

HARVARD

MAGAZINE

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The
University
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1986

2011

2036

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and the next



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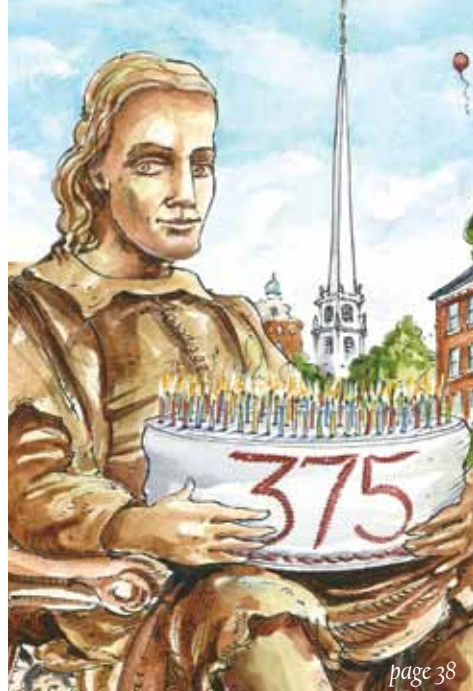
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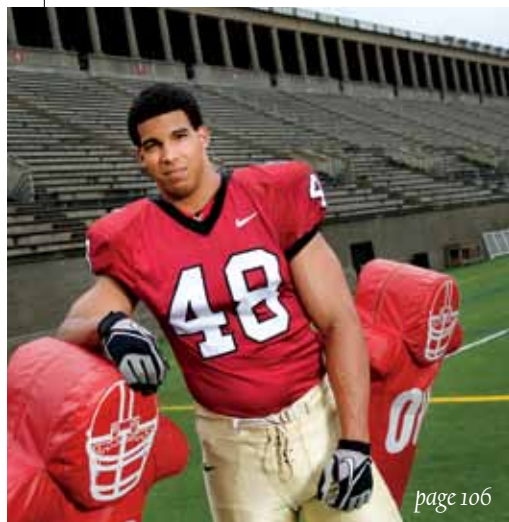
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On the cover: Signpost image by sodafish/istock

