomores in such programs.

Third, federal agencies, heavily dependent on [engineers who are] American citizens, should institute the equivalent of ROTC—a Reserve Engineering Training Corps (RETC)—in which competitively selected highschool students would be awarded scholarship support through the B.S. in engineering, after which they would serve for five years with the sponsoring agency. RETC could help pay for itself through its impact on recruitment costs and federal engineering salary scales. Its primary purposes, though, would be to ensure that our government services have a fresh supply of engineering talent while providing young people with both the incentive and means to pursue an engineering education.

Can we continue to assume that foreign nationals will meet our engineering needs, while American youth moves to the sidelines? The risks involved in a shortage merit more than a shrug of society's shoulders. \square

What's better than sharing a copy of Having your own.

For your own Fall 1989 issue of Connection featuring FACTS: The Directory of New England Colleges, Universities and Institutes, send a check for \$12 payable to the New England Board of Higher Education. To subscribe to a full year of Connection (four issues, including FACTS), send a check for \$15.00.

New England Board of Higher Education 45 Temple Place, Boston, MA 02111

New England's Competitiveness: A Scorecard

JUDITH A. BEACHLER

hen the New England Board of Higher Education began a pilot round of legislative briefings on international competitiveness one year ago in Maine, most New Englanders presumed the regional economy to be as sturdy as the Berlin Wall. When the series was completed five briefings and 10 months later, the New England economy clearly was sputtering and the Iron Curtain had crumbled, clearing the way to new foreign markets for the region's products. The gist of the briefingsthat New England's future prosperity depends on international "savvy"—had new urgency.

For three years, NEBHE has been studying campus, government and business initiatives to boost economic competitiveness and international knowledge. NEBHE's Regional Project on the Global Economy and Higher Education in New England is based on the premise that New England's state economies must be nurtured, so they are well-positioned to take advantage of growing worldwide markets.

NEBHE finished the pilot briefing series recently in Concord, N.H., following summer 1989 meetings at the statehouses in Montpelier, Vt. and Boston. The briefings, underwritten in part by AT&T, began early in 1989 in Maine, Rhode Island and Connecticut (Connection, Spring 1989).

In preparation for each briefing, NEBHE issued state-specific background papers, brimming with findings and recommendations. Copies of the background papers can be ordered from NEBHE. Please use the order form in this issue.

What follows is a thumbnail sketch of each state's strengths and areas of concern at the time of the briefings. A word of warning: Some concerns have been addressed since the briefings; and with states facing severe budget constraints, some strengths have been compromised.

Connecticut

Strengths: Longstanding state-funded trade-development efforts. Trade offices in Europe and Asia. Ranks first nationally in percentage (6.5) of civilian jobs related to manufactured exports. Early state-sponsored financial incentives to nurture start-up high-technology and biotechnology companies. Two science research parks established with state assistance-one connected with Yale University and one with the University of Connecticut. Leadership in academic alliances between campuses and high schools. Major improvement in high-school graduation rates. UConn operates unique international business program drawing on expertise of Connecticut affiliates of German companies. Quinnipiac College and UConn provide export assistance to small and mediumsized companies.

Concerns: Early in efforts to evaluate future workforce needs, but late in producing coordinated training programs. Low investment in higher education relative to personal income. Ranked first nationally in personal income from 1986 through 1988, but 49th in higher-education appropriations per \$1,000 of personal income.

Maine

Strengths: Unique collaborative spirit among business, government and higher education. World Trade Association started with state support. Maine Aspirations Compact and Science and Technology Commission improve elementary and secondary education. Public campuses committed to statespecific policy research. University of Southern Maine's Center for Research and Advanced Study conducts economic research for state policymakers. Strong legislative and academic attention to U.S.-Canadian relations.

Concerns: Low research and development support from the federal government. No trade offices in foreign countries. Late in investing in state-funded product-development and technology-transfer mechanisms.

Massachusetts

Strengths: Model state-funded programs to train workers and welfare recipients; promote specific emerging technologies; and help once-declining cities attract new industries. Export momentum. Ranked second nationally in percentage (5.5) of civilian jobs related to manufactured exports in 1986, up from 11th in 1980. Boston is regional center of international trade. State's Export 90's program encourages doubling of export revenue by 1993. Group of seven Boston-area campuses works with trade organizations to provide market studies for exporters in eastern Massachusetts; University of Massachusetts at Amherst provides similar services in western Massachusetts. Renowned technology-transfer programs include MIT's Industrial Liaison Program, Harvard Medical School's Medical Science Partners Fund and a Worcester biotech research center supported by seven universities and institutes.

**Concerns: Budget paralysis. Only state with 1988-90 decrease in funding of public higher education; ranks 48th nationally in higher-education appropriations per \$1,000 of personal income. Major research-related capital projects at UMass on hold. Funding eliminated for campus-based Global Education Centers, model vehicles for raising international awareness among elementary- and secondary-school students. No trade offices in foreign countries.

New Hampshire

Strengths: Pease Air Force Base site, with its proximity to the port of Portsmouth and research facilities of the University of New Hampshire, suited to become regional center of technology and trade when the military pulls out. UNH and Dartmouth operate business-incubator programs. Unique level of university involvement in improving teacher training and public education. National leader in requiring international knowledge for elementary- and secondary-school teachers and students.

Concerns: High-school dropout rate is on the rise. Educational resources strained under historical "small government" concept. Ranked last nationally in highereducation appropriations per capita and per \$1,000 of personal income. Tenuous support for trade efforts. No trade offices in foreign countries.

Rhode Island

Strengths: Aggressive statesponsored business and export development. Trade offices in Europe and Asia. University of Rhode Island and Bryant College provide export assistance for small and medium-sized companies. Rhode Island College operates Center for Industrial Technology to improve production processes of national manufacturers. Rhode Island Partnership for Science and Technology assists in transferring technology from universities and teaching hospitals to industry. Workforce 2000 is a model for expanding education and training for workers and

welfare recipients without significant state spending. Ambitious state-funded program to encourage minority participation in education and training.

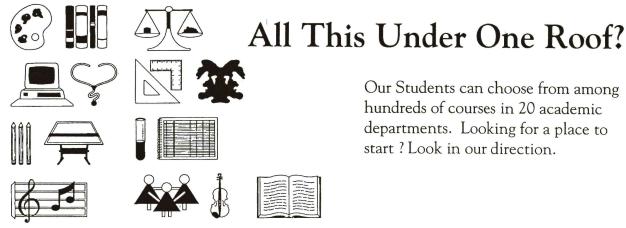
Concerns: Ranked 40th nationally—and lowest in New England—in adult literacy. High-school dropout rate is on the rise. Late in establishing state-funded productdevelopment and seed investment funds.

Vermont

Strengths: Unequaled reputation for high-quality products—the "Made in Vermont" mystique. Leads New England with 20 percent of the value of all manufactured products exported. Diversity of export products. Trade office in Japan. St. Michael's College offers continuing education geared to Japanese executives. The Experiment in International Living's School for International Training (SIT) offers study-abroad programs for people of all ages, as well as international curricula at the bachelor's and master's degree levels. SIT and University of Vermont operate international resource programs for elementary- and secondary-school teachers. Public and independent campuses committed to policy research for Vermont business organizations. UVM fund established for applied research partnerships with Vermont companies. Governor's office manages summer institutes in international affairs and science and technology for highschool students, hosted by rotating public and independent Vermont colleges.

Concerns: No world trade association. No Small Business Development Center affiliated with a graduate school of business. No state-funded product-development or seed investment funds. No instate bank operates an international department.

Judith Beachler is NEBHE director of research services.



Undergraduate School for Women over 60 bachelor's and associate's degree programs



Nashua, NH 03060 (603) 888-1311

Our Students can choose from among hundreds of courses in 20 academic departments. Looking for a place to start? Look in our direction.

And the co-educational:

School of Graduate Studies

15 master's degree programs

School of Continuing Education

over 60 bachelor's and associate's degree programs

Rivier College St. Joseph School of Nursing

A.D., and B.S. in Nursing

THE BIG SQUEEZE continued from page 21.

ticut, 49th; and New Hampshire, 50th.

If the facts this academic year argued for a tax dedicated to higher education, most of the region's state-houses did not read it that way. Despite Connecticut's major tax increase and some tinkering with cigarette and gasoline taxes throughout the region, no-tax sentiment has been strong, particularly in Massachusetts, which ranks 42nd nationally in state and local tax burden as a percentage of income.

A December 1989 survey by the UMass-Boston Center for Survey Research revealed that 68 percent of Massachusetts residents would support higher taxes if the revenue were earmarked for public colleges and universities. (It is noteworthy that 89 percent would support higher taxes earmarked for elementary and secondary education.)

On the other hand, while a petition to roll back recent state tax increases and fees will appear on the 1990 state ballot, a petition to increase the state sales tax by 1 cent on the dollar, with the new revenue earmarked for state colleges and universities, as well as basic education, will not. It didn't get enough signatures. Another reflection of the mood: When Bay State campuses tried to get support for taxes from business leaders who, the campus leaders reasoned, have a vested interest in public higher education's capacity to conduct research and supply skilled workers in the state, they came up empty. Says Mara of Fitchburg State, "The business community is so anti-government in this state that they're blinded by other matters. As a group, they're all for this anti-tax activity that's going on."

A question of fat

Many of the business leaders say more taxes for public higher education cannot come until the higher-education systems trim what they see as fat. What is fat? "Having state colleges go up and lobby for gymnasiums when they really don't need the things," says Massachusetts High Technology Council President Howard Foley, who

has advocated closing one or more state colleges and raising tuitions.

Educators say the tuition option, already pursued to some extent, shows a misunderstanding of the basic mission of public higher education, as well as questionable economic sense. "We're supposed to be about access. As you raise the tuition, you begin to eliminate access," says Bartley of Holyoke Community College. "Six or 10 years from now, (business leaders) will be complaining and moaning about the fact that there are no trained people."

You learn that there's only so much fat you can cut, then you get into the muscle.

As for fat, education officials contend that the weight-watchers in the business community don't talk specifics and, in any case, don't understand the higher-education enterprise. "To many people, fat means administrators. Even the most basic kinds of things that we do in compliance with state and federal regulations take administrators," says Rees of the Regents. "It is not possible to explain that kind of thing to most taxpayers."

Howell, the economist, believes there is a way to trim that taxpayers would understand. He advocates a system of zero-based budgeting, in which each higher-education program is reassessed annually on its own merits. "If those programs can stand the scrutiny of zero-based budgeting and we get to the end with an expenditure package that needs a tax increase, then I would support a tax increase," he says.

That general concept may get play over the next year. Regents Chairman and former U.S. Senator Paul Tsongas has proposed distributing 5 percent of the state's campus-operations budget to institutions based on merit. But how merit would be assessed is not clear.

Incidentally, the survey by the UMass-Boston Center for Survey Research found that Massachusetts

residents consider public higher education to be leaner than most state budget categories. And data compiled by the U.S. Department of Education even before the cuts began indicates that Massachusetts institutions spent an average of \$2,200 per student on administration, compared with a national average of \$3,100.

That kind of data casts doubt on the fat argument throughout the region. "You learn that there's only so much fat you can cut, then you get into the muscle," says former Vermont Gov. Thomas P. Salmon. "A cursory understanding of tomorrow's workforce suggests that 45 percent of future workers will require some college credits," says Salmon, who is now chairman of the New England Council, an association of major businesses in the region. "Higher education is part of the muscle of a vibrant economy in this region."

In the meantime, highereducation leaders throughout the region have begun examining their operations. Says Petrocelli of Rhode Island, ''It isn't a cliche that education is part of the solution, it's an absolute fact. Yet that does not absolve us from taking a patient and responsible look at what we're doing, and saying, 'Listen folks, let us prove to you that what we're doing is cost-effective and that there isn't a bunch of fat.'''

It isn't a cliche that education is part of the solution, it's an absolute fact.

How? "By seriously looking at our operations and avoiding kneejerk responses," says the commissioner. "We won't build credibility by responding to a headline of a cut with a knee-jerk reaction that says we are just going to eliminate the entire library. Avoid those knee-jerk responses, be credible in the self-analysis and then fight like the blazes for the support."

John O. Harney is editor of Connection.

URALISM



Recruitment of minorities for graduate study will require money, imagination and moral support. Nancy Walz, Wesleyan University.

Minorities in Science and Engineering: Looking for a Degree of Progress

t has become almost a platitude to point out that minority undergraduates are unlikely to choose graduate study and academic careers unless they have strong minority-faculty role models. With relatively few such role models in most institutions, especially in science and engineering programs, the question is how to break the present cycle.

Of special note is the disturbingly low number of doctorates awarded to minorities in science fields.

New data indicate that minority access to undergraduate education in New England has improved considerably. Yet recruitment to graduate school, financial aid for graduate students and enthusiastic moral support from faculty members apparently remain inadequate to yield similar improvement in graduate degrees awarded.

From 1984 to 1988, the number of Blacks enrolled in New England colleges and universities grew more than 20 percent, from 24,963 to 30,057. This percentage increase is nearly double the national growth. For Hispanics, enrollment increased more than 50 percent, from 12,318 to 18,686, also significantly higher than the national increase of 37 percent. For both Blacks and Hispanics, most of the increases occurred at the undergraduate level (Table 1).

1988 GRADUATE ENROLLMENTS ONLY

	Public-	(%)	Ind.	(%)	Totals	(%)
Black	907	(2.0)	1,969	(2.5)	2,876	(2.3)
Hispanic	702	(1.5)	1,364	(1.7)	2,066	(1.7)
Asian	815	(1.8)	2,128	(2.7)	2,943	(2.4)
Foreign	3,213	(7.0)	9,251	(11.8)	12,464	(10.0)
Total	46,001		78,328		124,329	,,

Source: National Center for Education Statistics; NEBHE analysis, December 1989

The enrollment figures reflect the fact that the largest numbers and percentages of minorities in New England reside in the region's three southern states. Together, Massachusetts and Connecticut institutions enroll almost 90 percent of the region's Black and Hispanic students.

From 1984 to 1988, the greatest absolute gains and percentage increases came in Massachusetts public institutions, which historically have lagged-and still lag-Massachusetts independent institutions in total numbers of minority students.

Connecticut's public institutions —which historically have had higher

EQUITY AND PLURALISM: The Action Plan

The New England Board of Higher Education report Equity and Pluralism: Full Participation of Blacks and Hispanics in New England Higher Education notes that an unacceptably low number of the region's Blacks and Hispanics receive degrees from New England colleges and universities.

The most disturbing data relate to the number of Blacks and Hispanics pursuing graduate degrees and academic careers in the high-demand fields of science, mathematics and engineering. Only 58 Blacks and 57 numbers of minorities than the state's independent colleges—also experienced significant gains in minority enrollment from 1984 to 1988, though not as large as the increases in Massachusetts.

Thirty-four percent of Black students and 35 percent of Hispanics are enrolled in two-year colleges (Table 2). Nevertheless, the pool of minority students now in four-year colleges is substantial and growing rapidly.

The pool of minority students now in four-year colleges is substantial and growing rapidly.

Increases in degrees awarded, particularly graduate degrees in science and engineering, however, have not yet matched increases in minority enrollment (Table 3). Of special note is the disturbingly low number of doctorates awarded to minorities in science fields through academic year 1986-87, the most recent year for which such racialethnic data are available from the National Center for Education Statistics.

In the fields of engineering, computer science and the life sciences, a fairly substantial number of

TABLE 1 COMPARISON OF MINORITY ENROLLMENTS: 1984 and 1988

1984	Public 1988	(% gain)	In 1984	dependent 1988	(% gain)	1984	Total 1988	(% gain)
5,148	6,135	(19.2)	1,989	2,809	(41.2)	7,137	8,944	(25.3)
2,155	3,402	(57.9)	966	1,443	(49.4)	3,121	4,845	(55.2)
5,634	8,123	(44.2)	9,031	9,654	(6.9)	14,665	17,777	(21.2)
3,037	5,189	(70.9)	4,527	6,419	(41.8)	7,564	11,628	(53.7)
972	1,093	(12.4)	1,034	1,092	(5.6)	2,006	2,185	(8.9)
428	731	(70.8)	546	466	(-14.7)	974	1,197	(22.9)
68	109	(60.3)	213	154	(-27.7)	281	263	(-6.4)
39	62	(59.0)	81	73	(-9.9)	120	135	(12.5)
98	119	(21.4)	550	492	(-10.5)	648	611	(-5.7
54	129	(138.9)	324	518	(59.9)	378	647	(71.2
79	90	(13.9)	147	187	(27.2)	226	277	(22.6)
77	123	(59.7)	84	111	(32.1)	161	234	(45.3)
11,999	15,669	(30.6)	12,964	14,388	(11.0)	24,963	30,057	(20.4
5,790	9,656	(66.8)	6,528	9,030	(38.3)	12,318	18,686	(51.7
773,000	862,000	(11.5)	221,000	249,000	(12.7)	994,000	1,111,000	(11.8
410,000	574,000	(40.0)	76,000	93,000	(22.4)	486,000	667,000	(37.2
	5,148 2,155 5,634 3,037 972 428 68 39 98 54 79 77 11,999 5,790	1984 1988 5,148 6,135 2,155 3,402 5,634 8,123 3,037 5,189 972 1,093 428 731 68 109 39 62 98 119 54 129 79 90 77 123 11,999 15,669 5,790 9,656 773,000 862,000	1984 1988 (% gain) 5,148 6,135 (19.2) 2,155 3,402 (57.9) 5,634 8,123 (44.2) 3,037 5,189 (70.9) 972 1,093 (12.4) 428 731 (70.8) 68 109 (60.3) 39 62 (59.0) 98 119 (21.4) 54 129 (138.9) 79 90 (13.9) 77 123 (59.7) 11,999 15,669 (30.6) 5,790 9,656 (66.8) 773,000 862,000 (11.5)	1984 1988 (% gain) 1984 5,148 6,135 (19.2) 1,989 2,155 3,402 (57.9) 966 5,634 8,123 (44.2) 9,031 3,037 5,189 (70.9) 4,527 972 1,093 (12.4) 1,034 428 731 (70.8) 546 68 109 (60.3) 213 39 62 (59.0) 81 98 119 (21.4) 550 54 129 (138.9) 324 79 90 (13.9) 147 77 123 (59.7) 84 11,999 15,669 (30.6) 12,964 5,790 9,656 (66.8) 6,528 773,000 862,000 (11.5) 221,000	1984 1988 (% gain) 1984 1988 5,148 6,135 (19.2) 1,989 2,809 2,155 3,402 (57.9) 966 1,443 5,634 8,123 (44.2) 9,031 9,654 3,037 5,189 (70.9) 4,527 6,419 972 1,093 (12.4) 1,034 1,092 428 731 (70.8) 546 466 68 109 (60.3) 213 154 39 62 (59.0) 81 73 98 119 (21.4) 550 492 54 129 (138.9) 324 518 79 90 (13.9) 147 187 77 123 (59.7) 84 111 11,999 15,669 (30.6) 12,964 14,388 5,790 9,656 (66.8) 6,528 9,030 773,000 862,000 (11.5)	1984 1988 (% gain) 1984 1988 (% gain) 5,148 6,135 (19.2) 1,989 2,809 (41.2) 2,155 3,402 (57.9) 966 1,443 (49.4) 5,634 8,123 (44.2) 9,031 9,654 (6.9) 3,037 5,189 (70.9) 4,527 6,419 (41.8) 972 1,093 (12.4) 1,034 1,092 (5.6) 428 731 (70.8) 546 466 (-14.7) 68 109 (60.3) 213 154 (-27.7) 39 62 (59.0) 81 73 (-9.9) 98 119 (21.4) 550 492 (-10.5) 54 129 (138.9) 324 518 (59.9) 79 90 (13.9) 147 187 (27.2) 77 123 (59.7) 84 111 (32.1) 11,999 1	1984 1988 (% gain) 1984 1988 (% gain) 1984 5,148 6,135 (19.2) 1,989 2,809 (41.2) 7,137 2,155 3,402 (57.9) 966 1,443 (49.4) 3,121 5,634 8,123 (44.2) 9,031 9,654 (6.9) 14,665 3,037 5,189 (70.9) 4,527 6,419 (41.8) 7,564 972 1,093 (12.4) 1,034 1,092 (5.6) 2,006 428 731 (70.8) 546 466 (-14.7) 974 68 109 (60.3) 213 154 (-27.7) 281 39 62 (59.0) 81 73 (-9.9) 120 98 119 (21.4) 550 492 (-10.5) 648 54 129 (138.9) 324 518 (59.9) 378 79 90 (13.9) 147	1984 1988 (% gain) 1984 1988 (% gain) 1984 1988 (% gain) 1984 1988 5,148 6,135 (19.2) 2,155 3,402 (57.9) 1,989 2,809 (41.2) 7,137 8,944 (21.5) 7,137 8,944 3,121 4,845 5,634 8,123 (44.2) 9,031 9,654 (6.9) 14,665 17,777 3,037 5,189 (70.9) 4,527 6,419 (41.8) 7,564 11,628 972 1,093 (12.4) 1,034 1,092 (5.6) 428 731 (70.8) 546 466 (-14.7) 974 1,197 68 109 (60.3) 39 62 (59.0) 81 73 (9.9) 120 135 98 119 (21.4) 550 492 (-10.5) 648 611 54 129 (138.9) 324 518 (59.9) 378 647 79 90 (13.9) 147 187 (27.2) 226 277 77 123 (59.7) 84 111 (32.1) 161 234 11,999 15,669 (30.6) (59.7) 84 111 (32.1) 161 234 773,000 862,000 (11.5) 221,000 249,000 (12.7) 994,000 1,1111,000 773,000 862,000 (11.5) 221,000 249,000 (12.7) 994,000 1,1111,000

Source: National Center for Education Statistics; NEBHE analysis, December 1989 *Rounded to nearest 1000

TOTAL N.E. ENROLLMENTS BY INSTITUTIONAL TYPE AND RACE/ETHNICITY: FALL 1988

		Pı	blic			Indep	endent		Tota	
	2 yr.	(0/0)	4 yr.	(%)	2 yr.	(%)	4 yr.	(%)		(%)
Black	9,041	(6.1)	6,628	(2.4)	1,204	(6.0)	13,184	(3.6)	30,057	(3.7)
Hispanic	5,786	(3.9)	3,870	(1.4)	846	(4.2)	8,184	(2.2)	18,686	(2.3)
Asian	2,791	(1.9)	4,490	(1.7)	308	(1.5)	12,317	(3.4)	19,906	(2.5)
Foreign	1,429	(1.0)	5.084	(1.9)	262	(1.3)	20,198	(5.5)	26,973	(3.3)
Total	149,202	()	272,113		19,991		364,426		805,732	

Hispanics earned doctorates in any field at New England campuses in 1987, the latest year for which comparative data is available. Just two Blacks and two Hispanics earned engineering doctorates.

Now NEBHE has launched an action plan to work with businesses, state governments, campuses and the media to implement the 20 recommendations contained in the benchmark 1989 report.