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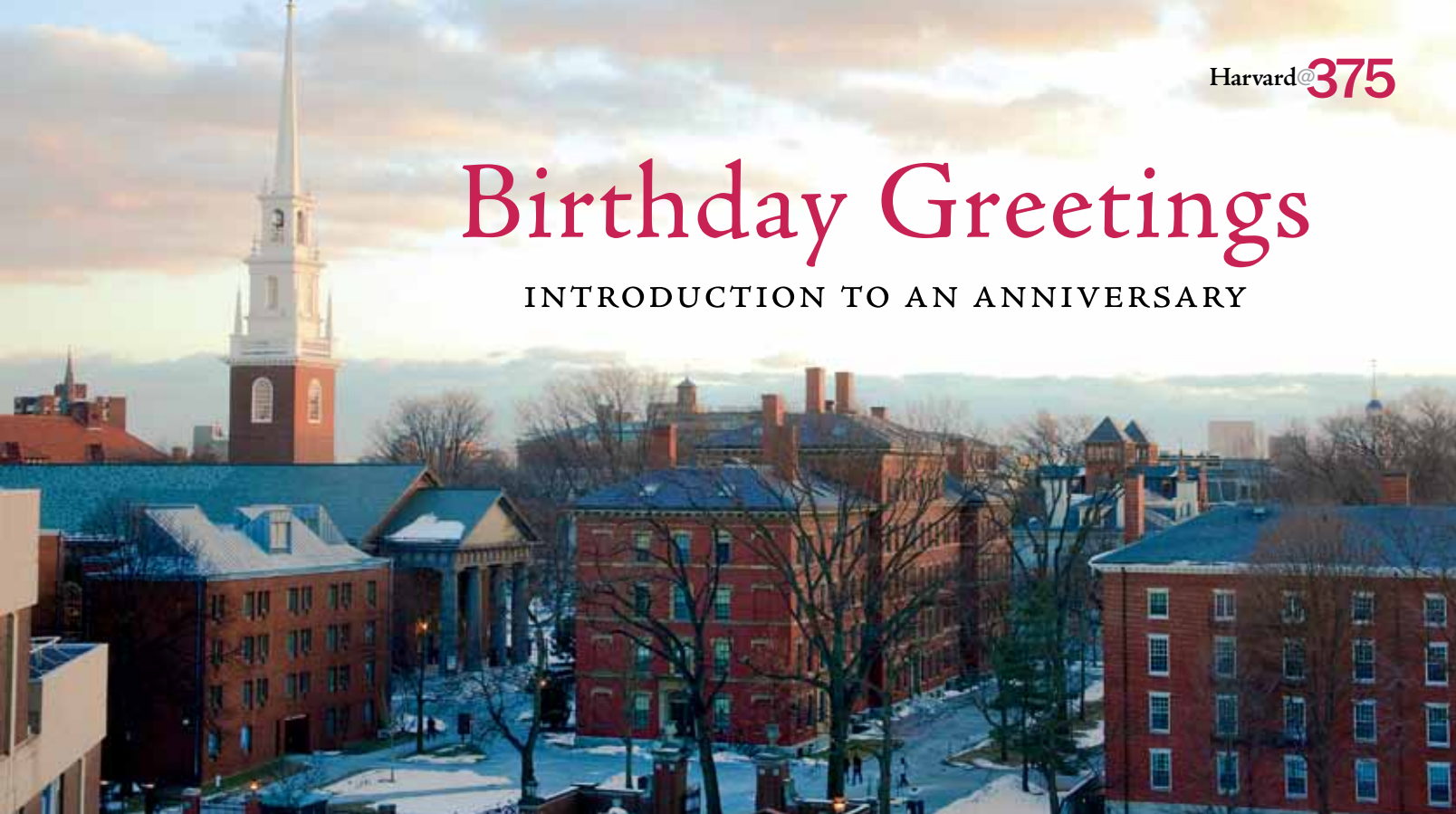
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Birthday Greetings

INTRODUCTION TO AN ANNIVERSARY



A 375TH ANNIVERSARY is not a 350th (sorry, Anglophiles: no keynote by HRH Prince Charles this time), nor a 400th (likely to be a real *and* virtual humdinger)—but neither is it chopped liver. To have survived since 1636 is no small thing. To thrive, when going on four centuries, merits observation and, even at this relatively austere moment, celebration. And so the University observes and celebrates in a community get-together on October 14, converging on Harvard Yard (details at <http://375.harvard.edu>).

Twenty-five years ago, *Harvard Magazine* embraced the 350th with a 256-page issue (cover shown here), the largest in its history. Given that issue's enduring value as an exploration of the events and people who had made the University what it was then, and in many ways shaped what it is today, we have made two basic decisions:

- First, we have put the entire September–October 1986 issue online at harvardmag.com/375th, as an aid to memory for readers then and an invitation to discovery for the nearly quarter-million alumni, faculty, and staff members who receive the magazine bimonthly today—plus the countless readers of harvardmagazine.com worldwide.

- Second, we have focused our efforts in this new issue on the University's eventful past quarter-century, and its prospects as it nears its quadricentennial.

In our reporting, we have examined significant changes in the life of this restless and rooted institution: in the University itself, in the faculty ranks and student bodies, and in the physical campus that supports their learning, teaching, and research. We have asked

graduates how their education did (or did not) prepare them for the lives they have lived, and what they would want in a Harvard education beginning today. We have asked a few members of the faculty—from an impossibly large number of candidates—to outline the challenges and opportunities they see in their disciplines; they have responded with the expected degree of passion and insight, and more besides. We reached out to interesting and accomplished people from around the world to solicit their visions of Harvard's role and nature in 2036. And to inject an appropriate note of humility, we looked back at the forecasts and predictions, explicit or implied, from the 350th anniversary issue, to see how well the crystal balls worked in that distant, predigital era.

We note with special thanks a gift from a donor who wishes to remain anonymous, to support publication of this special, expanded anniversary edition of *Harvard Magazine*.

Finally, much as Harvard itself embeds innovation and change within one of the longest-lived and most traditional of institutions, the magazine aims to anchor its reporting on the place and its people in proven principles and in meaningful memories about the institution and its values. So it is a special pleasure to note that John

Bethell, Christopher Reed, and Jean Martin (respectively editor, managing editor, and associate managing editor in 1986), and long-time contributing photographer Jim Harrison and artist Mark Steele, who did so much to create that monumental 350th anniversary issue, were all still engaged in preparing this successor magazine for you today.

—JOHN S. ROSENBERG



From left: stalwart staffers Harrison, Reed, Martin, Steele, and Bethell

Cambridge 02138

Energy options, coral reefs, home cooking

COLLEGE CRISES

IN THEIR "Colleges in Crisis" (July-August, page 40), Clayton M. Christensen and Michael B. Horn see an outdated and defective "business model" as chief cause of the financial trouble in which U.S. universities find themselves. But 90 percent of our students (customers?) study in academic institutions that are not businesses. That those nonprofits are in some ways confused and inefficient, few would dispute. But it is an historical mistake to conceptualize them the way Christensen and Horn do.

Is the mistake significant? Yes, because it entirely misses the transition over four decades from higher education funded as a public good, to education pretty much on its own in the market. For instance, the authors refer to the decline of public support as "offsetting government dollars" that "have not kept up of late." "Offsetting"? Those dollars were not a charitable handout, but the foundation of the whole system.

Finally, did Christensen and Horn notice that for-profit universities have shamelessly relied on those "offsetting government dollars" to make their business model work?

RICHARD OHMANN, Ph.D. '60
Hawley, Mass.

"COLLEGES IN CRISIS," while presenting issues of serious concern to our institutions of higher education, omitted one very important aspect: the quality of education gained from at least some of these institutions, notably some of the for-profits that market to certain groups of low-income individuals, many of them members of minority groups, who use significant amounts of financial aid to pay for their education. As a faculty member who teaches at Empire State College, one of the



SUNY campuses, I see many of these individuals coming to us to complete bachelor's degrees, having achieved their associate degrees at one of the for-profits, and their academic preparation is typically far from adequate. Writing skills along with critical-thinking skills are sadly lacking, thus compromising the possibility of success in the upper level of undergraduate work.

I would suggest that faculty conditions related to online learning need examination as well, for setting up an online course and managing it appropriately takes more time and effort than a similar course traditionally delivered in the classroom.

SUSAN TOWER HOLLIS, Ph.D. '82
Penfield, N.Y.

THE FUNDAMENTAL claim of Christensen and Horn's argument is that the business model of higher education is inadequate. I wish it were obvious to everyone that this premise is itself a symptom of a fundamental misunderstanding. Higher education is not a poorly run business; it is not a business at all. The modern university is indeed a complex institution, asked to carry

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*Source: Over the 10-year period ending October 2010, gold's correlation with the S&P 500 has been -0.06, with 0 being uncorrelated and 1 being perfectly correlated (StyleADVISOR, December 2010).

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to make fundamental and meaningful innovations while federal and state governments continue to subvert post-secondary education with hundreds of billions of dollars each year in the form of insured student debt and research and service grants.

Almost every industry in the United States has had to undergo dramatic reengineering in the last 30 years to cope with painful pricing and competitive pressures. In higher education, with many faculty teaching zero or one course per term, and conducting research, much of which is of questionable value, there exist almost no tough pricing or real cost pressures. Most colleges and universities are still layering on more and more costs each year, have no clear measures of quality and impact, and are passing their costs on to society in the form of tuition increases at twice the rate of inflation, throwing a generation of students into real debt. Only when the taxpayers say "enough already" will higher education leadership be forced to embrace real change. Absent that, innovation in higher education is mostly just on the margins.

PETER SEGALL, Ed.M. '85
Wellesley, Mass.