Key components of the plan include: annual assessments of campus and state progress toward equity and pluralism in higher education; programs to break down barriers that minority community college students face in transferring credits to four-year institutions; and, not surprisingly, a regionwide effort to spur minority faculty development in the high-demand fields of science, math and engineering, as well as other disciplines.

A NEBHE academic advisory council, comprised of distinguished minority faculty, will work with campuses to organize "grow-yourown" minority faculty development plans. Under these plans, graduate schools identify and nurture promising Black and Hispanic students for faculty positions at their campuses or

elsewhere in the region.

Initial support for the NEBHE action plan has been provided by: the Aetna Foundation, the New England Educational Loan Marketing Corp., The Education Resources Institute; Bank of Boston and the Jesse B. Cox Charitable Trust.

Copies of Equity and Pluralism: Full Participation of Blacks and Hispanics in New England Higher Education, as well as a follow-up report, Educational and Employment Opportunity for Blacks and Hispanics: Strategies for New England, can be ordered from NEBHE. Please use the order form in this issue.

URALISM UPDATE

TABLE 3 DEGREES CONFERRED ON BLACKS AND HISPANICS IN SELECTED SCIENCE AND ENGINEERING FIELDS IN NEW ENGLAND: 1984-85 AND 1986-87

		Black/Nor	1-Hispanic			Hisp	anics		New Eng	land Totals
		egrees irded 86-87	Confe	Degrees rred in in NE 86-87		Degrees arded 86-87	Confe	Degrees rred in in NE 86-87		egrees I in Field 86-87
Bachelor's										
Mathematics	22	16	(1.5)	(1.2)	19	9	(1.3)	(0.7)	1,451	1,388
Physical Science	38	21	(2.2)	(1.5)	10	28	(0.6)	(2.0)	1,764	1,408
Engineering	85	107	(1.4)	(1.9)	62	77	(1.0)	(1.3)	6.089	5,765
Computer Science	40	49	(1.6)	(1.7)	26	36	(1.0)	(1.2)	2,533	2,882
Master's								, ,		
Mathematics	2	4	(8.0)	(1.6)	3	0	(1.2)	(0.0)	258	252
Physical Science	0	2	(0.0)	(0.0)	6	5	(1.5)	(1.2)	402	404
Engineering	20	33	(1.1)	(1.6)	19	33	(1.0)	(1.6)	1,893	2.085
Computer Science	3	2	(0.6)	(0.3)	4	3	(0.9)	(0.5)	466	663
Doctor's								,,		
Mathematics	0	1	(0.0)	(1.3)	0	1	(0.0)	(1.3)	86	76
Physical Science	2	3	(0.5)	(0.8)	7	1	(1.9)	(0.3)	371	382
Engineering	3	2	(1.0)	(0.5)	3	2	(1.0)	(0.5)	307	371
Computer Science	0	0	(0.0)	(0.0)	1	0	(5.3)	(0.0)	19	23

Note: New England has 5.3% of the nation's population; 3.8% of New England's population is Black and 2.4% is Hispania Source: National Center for Education Statistics, March, 1987, Statistical Abstract of the U.S., 1986; Massachusetts Institute for Social and Economic Research (MISER) and NEBHE analyses, May 1987 and November 1989

TABLE 4

BACHELOR'S DEGREES IN SCIENCE, ENGINEERING AND MANAGEMENT AWARDED IN 1986-87 BY RACE/ETHNICITY IN NEW ENGLAND

(Percentages within field in parentheses)

	Computer Sci.	Engineering	Math	Phys. Sci.	Life Sci.	Bus/Manage.	All Fields*
Total	1,000	2,378	551	516	126	6,779	30,868
Black	11 (1.1%)	18 (0.8%)	8 (1.5%)	3 (0.6%)	10 (0.9%)) 143 (2.1%	90700 P. C.
Hispanic	10 (1.0%)	17 (0.7%)	2 (0.4%)	12 (2.3%)	8 (0.7%)		,
Asian	29 (2.4%)	63 (2.6%)	12 (2.2%)	6 (1.2%)	19 (1.7%)		,
Foreign	57 (5.7%)	66 (2.8%)	14 (2.5%)	8 (1.6%)	5 (0.4%)	57 (0.8%	
-			,	, , , , , ,	(011112)	, 0. (0.070	, 2, 1 (0.07

	IDDIII OOLLL	GEO					
	Computer Sci.	Engineering	Math	Phys. Sci.	Life Sci.	Bus/Manage.	All Fields*
Total	1,882	3,387	837	892	2,121	10,281	47.738
Black	38 (2.0%)	89 (2.6%)	8 (1.0%)	18 (2.0%)	76 (3.6%) 222 (2.2%)	1,482 (3.1%)
Hispanic	26 (1.4%)	60 (1.8%)	7 (0.8%)	16 (1.8%)	48 (2.3%) 169 (1.6%)	
Asian	44 (2.3%)	204 (6.0%)	28 (3.3%)	57 (6.4%)	169 (8.0%	110 (1.1%)	1,220 (2.6%)
Foreign	100 (5.3%)	462(13.6%)	33 (3.9%)	41 (4.6%)	84 (4.0%	439 (4.1%)	2,014 (4.2%)

^{*}Including social sciences and humanities fields

Source: National Center for Education Statistics; MISER and NEBHE analyses, November 1989

TABLE 5

PH.D. DEGREES IN SCIENCE, ENGINEERING AND MANAGEMENT AWARDED IN 1986-87 BY RACE/ETHNICITY IN NEW ENGLAND

(Percentages within field in parentheses)

	Computer Sci.	Engineering	Math	Phys. Sci.	Life Sci.	Bus/Manage.	All Fields*
Total	8	80	15	92	73	9	683
Black	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.4%)	0 (0.0%)	15 (2.3%)
Hispanic	0 (0.0%)	1 (1.3%)	1 (6.7%)	0 (0.0%)	0 (0.0%)	1(11.1%)	14 (2.1%)
Asian	1(12.5%)	4 (5.0%)	0 (0.0%)	6 (6.5%)	1 (1.4%)	0 (0.0%)	22 (3.3%)
Foreign	1(12.5%)	39(48.8%)	6(40.0%)	21 (23.3%)	10(13.7%)	1(11.1%)	125(18.9%
INDEPEN	DENT UNIVERS	SITIES					
INDEPEN	DENT UNIVERS Computer Sci.	SITIES Engineering	Math	Phys. Sci.	Life Sci.	Bus/Manage.	All Fields*
			Math 61	Phys. Sci. 290	Life Sci.	Bus/Manage.	
Total	Computer Sci.	Engineering				45	2,107
Total Black	Computer Sci. 15	Engineering 291	61	290	248 3 (1.2%)	45 2 (4.4%)	2,107 43 (2.0%)
INDEPEN Total Black Hispanic Asian	Computer Sci. 15 0 (0.0%)	Engineering 291 2 (0.7%)	61 1 (1.6%)	290 3 (1.0%)	248	45	

including social sciences and humanities fields Source: National Center for Education Statistics; MISER and NEBHE analyses; November 1985 minority graduates earned bachelor's degrees (Table 4). But this is clearly not yet the case at the doctoral level, particularly in the public universities where no Blacks, for example, received degrees in computer science, engineering, mathematics or the physical sciences (Table 5). Evidently bachelor's degree recipients found job offers too lucrative and individual needs too great to permit consideration of long-term graduate study.

Recruitment of minorities for graduate study will require money, imagination, moral support, and above all, continuous commitment on the part of faculty and administrators to break the current nonproductive cycle.

States, Campuses Launch Initiatives to Achieve Equity and Pluralism

JOANN MOODY

Rhode Island program is being hailed as a national model to encourage children to stay in school, stay off drugs and become "job-ready" citizens.

The ambitious goal of the Rhode Island Children's Crusade for Higher Education is to provide full college-tuition scholarships or training stipends for every economically disadvantaged high-school graduate in the state.

Starting in the fall of 1991, all Ocean State third-graders and their parents, regardless of income, will be asked to sign a contract, stating that the student will stay off drugs, attend school and accept support from mentors. Through the school years, the students will be guaranteed mentoring and academic tutoring by individuals from local colleges and community groups. Hundreds of participating low-income students will be offered summer jobs when they become teenagers.

EQUITY AND PLURALISM UPDATE

The students have to hold up their end of the deal if they want the real prize. Those who honor the contract throughout their schooling—and are considered economically disadvantaged in their senior year of high school—will get scholarships to Rhode Island colleges and universities that take part in the Crusade, or if the student prefers, stipends for technical training or union apprenticeship programs.

A few caveats: The scholarship doesn't guarantee acceptance at a college; and its value will not exceed the tuition charged by the University of Rhode Island.

In each of the next 10 years, the Crusade plans to reach about 3,000 third-graders. That's about 30 percent of the current third-grade class. Many of the beneficiaries of the program will be Blacks and Hispanics.

In each of the next 10 years, the Crusade plans to reach about 3,000 third-graders.

Rhode Island Higher Education Commissioner Americo Petrocelli, the program's creator, says the Crusade was inspired partly by the recommendations of *Equity and Pluralism*, the 1989 report by the New England Board of Higher Education. "This program has a real lineage to *Equity and Pluralism*," said Petrocelli. "NEBHE is a godfather of the Rhode Island Children's Crusade."

The Crusade will be operated by a public-private foundation, which is asking businesses, universities, community groups and individuals to help build a \$10 million endowment by fall 1990 and support fundraising efforts in subsequent years. Rhode Island officials hope the bulk of the initial \$10 million will be supplied by the federal and state governments. The state is expected to contribute as much as \$3.2 million annually to the program.

While the Rhode Island Crusade has garnered national headlines, the past year has witnessed important strides toward *Equity and Pluralism* in every New England state.

A look at a few of the initiatives around the region:

Connecticut

- Connecticut community colleges began a program to recruit minority faculty members. Selected minority graduate students studying at public or independent campuses in Connecticut can teach nine hours per week at an in-state community college and receive a stipend. Several of the graduate students already have been hired for permanent positions.
- Wesleyan University in November was the site of a regional student conference sponsored by the Society Organized Against Racism. The university has won accolades for its efforts to monitor the racial climate on campus and promote multicultural perspectives for faculty, staff and students.
- The University of Connecticut is part of "Project 1000," a national effort to recruit and graduate 1,000 additional Hispanic graduate students over a three-year period.
- The Connecticut Delegation on Equity and Pluralism is exploring ways to help the state's public and independent campuses establish "grow your own" minority faculty development plans, in which promising Black and Hispanic students are prepared for faculty positions.

Maine

- Robert Woodbury, chancellor of the University of Maine System and chairman of NEBHE, sponsored a conference on the "Synergy of Pluralism" for faculty, staff and students at public campuses in Maine.
- The Maine Commission on Pluralism, formed by the trustees of the state university system, issued recommendations to guarantee that public campuses become more pluralistic in enrollment, staffing and curriculum. The commission and trustees will monitor progress on the recommendations.
- The Maine Delegation on Equity and Pluralism is considering creation of a Visiting Minority

Professors program, sponsored by public and independent campuses in Maine, to bring greater numbers of distinguished minority scholars and professionals to the state.

Massachusetts

• Smith College initiated a program with two Massachusetts community colleges and a Connecticut community college, in which minority women from the two-year colleges go to Smith for summer enrichment programs designed to ease the transition to a four-year institution.

In 1960, 1,200 Hispanics lived in Massachusetts; in 1985, the number was 500,000.