ENERGY OPTIONS

MICHAEL MCELROY'S "Time to Electrify" (July-August, page 36) states that the solution to high oil prices and to our dependency on foreign oil is to capture wind power in the form of electricity to power our autos and light trucks. But his claim that this is a lower-cost alternative is without substantiation. No mention is made as to the number of windmills required, the area needed for both power generation and transmission facilities, the cost of electric vehicles vs. alternatives, the cost/time for charging, or the replacement of the tax revenues now derived from motor fuels. He states that wind blows hardest at night and in the winter, and this variability must be recognized. But he does not state that sometimes the wind does not blow at all! An enormous expense would be needed in investment and operating costs for standby facilities.

McElroy further states that his approach will "minimize the risk of adverse future climate change." This claim needs to be put in the perspective of global energy consumption and its outlook. Current world consumption of fossil fuels is

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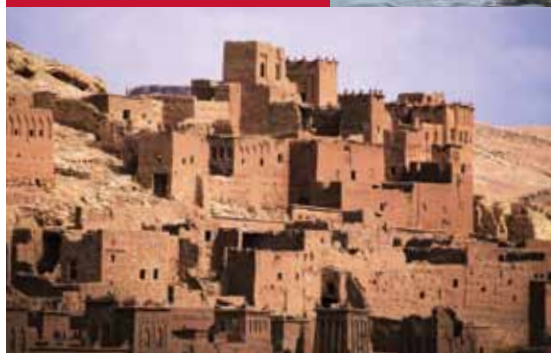
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about 35 million tons per day. These add 2 to 3 parts per million (ppm) of carbon dioxide each year to the existing 390 ppm in the atmosphere. Two large factors exist that will counter any effect of practical reductions in U.S. carbon dioxide emissions. First, the world's population is expected to grow by at least one billion by 2020. Second, currently about one billion people are without a reliable source of electricity, and they desire it.

Conservation of energy and searches for more efficient and clean sources of energy in the United States are warranted, but we must be realistic about the ease and costs for realizing these desires.

ROBERT BAKER
Darien, Conn.

Editor's note: Professor McElroy addressed many of the issues about wind power in "Saving Money, Oil, and the Climate: Using non-fossil energy sources to power our vehicles," which contained a sidebar on wind energy resources (March-April 2008, page 30). A cross-reference to his prior essay appears at page 39 in "Time to Electrify," with a link provided in the online edition.

I AGREE ELECTRIC cars are the future, but not for the reasons proposed in this article. Appeals to science, logic, or pragmatism rarely succeed.

Human beings are irrational economic players—for more than two decades we purchased SUVs for no discernible, logical purpose, even at a \$10,000 premium over a sedan. Instead, peer pressure, national pride, and a debt bubble ruled the roads. Electric vehicles are an expensive alternative. Despite McElroy's claims, their operating cost per gallon equivalent is not a mere 80 cents, at least not in an "apples to apples" comparison. As ever more electric vehicles hit the road, federal and state highway taxes will eventually be recovered against the cost of an electrical mile—adding another 50 to 75 cents per "gallon." And the battery pack and other embedded costs for an electric vehicle relative to gas create an amortized premium (even assuming above-average production learning curves) of another \$2: that is, at least \$3.25/equivalent gallon.

Yet electric vehicles will dominate. Not

as a solution to the very real (but invisible and pernicious) anthropogenic buildup of greenhouse gases, but because electrification leads to a better car: one that is quieter, with greater acceleration and improved traction control, as well as improved manufacturing and design flexibility. They are joining a hundred-year trend of substituting electrons for burning fuel, and computers for mechanical linkages.

We cannot green the future by direct appeal—it's not in our human nature. Instead, by making electric vehicles an object of desire, we can leverage the power of peer pressure. By aligning with the interests of historically obstructionist domestic fossil-fuel electricity suppliers, we can make owning an electric car patriotic. And by switching from gas to electrons, retail-store parking lots become recharging stations—a further incentive to shop at the mall.

Deception and logistics, not frontal attacks, win most wars.

GREG E. BLONDER, Ph.D. '82
Summit, N.J.