- The Greater Boston Inter-University Council sponsored a conference on "Obstacles to Hiring Black Faculty at Predominantly White Campuses in New England," and announced that a conference report will be widely disseminated.
- The Mauricio Gaston Institute for Latino Community Development and Public Policy was established at the University of Massachusetts at Boston. New England's first institute devoted to Hispanic issues will conduct research and policy studies and award fellowships to enlist aid from UMassBoston graduate students and visiting scholars. (In 1960, 1,200 Hispanics lived in Massachusetts; in 1985, the number was 500,000.)
- The Massachusetts delegation on Equity and Pluralism began an effort in which employees of Digital Equipment Corporation go to college campuses to discuss the practical benefits of a pluralistic workforce, particularly the workings of the company's official personnel policy—"Valuing Differences."

New Hampshire

• The New Hampshire Educational Opportunity Association, with help from the New Hampshire Delegation on Equity and Plural-

EQUITY AND PLURALISM UPDATE

ism, devoted its annual meeting to ''Diversity in Education: A Challenge for New Hampshire in the 90s."

• Dartmouth's Native American Program approached its 20th anniversary, with 70 percent of the college's Native American students completing their studies in four years, compared with the national average of less than 10 percent. For the third consecutive summer, Dartmouth will host a workshop where high-school counselors who work with Native Americans will learn about liberal arts colleges,

financial-aid opportunities and college-entrance exams.

Vermont

- The University of Vermont reports that 22 of 24 faculty members hired by the College of Arts and Sciences in September 1989 are women or minorities. With the critical mass of minority faculty, UVM officials believe they can attract more minority students.
- UVM also reported that 800 students are enrolled in a freshman course on multicultural diversity introduced last year. In addition, 72

courses have been reorganized to include multicultural content, and the university is developing a comprehensive "retention" plan for minority students.

• The Vermont Delegation on Equity and Pluralism plans to encourage collaboration among Vermont's public and independent campuses to broaden and speed up steps towards pluralism. □

JoAnn Moody is vice president and legal counsel for NEBHE. She also directs the NEBHE program on Black and Hispanic Student Enrollment and Retention.

PROGRAMS THAT SPELL OPPORTUNITY

BRENDA DANN-MESSIER

Each year, more than 36,000 low-income New Englanders whose parents did not attend college get a boost from one of the 70 federal and state Educational Opportunity Programs (EOPs) serving the region. One product of the programs: Franklin Chang-Diaz. The first Hispanic astronaut, a University of Connecticut graduate, is quick to credit part of his success to Student Support Services, an EOP that provides on-campus academic help to more than 10,000 New England college students each year. Other EOP participants have soared too, albeit less conspicuously.

Student Support Services programs are among the five different kinds of EOP initiatives designed to help students overcome social, academic and cultural barriers to higher education.

The 26 *Upward Bound* programs of New England serve 2,000 high-school students each year. Upward Bound at Bowdoin College, for example, assists mostly students in remote, rural areas of the state, including French-speaking northern Aroostook and eastern Washington counties—among the most economically depressed areas of New England.

A residential summer session for Upward Bound students is staffed mostly by Bowdoin faculty. Evening tutorials, field trips, career activities, enrichment courses and follow-up during the school year are standard features. The program's track record: 90 percent of the students go on to college. That's double the rate of some of the most academically oriented high schools in the state.

A special Upward Bound initiative, the Urban Scholars Program at the University of Massachusetts at Boston, is aimed at gifted urban students. The program, funded by the state and the private sector, offers students rigorous academic stimulation through after-school and

summer courses. Track record: 100 percent of the scholars drawn from three inner-city high schools go on to college. A new component serves 20 gifted middle-school students.

In New England's "lower-tier" states, three federally funded *Educational Opportunity Centers* provide counseling, information and encouragement to help 12,500 disadvantaged adults enter high school or continue studies beyond the secondary level.

In the region's "upper tier," six *Talent Search* programs serve about 11,000 youths. The Vermont Student Assistance Corporation, for example, operates a Talent Search program for eighth-graders and their parents, providing workshops on self-awareness, career planning, financial aid and college selection. The group also serves high-school students and adults.

The New England Association of Educational Opportunity Program Personnel and the New England Board of Higher Education hope a spring conference the two groups are cosponsoring in Burlington, Vt., will lead to more collaborative initiatives among the upper-tier states of Maine, New Hampshire and Vermont.

The federal government also recently funded a new EOP to encourage students to pursue graduate studies. The Ronald McNair Post-Baccalaureate Achievement Program provides eligible undergraduates with research opportunities, counseling and enrichment activities to encourage and prepare them for doctoral studies. However, New England does not yet have a McNair program in place; campuses are encouraged to apply. \Box

Brenda Dann-Messier is president of the New England Association of Educational Opportunity Program Personnel and director of the Rhode Island Educational Opportunity Center at the Community College of Rhode Island.

Order These Publications

Available From The New England Board of Higher Education

	Price	Quantity	The Regional Project on the Global I		
Annual Subscription to Connection (including 1990 FACTS Directory)	\$15.00		and Higher Education in New Engle 1989 Publication Series:	and	
1990 FACTS Directory	\$12.00		Economic Competitiveness and	Price	Quantity
The (1990) ''Apple Book'' (Regional Student Program catalog)	\$ 2.00		International Knowledge in Connecticut Economic Competitiveness and	\$10.00	
Equity and Pluralism: Full Participation of Blacks and Hispanics in New England Higher Education (1989)	\$ 2.00		International Knowledge in <i>Maine</i> Economic Competitiveness and International Knowledge in <i>Massachusetts</i>	\$10.00 \$10.00	
Educational Opportunuties for Blacks and Hispanics: Strategies for New England (1989)	\$ 3.00		Economic Competitiveness and International Knowledge in <i>New Hampshire</i> Economic Competitiveness and International Knowledge in <i>Rhode Island</i>	\$10.00 \$10.00	
Issues in Planning and Policymaking: Education and Ethnicity in Southeastern Massachusetts (1989)	\$ 2.00		Economic Competitiveness and International Knowledge in <i>Vermont</i>	\$10.00	
Law and The Information Society (1989)	\$ 5.00		All six of the above	\$45.00	-
Biomedical Research and Technology: A prognosis for international economic leadership (1988)	\$ 5.00		Economic Competitiveness and International Knowledge (1986)	\$10.00	
The "Future of New England" Leadership Survey Report (1987)	\$20.00		The Impact of Globalization on Higher Education (1986)	\$10.00	
State-by-State Analysis of the Leadership Survey Report (1987)	\$12.00				
Survey Report and State-by-State Analysis (Listed above)	\$28.00		Books available from the New Engla of Higher Education:	end Board	
The "Future of New England" Education and Training Report (1987)	\$ 5.00		(prices include postage and handling)		
Renewing Excellence: Legislative Survey (1984)	\$ 5.00		New England's Vital Passuras	Price \$13.50	Quantity
A Threat to Excellence: The Preliminary Report of the Commission on Higher Education and the Economy of New England (1982)	\$ 5.00		New England's Vital Resource: The Labor Force (1982) Financing Higher Education: The Public Investment (1982)	\$20.45	
Collaborative Excellence: 25th Anniversary Survey of the Regional Student Program (1982)	\$ 5.00		Business and Academia: Partners in New England's Economic Renewal (1981)	\$13.50	
			Total Amount Enclosed \$		
Name/Title		-10			
Organization					
Address					
City			State Zip		

Please mail this order form and check *(prepayment required)* to the address below. Checks should be made payable to the *New England Board of Higher Education*.

New England Board of Higher Education 45 Temple Place Boston, MA 02111 NEW CENTURY continued from page 26.

lation, consumes some 82 percent of the world's resources—leaving the 75 percent living in the Third World to get by on 18 percent.

Education reform. In every country I visited, education reform was a vital issue. The message for educators is that there is no safe haven—no country where they've got it figured out, so that all we have to do is import what they've done. It's all tangled up, of course, with the information explosion, making it less and less certain that our educational systems are delivering access to wisdom rather than simply a smattering of knowledge.

The breakdown in public and private morality. This one surprised me, but when I finally went back through everything I had written over the months, there it was in full force. It had to do with weapons fraud, stockmarket manipulations, educational cheating, marital infidelity and a host of other ethical lapses. Had the interviews been done more recently, I suspect I would have heard about the downfall of the speaker of the U.S. House of Representatives, of Jim and Tammy Bakker and of the captain of the Exxon Valdez. Yet even before these events, the interviewees were getting at a profound question: Can we survive as a nation, as a world, if we don't get a handle on our ethics?

Those six points constitute what I call the publicpolicy agenda. Underneath them, runs something else—a kind of "private-policy agenda," dealing with the sorts of things that Alexis de Tocqueville and later

Robert Bellah described as "the habits of the heart," the internal qualities that must be a part of any successful venture into the 21st century. They include such qualities as:

Trust. Sissela Bok said trust is crucial as we move into an age of increasingly elbow-to-elbow global interdependence, where treaties (which depend to some degree on mutual trust) will increasingly be necessary to clarify our interrelations.

Compassion. Without compassion, you won't really bother sorting through the question of the north-south gap or paying any attention to what poverty does to people.

Sense of Human Dignity. A sense of human dignity and respect for the context in which humanity lives is what leads you to want to educate people and to do something for the environment beyond your own backyard.

Obedience. Obedience is central to the ethics issue. One of the best definitions for ethics that I've heard is the phrase, "obedience to the unenforceable."

ut so what? What does all this have to do with the issues that face higher education in New England? Let me share some conclusions, touching on three shaping characteristics of the 21st century with which the nation's educators will have to come

The first, which I've touched on briefly, is the whole question of global interdependence. We are moving into an age where that simply cannot be ignored. New continued on page 52.

METAPHORS continued from page 27.

sociation of American Colleges has pioneered in developing some creative models within academic disciplines as has the U.S. Office of Educational Research and Improvement. Good suggestions also abound in the national study *Involvement in Learning*.

The university is neither a mere production line nor simply a library of knowledge. Alfred North Whitehead when asked "why do we need universities now that we have libraries?" replied that a university was a place where minds are rubbed together, and not, he might add today, "pre-programmed." The results of study are not universal. They differ from one mind and one field to the next. That is what makes a university exciting and creative. Many different research skills are needed; many different sets of knowledge are required. Let the various disciplines or families of disciplines decide which requirements are appropriate and even attempt to measure them. The *process* of deciding how to measure certain aims, if genuinely participatory, may be more significant than a given set of results.

Far better than providing a legislator or a trustee with a set of scores on an inappropriately universal test of "knowledge" would be to give those same budgetary authorities an opportunity to discuss with faculty and students their views on the process of teaching and learning in given academic disciplines or curricular

areas. A well-informed subjective judgment on a complex set of issues is apt to be more valid than some deceptively simple test score. Certain test results, such as Graduate Records Exam results within a given field, may have some relevance to the discussion, but clearly do not provide a measure of the final value of a collegiate experience.

Let us be creative, innovative and, yes, rigorous in setting aims within disciplines or families of disciplines and in thinking about ways of determining or inferring how well those general aims are being met. But let's not delude ourselves into thinking that the Educational Testing Service or American College Testing program or we ourselves—can develop a single universally applicable instrument to provide valid comparative results across disciplines and across institutions. It won't work as a research exercise, much less as a budgetary procedure.

Metaphor #2. Colleges are businesses.

Calvin Coolidge opined that the business of America is business. Some would paraphrase that dictum to assert that the business of education is business. To some degree it is. Services are "bought" and "sold." But interestingly enough, services are not priced and sold as a business would price or sell them, nor are they sold in most institutions for the same purpose (profit) that a business would sell them.

continued on page 54.

Woodbury of Maine is new NEBHE chairman



Robert L. Woodbury, chancellor of the University of Maine System, assumed the chairmanship of NEBHE in February, replacing University of

New Hampshire President Gordon A. Haaland. Woodbury became Maine chancellor in 1986 after serving as president of the University of Southern Maine for seven years. He also serves as chairman of the board of the Council on International Educational Exchange, an organization that administers international study programs.

"The combination of tight state budgets, escalating international competition and an increasingly technological workplace requires a sort of 'Common Market' for higher education and economic development in New England. NEBHE is that common market," Woodbury said upon assuming the NEBHE post.

Haaland, who spent more than 20 years in New England higher education, has accepted the presidency of Gettysburg College in Pennsylvania.

Connecticut's delegation to NEBHE has two new members: John W. Shumaker, president of Central Connecticut State University, and David F. Walsh, political science professor at Southern Connecticut State University. Shumaker was appointed by Connecticut's Senate President Pro-Tempore John B. Larson. Walsh was appointed by House Speaker Richard J. Balducci.

Suzanne P. Villanti, executive director of the Vermont Higher Education Planning Commission, is the new member of the Vermont delegation, appointed by Governor Madeleine M. Kunin.



Americo Petrocelli

Americo Petrocelli, commissioner of the Rhode Island Board for Governors of Higher Education, is the new NEBHE delegate from the Ocean State. He was appointed to NEBHE by the Rhode Island Higher Education Assistance Authority board of directors.

Massachusetts changes

Gov. Michael S. Dukakis named Nancy Blair Richardson to be his special assistant for educational affairs in January. Richardson replaced Robert Schwartz, who became director of the education division of the Pew Charitable Trust in Philadelphia.

In late February, Randolph W. Bromery, former acting president of Westfield State College, was named chancellor of the Massachusetts Board of Regents of Higher Education. Franklyn Jenifer, Regents chancellor for three years, resigned to become president of Howard University in Washington, his alma mater. Bromery is a geophysics professor at the University of Massachusetts at Amherst, where he was chancellor from 1972 to 1979.

David C. Knapp resigned as president of the University of Massachusetts. **Joseph Duffey**, chancellor of UMass-Amherst, has assumed the post while remaining chancellor of the Amherst campus.

Regional leadership

Thomas P. Salmon, chairman of Green Mountain Power Corp. of South Burlington, Vt., and former Vermont governor, became chairman of the New England Council in December. James F. Crain, vice president of New England Telephone and chairman of the Massa-

chusetts Board of Education, became Council vice chairman.

Richard W. Jonsen became executive director of the Western Interstate Commission for Higher Education in Boulder, Colo., in January, succeeding Phillip Sirotkin, executive director since 1976.

New Presidents on New England campuses

John C. Zacharis, senior vice president of Emerson College in Boston since 1985, is serving as the college's acting president until a permanent president is named to replace Allen E. Koenig.

Paul Sugarman, a distinguished Boston trial lawyer, became dean of Suffolk University Law School in Boston in January. David J. Sargent, dean of the law school for 16 years and a well-established trial lawyer, became university president in August, succeeding Daniel H. Perlman.



Ronald L. Applbaum, former vice president of academic affairs at the University of Texas-Pan American, assumed the presidency of Westfield

State College in Massachusetts in February, replacing Randolph W. Bromery, acting president since 1988.

Richard G. Dumont was named president of UMaine-Fort Kent after serving as acting president since July. A UMaine graduate, Dumont joined Fort Kent in 1988 as vice president for academic affairs.

Rev. Jonathan DeFelice was named president of Saint Anselm College in Manchester, N.H. after serving as acting president since July. A 1970 graduate of Saint Anselm, DeFelice succeeded Brother Joachim Froehlich.

Merle W. Harris, former deputy commissioner of higher education in Connecticut, became president of Charter Oak College in Farmington, Conn., in December.

Robert DeColfmacker was appointed president of McIntosh College in Dover, N.H., after serving as the college's executive director since 1979. □

NEW CENTURY continued from page 50.

England, interestingly enough, has a long, honorable, stable and authoritative tradition of ignoring it. Not that we didn't build our tall ships and sail to all points of the compass. We did. But at the same time, we built the private, church-related colleges that later became the nonsectarian, liberal arts colleges. We built them solidly, powerfully, and often in splendidly rural isolation, about as far away as you could get from anywhere. We built them as ivy-covered retreats, founding them on the assumption that knowledge comes best by separating oneself from the world.

It's an interesting model, and in many ways, it's worked very well. But I don't know whether it's going to be a formula for success from now onpromulgating the mindset that says, "Here is where education works best, apart from things rather than at the core of our relationships to the rest of the world."

Don't get me wrong: There's nothing un-American about this isolationist tendency. George Washington, in his inaugural address, praised the fact that America, protected by an ocean and a vast, uninhabited frontier, was blessedly free from having to deal with foreign powers. But in a world where the relations among the have and the have-not nations is already gravely exacerbated, Washington's concept needs serious modification-especially as we recognize that more than 90 percent of population growth in the next century is scheduled to take place in the Third World. We are engaged in global interdependence whether we like it or not. Our educational system probably ought to make a conscious effort to reflect that fact.

The second point has to do with the communications revolution. What's going on in the East bloc countries, in Panama, and even in China, is largely a matter of information getting in and information getting out. What does that have to do with education? Perhaps the best statement of that connection came from Soedjatmoko, an Indonesian who is the former rector

of the United Nations University in Tokyo and one of the world's genuinely wise men. Education reform, he said, is not about counting the number of credit hours needed for graduation. It has to do with the fact that Third World nations are growing so rapidly that not only do they lack money to hire teachers, they don't even have the money to build classrooms. The question for the future, he said, is, "How do you educate without classrooms?"

In America, we tend to look at that challenge—the problem of learning at a distance—as a theoretical hurdle that, once solved, will expand our reach and give us a larger segment of the education market. The Third World, by contrast, looks on it as a matter of sheer survival: Either you educate at a distance or you don't educate at all. But the Third World itself does not have the technology, the know-how, the wealth or the time to solve that problem. The Western educational establishment does. It will be up to us to develop a simple, effective and inexpensive system for delivering education without classrooms. Some of the benefits of that invention will flow to us. But the real beneficiaries will be in the Third World.

The third point centers on a newly energized concern for ethics. Why will ethics be a shaping characteristic of the 21st century? Because as increasingly global communication moves us into an era of global interrelatedness, we are creating communitiescreating what Marshall McLuhan described as a global village. But real communities don't exist unless they have a common ethic. It's not enough to have a physical infrastructure or common economic bounds or even a shared body of law. If a group of individuals, however large or small, lacks a shared set of values, that group lacks the very thing that gives it a sense of community.

ow will we arrive at a shared set of values for the next century? Well, not by extrapolating from the patterns of the past. Look back again at the 19th century, when Western societies spent a



great deal of effort upholding very high standards of behavior—and carrying those standards to all kinds of benighted people. It was ''the White man's burden,'' to go out and ''civilize'' the heathen races. And if those races didn't wish to live by our standards, we certainly didn't feel any obligation to understand or tolerate their own values. We standardized them.

But over the next century, something remarkable happened so that by the 1970s, we had moved 180 degrees around the circle. Tolerance, not standards, was the *cri de coeur* of the late 1960s. Whatever values anyone held we felt we must tolerate—even if that meant forgoing our sense of standards. Far from upholding standards, it was seen as our task to welcome any and all sets of values.

The job for the 21st century is to find a middle ground between these extremes. We must not lose the tremendously important progress we've made towards tolerance and diversity. At the same time, however, we must recapture the sense of standards that, in our lust for diversity, we began to lose. Failing to do so, we will not be able to define the common ethical ground that helps bind nation to nation—either because we will want to impose our values on others, or because, accepting all sets of values, we will, in effect, have none. Communities aren't built that way. They're built out of clearly held values that are shared, but not imposed.

Global interdependence, enhanced communication, ethics. Those are the shaping characteristics of the next

century. And notice how central they are to the work of the nation's institutions of higher education. Increasingly, we want our students to mingle with and even immerse themselves in other cultures. We want them to be up-to-date communicators—not so they know all the fine points of hardware construction and software design, but so that, like drivers who may have only the faintest understanding of auto mechanics, they can nevertheless get themselves efficiently from one place to another in the growing web of information. And we want them to be ethical—for their own sakes, of course, but also for the sake of the larger polity that needs, as never before, their highest sense of obedience to the unenforceable.

So what? The 21st century may well demand some wholesale rethinking of curricula and departmental structure—so that genuine generalists can arise where before only specialists reigned. It may make us rethink admissions policies, campus architecture, even campus location. It may force us to recognize that education for the 21st century is not going to be a business-asusual extrapolation of the 19th-century educational ideals we now live with. Those are big "so whats," and they deserve our attention before the century rolls in upon us. \square

Rushworth M. Kidder is an award-winning journalist and author. A native New Englander, Kidder writes *The Christian Science Monitor's* weekly ''Perspectives'' column on social issues and trends.



Pioneer Financial and TERI

THE SMART COMBINATION FOR STUDENT LOANS

Pioneer Financial, a Cooperative Bank, is pleased to announce its new TERI® loan programs. In conjunction with TERI (The Education Resources Institute) the following loans are available at an interest rate of *Wall Street Journal* Prime plus 1%* adjusted monthly.

PLEASE loans for elementary and secondary schools

TERI Supplemental loans for undergraduate and graduate students

PEP loans for graduate and professional education

* The interest rate may increase to but will never exceed Prime plus 11/2%.

%. } These loans are the smart way to finance an education. Call Pioneer Financial's Educational Financing Department to start a program for your school.



FDIC

METAPHORS

continued from page 50.

The former pastor of the national educational bully pulpit, Education Secretary William Bennett, professed to be scandalized not only by higher education's failure to develop a single 'outcome' measure (see Metaphor #1) but also by education's alleged failure to contain costs and by its alleged 'price-fixing.' One is reminded of Professor Higgins' lament, 'why can't a woman be more like a man?' Why can't a college be more like a business?

In the first place, it would be interesting to see what the costs of a business-run college really would be. If a first-class hotel chain were to build, furnish and operate college dormitories and dining halls, what would be the nightly room charge in an urban area? If \$150 per night is acceptable to business travelers, would not \$50 a night be reasonable for students? For 180 nights, that comes to a mere \$9,000 (\$27,000 for business travelers). If \$10 breakfasts, \$15 lunches and \$25 dinners are acceptable for business travelers why not half that, say \$25 a day for students? For 180 days, that's another \$4,500. What would business charge for a multisport health club? Perhaps \$1,000 for use of facilities? Add \$500 for uniforms and laundry? How about travel for athletic teams? Coaches? Daily parking fees for 180 days? We're approaching \$20,000 and we haven't even touched academic costs.

How much would a business charge to build, stock and operate a dozen major research libraries? How much to build, equip and operate several dozen major laboratories? And if our analogy with business holds true, how much would it charge for a nationally or internationally renowned consultant in a technical field (a professor)? \$500 per day? \$1,000? \$2,000? More?

Over 180 days, that adds up. And how many hundred consultants would we need for a medium-sized university?

How could we, as a business, cut costs? We could eliminate the consultant professors and require the students to invest in computers and pre-programmed instructional software. They could purchase access into a national computerized "library" according to instructions in their software. Term papers, lab reports and essays or anything else that required original thought could be eliminated and final exams could be preprogrammed along with the instructional software. Exams could be repeated until students were error-free. In the social science fields, this could lead toward a strong national cultural homogeneity and even a relative political unanimity—and all at reduced cost.

So it is doubtful that a business could run a university at less cost and in its attempt to do so, it is likely that it would subvert what is most valuable about a university (the rubbing together of minds) and the student's learning in an individual, original way.

Now, what of pricing, "price-fixing," financial aid and financial-aid "fixing"? The former Education Secretariat and the Attorney General's office have apparently decided that "pricing" of tuition and financial aid, like pricing in business, is designed to maximize profit, and any discussion of either among "competing" institutions smacks of maximizing price (and profit) in restraint of trade.