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Dec. 22	vs. Florida Atlantic
TBA	vs. MIT
Jan. 7	vs. Dartmouth
Jan. 14	TBA
Feb. 3	vs. Cornell
Feb. 4	vs. Columbia
Feb. 17	vs. Brown
Feb. 18	vs. Yale
Feb. 24	vs. Princeton
Feb. 25	vs. Penn

All games are played at Lavietes Pavilion. Schedule is subject to change.

WOMEN'S HOME SCHEDULE

Nov. 22	vs. URI
Nov. 27	vs. Holy Cross
Nov. 30	vs. B.U.
Dec. 22	vs. St. John's
Jan. 17	vs. North Dakota
Jan. 27	vs. Yale
Jan. 28	vs. Brown
Feb. 10	vs. Penn
Feb. 11	vs. Princeton
March 2	vs. Columbia
March 3	vs. Cornell
March 6	vs. Dartmouth

ICE HOCKEY

MEN'S HOME SCHEDULE

Nov. 4	vs. Princeton
Nov. 5	vs. Quinnipiac
Nov. 11	vs. Cornell
Nov. 12	vs. Colgate
Nov. 22	vs. UNH
TBA	vs. Dartmouth
Jan. 13	vs. Union
Jan. 14	vs. B.U.
Jan. 27	vs. Yale
Jan. 28	vs. Brown
Feb. 10	vs. Rensselaer
Feb. 24	vs. St. Lawrence
Feb. 25	vs. Clarkson

All games are played at Bright Hockey Center. Schedule is subject to change.

WOMEN'S HOME SCHEDULE

Nov. 18	vs. Clarkson
Nov. 19	vs. St. Lawrence
Nov. 23	vs. Dartmouth
Nov. 26	vs. Minnesota
Nov. 27	vs. Minnesota
Dec. 9	vs. New Hampshire
Jan. 13	vs. Union
Jan. 14	vs. Rensselaer
Jan. 20	vs. Cornell
Jan. 21	vs. Colgate
Feb. 3	vs. Quinnipiac
Feb. 4	vs. Princeton
Feb. 17	vs. Brown
Feb. 18	vs. Yale

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I FOUND IT interesting that McElroy finds the proposed \$500-billion subsidy to convert eight million trucks and buses to use compressed natural gas (CNG) too expensive, while the cost of building a coast-to-coast electricity-distribution system to accommodate optimal windmill siting, with a price tag of \$1 trillion, to be the preferred alternative. This ignores the possibility that if a trucking company could get better efficiency out of a gallon of CNG than out of a gallon of gas, it might decide to pay for the conversion itself. This article has so many economic tradeoffs and assumptions that it might be wise for the author to run the whole case by Harvard Business School, where some economists could tie down the loose ends and help separate whatever climate-change agenda might be present from economic benefits. HBS might even recommend that markets, rather than the government, make the decisions. Markets these days seem to be wiser and more objective than legislatures and politicians.

RALPH M. WRIGHT, M.B.A. '56
Bountiful, Utah

"TIME TO ELECTRIFY" spoke of a national network of high-voltage direct-current (HVDC) supply lines to distribute wind-produced electric power. A few more words on HVDC may be helpful.

Losses from HVDC transmission are far lower than from traditional alternating-current lines, making HVDC attractive for long-distance lines. A special advantage is that HVDC lines can be buried underground and require only a narrow right-of-way. This avoids the public resistance, attendant delay, and increased cost from securing rights-of-way for above-ground lines. As McElroy notes, HVDC rights-of-way could be along existing rail lines and interstate highways, and burying preserves scenic values and is likely to make the lines more secure. There is an extra cost for conversion at either end, AC-DC and DC-AC, to match current methods of generation and distribution, but for long lines (an estimated break-point is about 300 miles) the main considerations become esthetic and societal and in most cases favor a HVDC approach.

More public information on HVDC for

any new long-distance transmission lines would improve prospects for a useful debate on upgrading our national grids.

NICHOLAS CARRERA '60
Frederick, Md.