Here is where we really need to block the metaphor, because it sounds so familiar and so reasonable and because there is so much legal precedent having to do with price-fixing that really is price-fixing—collusion to maximize profit in restraint of trade.

True price-fixing involves setting a price, through col-

-NEW ENGLAND REGIONAL STUDENT PROGRAM-

Stronger Than Ever

- Last year, more than 5,500 students and their families saved an average of \$2,600 in tuition through the New England Regional Student Program.
- They pursued majors that are not available at their home-state public colleges or universities at significantly reduced tuition.
- For example,
 - a Massachusetts resident studied oceanography at the University of Rhode Island and saved \$3,500. A Vermont resident studied biophysics at the University of Connecticut and saved \$3,800. A Maine resident studied Chinese at the University of Massachusetts and saved \$3,000.
- Oceanography, biophysics and chinese are just a few of the more than 600 New England public college and university majors that the region's residents can pursue out-of-state at reduced tuition through the Regional Student Program.

Call or write to find out how you can participate in the Regional Student Program

Office of the Regional Student Program

NEW ENGLAND BOARD OF HIGHER EDUCATION
45 Temple Place Boston, MA 02111 617/357-9620

lusion, that is well in excess of cost. The price is maintained through monopoly or quasi-monopoly, so that the consumer has no recourse to get the same or similar product at a reduced price.

Is this the situation in higher education? In the first place, prices (tuitions) charged are ordinarily much *less* than cost, sometimes 50 percent or more below cost. The difference between cost and price is made up by subsidies—endowments or *ad hoc* gifts in the case of independent institutions and state appropriations in the case of public ones. In addition, the same or similar services are available at hundreds, if not thousands, of institutions throughout the land.

Beyond the cut-rate price provided by endowments or state subsidies, most colleges offer financial aid, including scholarships, loans and student employment. The point of all of these subsidies is not to maximize "profit." On the contrary, they are designed to minimize price and thereby provide greater access at less cost for students. This is not restraint of trade; it is the opening up of trade.

Financial aid in particular is designed to provide access to university services for those who can least afford them. Financial needs analysis is a device for lowering cost and opening up access to services, not the reverse.

The Attorney General's office has expressed particular concern over the so-called "overlap" meetings of financial-aid officers of certain independent colleges with high tuitions.

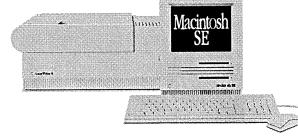
The purpose of these meetings from their beginning has been to help ensure that the largest awards from limited financial-aid funds go to the financially neediest candidates. Thus, the aim has been to strengthen needs analysis. The very idea of pricing products according to the financial need of the consumer is undoubtedly alien to the business world and to a large extent to the legal profession as well. It should not be alien to government, or at least to a government committed to providing free or lower-cost services to those who most need them.

Unfortunately the root of the problem here, as with the measuring of products at the end of a production line, is the original metaphor. Accredited colleges by and large are not businesses; tuitions are not full prices; financial aids are not prices, but price reductions. Agreement by some colleges to relate scholarships to financial need is designed to provide greater access to college, not less.

Under the Sherman Anti-Trust Act, a meeting by businessmen to discuss prices is apparently regarded *ipso facto* as suspect. A meeting by scholarship officers to discuss financial needs analysis with an aim of providing adequate help for the neediest students is hardly analogous.

Let's be clear about what we are alleging before we ask colleges to spend millions of dollars providing data that are being sought to verify a false analogy. If the metaphor fits, use it. If not, block it. \Box

Education Specialists



- Commonwealth Approved
- Local Government Approved
- K-12 and Higher Education Dealer
- Authorized HEPP II Apple dealer
- Stores in Hyannis and North Dartmouth
- · Service Center, Training and Education Showroom in Quincy



Orchard Computer has been an Apple computer dealer since 1984. And we've been working in the education field since 1986 — supplying computers and peripheral products, recommending and supplying software and providing in-house and in-school training.

Call our Education Division at (800) 282-1661 for details of our buying programs or to set up free seminars at your college or university.

179 Parking Way Quincy, MA 02169

orchard computer

Apple, the Apple logo, Macintosh and Macintosh SE are registered trademarks of Apple Computer, Inc.

Connecting Point.

NEBHE Program Seeks More Aid for Black South Africans

CHARLOTTE STRATTON

he New England Board of Higher Education has begun a drive to enlist broader support for Black South African students through the New England/ South African Student Scholarship Program.

NEBHE hopes to increase the number of scholarships sponsored by New England colleges and universities to 60 this year. As of mid-February, 22 institutions in the six-state region had pledged support for 37 scholarships through the

program.

The five-year-old scholarship program enables New England colleges and universities to support Black South African students studying at one of the five "open universities" in South Africa. The open universities are: the University of Cape Town, Rhodes University, the University of Natal, the University of Witwatersrand and the University of Western Cape.

With South Africa facing political and economic crisis, this year's fundraising efforts are more critical than ever.

Since NEBHE began the program, New England colleges have pledged 246 annual scholarship commitments and more than \$680,000 to support Black students at the open universities.

In the recent drive for support, NEBHE contacted every college and university in New England, asking them to join the effort with annual contributions of \$4,200 per scholarship for a three-year period.

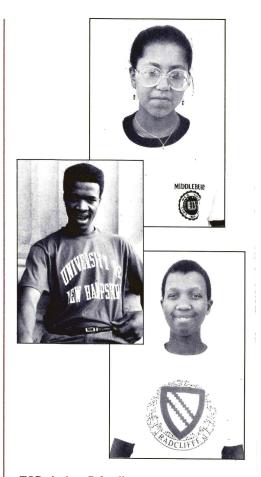
Meanwhile, Tufts University President Jean Mayer, who initiated the scholarship program in 1985 during his tenure as NEBHE chairman, wrote to colleges and universities throughout the United States, urging them to join their New England counterparts in supporting the program.

By supporting Black students in South Africa, rather than transporting the students to U.S. colleges, the program encourages full integration of South African higher education and increases the number of students who receive help, according to Margaret B. Touborg, president of the University of Cape Town Fund Inc. (UCTF), a New York City-based foundation dedicated to the advancement of Black South African students and empowered by the five open universities to receive scholarship funds in their behalf.

"A U.S. college or university could support five students studying at the open universities for the cost of bringing one student to an independent campus in the United States," says Touborg, a former assistant to the president at Radcliffe College and former member of the NEBHE South African Advisory Committee.

With South Africa facing political and economic crisis, and the country's Blacks seeking higher education in growing numbers, this year's fundraising efforts are more critical than ever, according to Touborg. "Despite recent political change in South Africa, the economic situation continues to worsen and is an enormous problem for the open universities," says Touborg. "The cost of textbooks alone has risen 218 percent in the last five years."

The UCTF, chaired by former Carnegie Foundation President Alan Pifer, administers the Open Society Scholars Fund, which in turn, distributes scholarships provided under the New England/South African Student Scholarship Program.



TOP: Amiena Bohardien, sponsored by Middlebury College, is pursuing a BA in the social sciences at the University of Cape Town.

MIDDLE: Johannes Makhoa studies at the University of Witwatersrand and is supported by the University of New Hampshire.

BOTTOM: Dimakatso Mothlapling, a medical student at the University of Cape Town, is supported by Radcliffe College.

The following are excerpts from Mayer's letter to colleges and universities throughout the nation:

"Fiercely autonomous, the open universities are headed by vice chancellors committed to providing a first-rate education (including housing and academic support) for increasing numbers of Black students. From the beginning, it has been clear that without outside help, the South African universities could not admit, house or feed increasing numbers of Black students... Clearly, no government money is available for purposes which openly violate the apartheid laws...

We need to help prepare a corps of young, educated Blacks fully able to participate in government, in the professions, in business and in education. Finally, in [this program] we also demonstrate our full support for our courageous academic colleagues, who, often at serious risk to themselves ... continue to accelerate the pace of academic and social integration.

It is essential, both in order to increase the number of available scholarships to Black South African students and to broaden the basis of moral support for our colleagues, the South African vice chancellors, that we extend the basis of support for [the program to more than the New England colleges and few others currently participating]; indeed, that we try to obtain full participation from all U.S. colleges and universities."

For more information on the New England/South African Student Scholarship Program, write the New England Board of Higher Education, 45 Temple Place, Boston, Mass., 02111, or call (617) 357-9620. □

Charlotte Stratton is Managing Editor of Connection and NEBHE Assistant Vice President for Public Information.

The following institutions participate in the New England/South African Student Scholarship Program:

Bentley College Boston College Boston University Bowdoin College Bryant College Dartmouth College Massachusetts Institu

Massachusetts Institute of Technology

Middlebury College Norwich University Providence College Radcliffe College Saint Anselm College Simmons College

Southeastern Massachusetts University

Tufts University University of Connecticut University of New Hampshire University of Southern Maine University of Vermont

Wellesley College
Wesleyan University
Williams College

The following institutions participate through the Open Society Scholars Fund:

Albion College (Michigan)
Brown University
Claremont McKenna College (California)
Elmhurst College (Illinois)
Grinnell College (Iowa)

Hope College (Michigan)

Reed College (Oregon)
Swarthmore College (Pennsylvania)
Texas Christian University
University of Pittsburgh
University of Virginia
Whittenburg University (Ohio)

Earn your Ed.D. without interrupting your career

PROGRAMS IN HIGHER EDUCATION

The Center for the Advancement of Education offers a field-based doctor of education degree program to practitioners working in the specializations of Higher Education; Vocational, Technical, Occupational **Education**; or Adult Education (including business, industrial and military training programs). Employed professionals can complete the three-year program while continuing in their careers.

Program Features

- Monthly weekend classes
- Nationally known faculty
- Theory integrated with practice
- National network of professionals
- Summer institute participation
- Financial aid counseling

NOVA JUNIVERSITY

Call 1-800-541-NOVA (Ext. 7380)

yES, please send me a catalog for The Programs for Higher Education.
Name(please print)
Address
City
State
Zip
Phone ()
Nova University-CAE 3301 College Avenue Ft. Lauderdale, FL 33314 NE



Many academic programs leading to careers in high-demand are available through the RSP.

RSP Majors Poised for Hot Fields in '90s

national survey appears to confirm that academic pro-**A** grams offered through the New England Board of Higher Education Regional Student Program (RSP) lead to high-demand jobs.

The overall job-placement rate for this year's college graduates will be down 13.3 percent from one year ago, according to the survey of 500 U.S. employers by Michigan State University's Career Development and Placement Services (CDPS).

But the hiring picture will vary from one field to another, according to the survey. There will be fewer job openings in banking, finance, insurance, communication, the military and governmental administration. There will be more openings in publishing, manufacturing, agribusiness, hotel and restaurant administration, engineering and accounting.

The survey reveals that students who graduate with bachelor's degrees can expect an average starting salary of about \$25,250, up 3.3 percent from a year ago. The average starting salary for a graduate with a bachelor's degree in chemical engineering hits \$33,380. Hefty starting-salary offers also go to graduates with degrees in mechanical and electrical engineering, computer science and industrial engineering.

This academic year, 5700 New Englanders attend college through the RSP, saving an average of \$2,600 each in tuition.

While the CDPS projections paint a bleak picture in some fields, they make a pitch for the RSP. Many of the academic programs leading to high-demand, high-starting-salary jobs-in fields such as hotel, restaurant and travel administration; manufacturing and physics; and chemical, electrical, marine and plastics engineering—are not offered by public institutions in all New England states. But all of these academic programs are available to New Englanders through the RSP.

The RSP, administered by NEBHE for more than 30 years, enables New England residents to pay significantly reduced tuition at out-of-state public colleges and universities within the six-state region, if they are pursuing certain degree programs that aren't offered by public institutions in their home state. This academic year, nearly 5,700 New Englanders attend college through the RSP, saving an average of \$2,600 each in tuition costs-a total of \$13 million in savings.

The RSP has added value as the result of the budget squeeze affecting higher education throughout New England. Reason: Besides helping students prepare for specialized, high-demand careers, the tuition-savings program saves millions in taxpayer dollars by enabling state public higher-education systems to share resources rather than duplicate costly academic programs. And with this year's fiscal problems, the state legislatures are unlikely to start many new academic programs, duplicative or not.

Not that the popular tuitionsavings program has been immune to state budget woes. During the summer, Massachusetts was found in default of its legal share of NEBHE's operating budget. State leaders warned that Massachusetts may be forced to withdraw from the congressionally authorized, six-state agreement that created NEBHE and the RSP in 1955. Without the RSP, roughly 1,400 Bay State students would have faced spring-semester tuition hikes as high as 226 percent.

Even at 150 percent of in-state tuition, the RSP "discount" remains remarkably substantial.

By fall, NEBHE and Massachusetts officials reached agreement on a plan to allow Massachusetts to remain in the compact and ensure that Bay State residents remain eligible for RSP. Under the plan, Massachusetts and the other New England states were given the option to raise the RSP tuition rate to

MINIMUM RSP "DISCOUNT" FROM OUT-OF-STATE TUITION: 1990-91

	State University Main Campus	State College	Community College	Technical College
Connecticut	58%	54%	54%	54%
Maine	47%	38%		25%
Massachusetts	58%	58%	59%	59%
New Hampshire	54%	52%		43%
Rhode Island	53%	48%	25%	**
Vermont	53%	35%	25%	24%

*Maine and New Hampshire do not have community colleges. *Rhode Island does not have a technical college

150 percent of in-state tuition, up from the previous level of 125 percent. Only Massachusetts chose to adopt the increased RSP tuition rate for the spring 1990 semester, but other states may follow suit for the fall 1990 semester.

Even at 150 percent of in-state tuition, the RSP "discount" remains remarkably substantial, thanks to recent tuition increases for out-ofstate students at public campuses throughout New England, as well as major out-of-state tuition hikes anticipated for the 1990-91 academic year. (See Chart.)

For more information about the Regional Student Program, call or write Office of Regional Student Services, New England Board of Higher Education, 45 Temple Place, Boston, MA 02111 (617) 357-9620. □

Ketchum, Inc.

Founded in 1919, Ketchum, Inc. is the largest and most experienced firm in fund-raising, serving New England from our office in Boston. Ketchum services: direction of capital campaigns, planning studies, pre-campaign prospect cultivation programs, communications counsel, guidance in long-range development programs, internal audits of development programs, LIFEndowment, executive recruiting service, RSVP volunteer phonathons.

Ralph W. Peterson, CFRE Senior Vice President Manager, New England Region Robert D. Demont, Jr., **CFRE**

Roger H. Wilson Executive Counsel

Managing Director

Ketchum, Inc. 50 Milk Street Boston, MA 02109-5002 617/482-6060

Ketchum Headquarters: Ketchum Center 1030 Fifth Avenue Pittsburgh, PA 15219

Other Ketchum Offices: Charlotte, Chicago, Dallas, Los Angeles, Ketchum Canada Toronto, Montreal

Ketchum, Inc.

MONEY FOR SCHOOL

College/Vocational/Graduate **Schools**

Information on what aid is available and how to get it -- a 40 pg personalized strategy tailored to individual needs. Apply as early as junior year (H.S.) or even after entering.

ALSO

Raise SAT scores with an Individual Diagnostic

Program

and

"How to Select Colleges That Best Suit Your Career Goals"

For Information contact: **Abel Educational Services** PO Box 537 Village Statiom Medway, MA 02053-0008 (508)966-3558

PROVIDENCE COLLEGE



Since 1919... Committed to academic excellence



- BA and BS degrees in over 25 majors
- Co-educational college of the liberal arts and sciences
- Conducted under the auspices of the Dominican **Friars**

An equal opportunity, affirmative action institution (M/F)

Accredited by the New England Association of Schools and Colleges, Inc.

> For more information call or write, today!

Providence College Providence, RI 02918 (401) 865-1000

ETHNICITY continued from page 38.

cause the media drew a connection between low levels of educational attainment among the Portuguese-Americans and retarded economic development in southeastern Massachusetts.

Writers in the Portuguese-American press pointed out that Portuguese-Americans have made many contributions to southeastern Massachusetts, especially in reclaiming run-down housing in New Bedford, and of course, by supplying a cooperative but "docile" labor force, especially for the area's mills and factories.

While these writers suggested that either the U.S. Census data was outdated or my theories (at least those attributed to me) were mistaken, there was an admission that levels of education among the Portuguese-Americans were, in fact, rather low. This was acknowledged by referring to the fact that many Portuguese immigrants came from the Azores where levels

of economic development were, and still are, low, and where educational opportunities are very restricted.

Moreover, one writer in the Portuguese-American press pointed out that many difficulties stand in the way of continuing education for adults, such as the unavailability of year-round adult certification programs, the inadequate use of Portuguese-language television for adult education and the exhausting demands of family and work life that limit attendance at evening classes.

Educators and educational administrators in the area became fully apprised of the situation through a special presentation to a session of the newly formed School Management Program at Southeastern Massachusetts University (SMU) and a gathering of school superintendents.

The first group expressed willingness to pursue the issue, though its members harbored some illusions about the economic consequences of educational deficiencies among

Quality...

A 170-year tradition of excellence. Over 50 majors in business, education, engineering, humanities, math & science, nursing and social science. Two campuses with a choice of lifestyles.

Tradition...

At the Military College of Vermont in Northfield, Vermont cadets participate in ROTC. gain self-discipline, and learn leadership skills through a military lifestyle.

Diversity...

At Vermont College of Norwich University in Montpelier, Vermont students enjoy a traditional small-college atmosphere, quality academics, and a non-military lifestyle.

lorwich Universi

Contact the Admissions Office, 1-800-622-0154 Northfield, VT 05663 Montpelier, VT 05602 the Portuguese-Americans. For example, the general view that Portuguese-Americans are hardworking led to various anecdotes about how individuals with only high-school educations amassed thousands of dollars in savings for investment in real estate in a matter of two years. The fact is that among full-time workers in southeastern Massachusetts, Portuguese-Americans earn on average about \$1,500 less annually than other workers.

Among the school superintendents, the issue of low levels of educational attainment was very sensitive. One superintendent mentioned efforts to identify and locate non-English speakers to be brought into special educational programs at local high schools. For reasons unknown, the project failed. Because of these experiences and the "sensitivities" involved, the group of superintendents was divided about what action should be taken.

While Portuguese-American community leaders acknowledged that the educational levels of the Portuguese-Americans are low, they expressed optimism that great changes will be revealed in the 1990 Census. Having used the 1980 Census in my analysis, I wrote an editorial published in one of the local papers (*The Standard Times* of New Bedford), which tried to project what magnitude of change could be expected in the 1990 Census.

I pointed out that even if in 1980, residents of the region had recognized the problem and began to remedy it by creating new educational-outreach programs and encouraging people to pursue schooling during the whole decade of the 1980s, there would still be significant shortfalls.

Let us imagine, for example, a dramatic improvement in educational achievement such that 20 percent more students at each level (starting with those with eight years of schooling or less) went on to the next higher level. If that happened, then in 1990, we could expect the U.S. Census to report the following continued on page 63.



PLYMOUTH STATE COLLEGE

of the University System of New Hampshire

M.Ed.

In the heart of New Hampshire's beautiful lakes and mountains region, study in an intensive **Master of Education** program designed to match your teaching schedule.

At **Plymouth State College** you can complete degree requirements for the following concentrations in just two or three summers:

Administration and Supervision
Counselor Education
Elementary/Secondary Education
Educational Computing
Environmental Science
Reading Specialist
Heritage Studies
Gifted and Talented Education
Self-designed Studies
Mathematics

Upon advisor approval, up to 9 graduate credits may transfer to the program. (Options in Elementary/Secondary Education do not lead to initial certification.)

For information and application materials call or write:

Office of Graduate and Continuing Education

Plymouth State College

11 Summer Street; Plymouth, NH 03264; (603)536-5000 x 2227; 1(800)FOR-GRAD (NH only)

Let Us Show You

The University of Rhode Island

We invite you to visit the campus and talk with us about your goals and the opportunities at URI where many programs can be tailored to suit your individual interests.

Special advantages at URI (Praised for high quality at reasonable cost by the *N.Y. Times* education editor)

- Extensive career services
- Study abroad
- Knowledgeable undergraduate advisers
- Honors program
- Opportunity for undergraduate research
- Counseling services
- Strong athletic and extracurricular programs
- Living on campus
- Undergraduate internship programs
- Financial aid



Tours of the campus are available.

For more information, call 792-9800 or write:

Admissions Office The University of Rhode Island Kingston, RI 02881-0807

The University of Rhode Island is an affirmative action/equal opportunity employer.

NCAA continued from page 38.

eligibility standards for high-school grade average in core curriculum courses and SAT or ACT scores, the NCAA voted a major modification.

Previously, if the college wanted to take a chance on them, "partial qualifiers" could still be admitted with financial assistance. They could not play or practice their sport during the freshman year, and lost one of their four years of eligibility. During that freshman year, these partial qualifiers, who had a gradepoint average in excess of the minimum 2.0, but were deficient as to the 700 SAT or 15 ACT minimum scores or core curriculum, had the opportunity to adjust to college life in its fullest sense and demonstrate their ability to do college work. Notre Dame quarterback Tony Rice, one of the original Proposition 48 casualties, has said: "It was tough not being able to play.... But at the same time, I was able to get a foot down on my classes."

The passage of Proposition 42, in a 163-154 reconsideration vote sponsored by the Southeast Conference after a 159-151 defeat, would have eliminated that possibility. That was what triggered Georgetown basketball coach John Thompson's highly publicized protest walkout prior to his team's Jan. 14, 1989, victory over Boston College.

Georgetown had voted with predominantly Black colleges in opposition to Proposition 48 when it was adopted, and, of course, opposed Proposition 42 despite the university's own high academic standards. Georgetown had not recruited any partial qualifiers, and had demonstrated success in seeing that its own athletes acquired the skills-and did the work-that would enable them to graduate. Georgetown's athletic director, Frank Rienzo, and its thenpresident, the Rev. Timothy Healy, S.J., supported Thompson. As Rienzo said, it was a matter of "social justice."

Temple University coach John Chaney spoke of suing the NCAA, possibly unaware that, also in January, the U.S. Supreme Court had decided 5-4 in the Tarkanian case that the NCAA was no longer a

"state actor" to be held to constitutional standards.

Social justice is not, however, a concept to be left to the courts. Our colleges and universities, which have long abandoned their governance of intercollegiate athletics to a collective entity, the NCAA, retain a fundamental responsibility to help maintain a just society. As Northeastern University's basketball coach Karl Fogel commented, it should be the university and not the NCAA that decides who may attend and who may receive need-based financial aid.

Yet those casting Northeastern's 1989 vote supported Proposition 42, although the school had Proposition 48 athletes and the university's Center for the Study of Sport in Society is a model for fair play in college athletics. The Ivy League, generally monolithic in its dealings with the NCAA, split down the middle 4-4. Yale supported Proposition 42; Harvard opposed it.

Approximately two-thirds of those who did not qualify for freshman participation in the first two years of Proposition 48, primarily because of the standardized test component, were minority athletes. Those tests, which remain under study, have been attacked for a cultural bias that makes their utility in predicting the college success of minorities and other students from lower socio-economic classes suspect.

One New England athletic director who supported Proposition 42 questions whether the population just at or above the minimum standards differs in composition from those affected by it. That should be studied, but the point remains that these young athletes are not interchangeable, even if from the same racial or ethnic group.

Cambridge (Mass.) Rindge and Latin's Rumeal Robinson, who starred for the NCAA basketball champion University of Michigan, is another partial qualifier who has demonstrated he could do college work once in college. If barred from that opportunity, most partial qualifiers-the poor, the minori-

Are Your Students Getting All The Help They Need To Pay for College?

EXCEL and GradEXCEL education loans can provide your students and families with a manageable way to pay for college with:

- Loan limits of \$2,000 to \$20,000 a year
- Deferment options to help ease cash flow concerns
- Two competitive interest rates

For more information on offering EXCEL and GradEXCEL to your students and families, call Nellie Mae at 800-EDU-LOAN or 617-849-1325.



Nellie Mae

50 Braintree Hill Park, Suite 300, Braintree, MA 02184

ties—would not attend college. They—and society—would be the poorer for that. That their places might be taken by other Blacks or ethnic minorities is not a sufficient answer.

Because of the efforts of John Thompson and others, Proposition 42 was staved off before the August 1990 effective date.

The 1990 NCAA Convention adopted (258-66-1) a compromise, Proposition 26, which retains Proposition 42's bar to athletic scholarships for partial qualifiers and Proposition 48's bar to athletic participation as freshmen, but does permit them to receive need-based aid

Making progress toward a degree while taking courses appropriate for higher education is a reasonable eligibility standard. Denying to a few athletes the opportunity even to make a belated try would not have contributed to a more wholesome athletic scene, it would just have made a small inequitable change in the cast.

That college athletes in big-time spectator sports have tutorial assistance not regularly available to students in general is well known. Most make a distinct contribution of their own to student life, however. The goal of the NCAA should be to make sure that when the five years in which a student athlete can play his or her four seasons of competition are over, that student, as a consumer of higher education, has received skills that will enrich his or her future life.

NEBHE, in Equity and Pluralism, has made many worthy recommendations. None is more important than the first, that the states should "underwrite remedial work for elementary and high-school students headed toward dropping out, support preschool enrichment programs for underprivileged children, and financially assist campuses with remedial work for entering students."

The NCAA's Proposition 26, like many of the rules and practices of today's college athletics, is far from perfect. It may, however, signify a democratic awakening in the NCAA, helped by the presence of an impressive and seemingly responsive new executive director. But this question remains: Will we, as individuals, as states—and as a nation—have the will to make the massive expenditures necessary to stave off the existence of a permanent underclass in our cities?

Gordon A. Martin, Jr., is associate justice, Massachusetts Trial Court, District Court Department, Roxbury Division. He is also a former commissioner of the Massachusetts Commission Against Discrimination. Martin teaches "The Athlete and the Legal Process" at New England School of Law.

ETHNICITY continued from page 61.

findings for southeastern Massachusetts: 42 percent would still have no high-school diploma; 29 percent would be high-school graduates; 16 percent would have some college experience; and only 13 percent would have four or more years of college. There would still be 24 percent with eight years of schooling or less.

My impression is that individuals and organizations in southeastern Massachusetts are beginning to take the issue of educational achievement more seriously. The associate dean of the College of Arts and Sciences at SMU has been especially active in fostering discussion of the problem among community leaders and policy planners, many of whom have begun their own initiatives. But this concern has not yet been translated into the realization that disparities in levels of educational attainment between the cities of Fall River and New Bedford and the rest of Massachusetts have been increasing steadily for the last 40 years or more—from 22 percent more people without high-school diplomas in 1940 to 36 percent more in 1980.

Given the fact that immigration into the region has continued—and that even among native-born individuals, college-completion rates have fallen during the 1980s—the disparities in educational attainment between the cities of Fall River and New Bedford and the rest of the state are likely to increase. \square

You're a working professional and an adult learner. You want professional advancement, further accreditation in your field or a career change. And you want to study with a minimum of work disruption.

You Can Do It At Antioch/New England Graduate School

We educate adult learners. We combine academic excellence and technical expertise with a focus on internships and practica. We offer masters programs in management, education, environmental studies, resource management and administration, counseling psychology, marriage and family therapy, substance abuse / addictions counseling, dance / movement therapy; and an APA-approved doctoral program in clinical psychology.



For information contact: Antioch/New England Admissions Office CN Roxbury St., Keene, NH 03431 (603) 357-3122

Not just another power trip.

The IBM PS/2 Model 70 386 with Micro Channel.

A desktop system with 386 power, loaded with memory, racing through complex applications at up to 25 MHz, is where the Personal System/2* Model 70 386 begins.

What it offers you beyond its sheer power, is where it begins to make a difference.

	Model 70 38	6	
Available models	A21	121	E61
Microprocessor	80386 25 MHz, 64Kb memory cache (30ns)	80386 20 MHz	80386 16 MHz
Optional Math Co-Processor	80387 25 MHz	80387 20 MHz	80387 16 MHz
Memory (RAM) Standard Maximum on system board System maximum	2Mb (80ns) 8Mb 16Mb	2Mb (85ns) 6Mb 16Mb	1Mb (100ns) 6Mb 16Mb
Diskette storage	1.44Mb 3.5-in	ch standard (2	maximum).
Fixed disk storage	120Mb (23ms) 120Mb (23m	s) 60Mb (27ms)
Built-in features	diskette contr	cs Array (VGA) oller; serial, pa device ports; c	and display por rallel, keyboard lock/calendar.
System expansion	Three option	slots (two 32-b	it, one 16-bit).
Operating systems	DOS 33 40	IBM OS/2; AIX	(™ PS/2

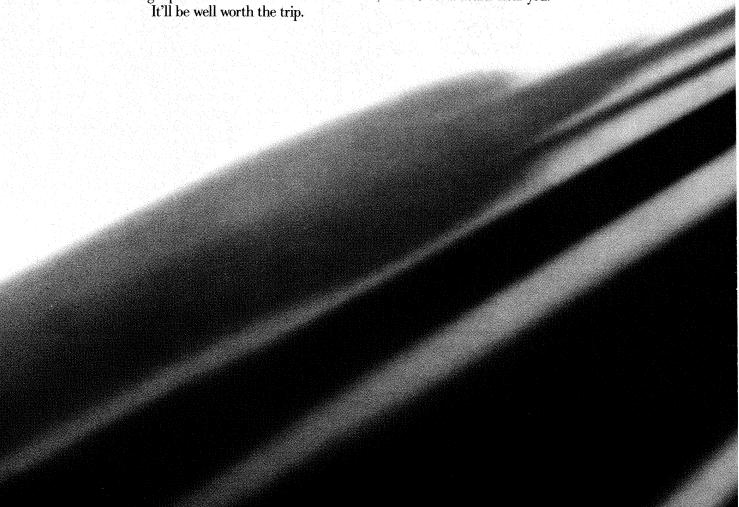
The Model 70 386 features Micro Channel," a 32-bit bus created to take full advantage of 386 technology. Micro Channel is designed for multitasking and multiprocessing. It allows the PS/2° to operate several intelligent processors and subsystems simultaneously. So you can do several jobs at once and still get truly balanced performance.

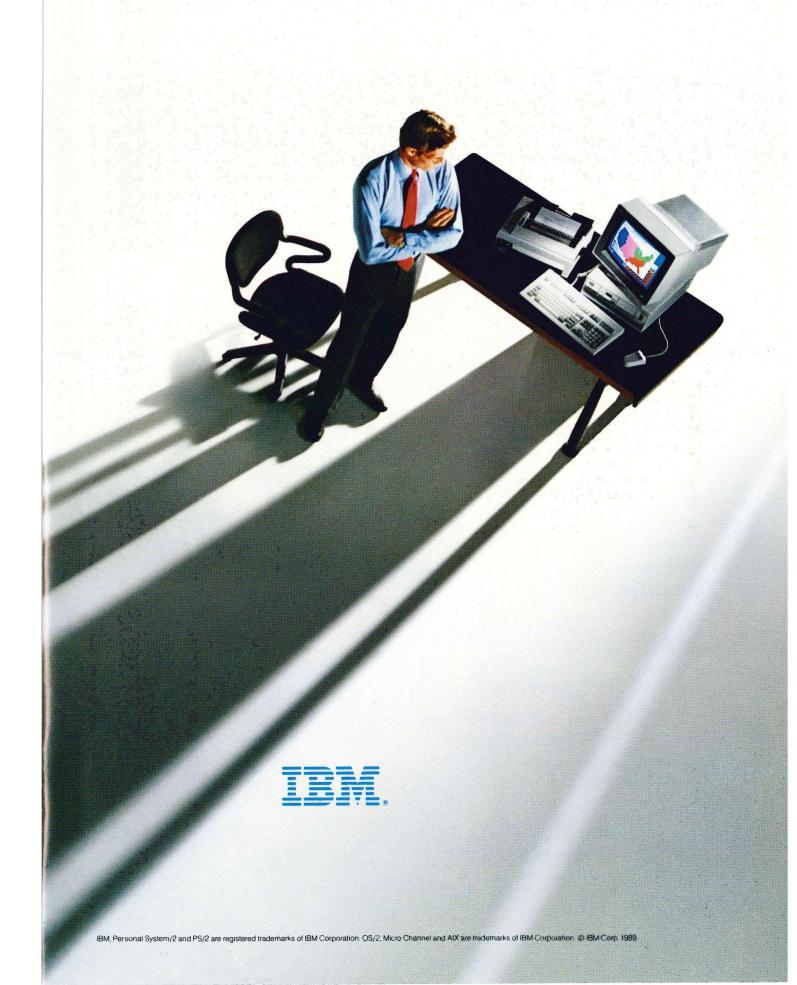
With the Model 70 386, complex spreadsheets go faster than ever. So do sophisticated graphics. Even networking is no sweat. And Micro Channel ensures a platform for future applications, such as imaging and advanced communications.

Surface Mount Technology and built-in features, PS/2s deliver state-of-the-art reliability and design sophistication. The Model 70 386 runs most current DOS applications and is ideal for the new OS/2" applications.

Here, then, is a system that recognizes your need for power today, and helps protect your investment for years into the future. All at a price you'd expect to pay for 386 machines with "yesterday's" bus architecture.

For a demonstration of the PS/2 Model 70 386, see your nearest IBM Authorized Dealer or IBM marketing representative. Call 1 800 IBM-2468, ext. 119 for a dealer near you.





Connecticut's only four-year women's college . . . and more.

Founded in 1932, and guided by the principles of the Sisters of Mercy tradition, the College flourishes today as a vibrant, diversified six unit education complex.

Saint Joseph College—rated as "one of America's best",* offers women preparation for a variety of professions in the context of a liberal arts education including: Nursing, Business, Education, Dietetics, Social Work, Chemistry and Math-Computer Science; small classes, outstanding faculty, exciting internships, beautiful suburban campus.

The Graduate School offers co-educational advanced study in 18 majors. **Continuing Education** offerings provide non-credit courses and C.E.U.'s.

The McAuley Program: The Capital Region Weekend College—tailors co-ed baccalaureate study to the needs of working adults. Credit for Life Experience Learning.

The Gengras Center — a special education center, serving the educational and vocational needs of children and young adults.

The School for Young Children—one of Connecticut's oldest early childhood centers, opens the door to learning for pre-schoolers.

The Training Center—provides ongoing training for human resources professionals.

Call Admissions for Information, 232-4571, ext. 216.

*U.S. News & World Report 10/16/89



West Harriord, C1 00117



Non-Profit Organization U.S. Postage PAID Boston, MA Permit No. 161