REEFS AT RISK

WE WERE PLEASED to see *Harvard Magazine* call attention to the plight of the world's coral reefs ("Reefs at Risk," by David Arnold and Jonathan Shaw, July-August, page 32). While the article accurately describes the threats, it neglects to mention durable solutions. As board members of the Coral Reef Alliance (CORAL), we know that people all over the world are committed to building healthy coral reef ecosystems. For example, in Hawaii, CORAL's volunteer "citizen scientists" are gathering data to assist reef-monitoring activities to improve conservation management. In Belize, CORAL's mangrove habitat reforestation project is reducing the amount of harmful pollutants reaching nearby reefs.

If we are going to succeed in protecting our reefs for future generations, however, we need more people to support sustain-

*The smart place
to stay.*

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RODGER KINGSTON, Ed.M. '78

Background: The work of Rodger Kingston, a photographer and Walker Evans scholar, is a part of many prominent collections, including Boston's Museum of Fine Arts, Harvard's Fogg Art Museum, the National Gallery of American Art and Corcoran Gallery of Art.

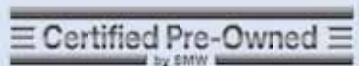
A Harvard Grad Is: Says Kingston, "One of the things I love about Harvard is that you're suddenly operating at a much higher level than you thought you were capable of. Harvard is a place you can go to school, but also a space you can step into for the rest of your life."

A Harvard Grad Gives Back: Kingston stays involved with his alma mater, attending events and Commencements and as a member of Harvard Veterans. "Harvard has been very important to me and has become a wonderful part of who I am in terms of how I navigate my way through life. Wherever I go, it's really great to be part of the Harvard community." **BMW North America is pleased to support Mr. Kingston's efforts with a donation to the photography department at Harvard's Fogg Museum.**

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LETTERS

able and long-lasting solutions—now. We encourage the Harvard community to get involved in supporting coral reef conservation by visiting www.coral.org.

CURTIS BERRIEN, M.B.A. '70
Berkeley, Calif.

H. WILLIAM JESSE JR., M.B.A. '76
University Park, Tex.

HOME COOKING

WHAT IS SO hard about cooking dinner in less than 20 minutes ("Restaurants Rampant," July-August, page 24)? My late husband, Rollin L. Wilson, A.M. '50, used to have a hot meal waiting for me when I came home from my counseling work at 7:20 P.M. After he died, I figured out how to use the toaster oven.

In 10 to 15 minutes, I can broil fish and vegetables in olive oil and have the table set, a bowl of berries and a salad ready, plus my vitamins and supplements, along with water and sometimes wine. I might also light a fragrant candle and put on some suitable music. If the main course takes longer to cook, I can do a household or paperwork chore during the wait time.

A weekend farmers' market trip, plus two other Whole Foods stops in afternoon breaks, is not a burden.

KATHARINE WADSWORTH WILSON '50
San Jose, Calif.

PALESTINIANS

I DON'T SEE WHY so many supporters of the State of Israel seem to find it necessary to disparage and belittle the Palestinian people. The letter by Orrin Tilevitz ("On Gandhi," July-August, page 3) carries so many assaults against them that if such remarks were directed against any other people they would undoubtedly be called prejudiced and probably racist as well.

Most Americans do not realize the extent to which Palestinians were brutally forced off their lands by heavily armed Jewish paramilitary groups in the years leading up to and including 1948. Fully 85 percent of the Palestinians living on the land that was to become the State of Israel were ruthlessly evicted from their homes, their farms, and their orchards by these groups and given a one-way ticket to nowhere.

And contrary to Tilevitz's assertion that the land occupied by the Palestinians for centuries was bought and paid for by Jewish authorities, most research on the topic confirms that no more than 5 percent of

the land in Palestine was obtained by purchase; the remainder was seized without any recourse or compensation and incorporated directly into the State of Israel.

And then to assert, as Tilevitz does, that there really is no such thing as the Palestinian people is a direct affront to a proud and courageous people. It would be like saying that there is no such place as New England. True, the Palestinians did not have a state of their own, but that has been part of the problem. And it is also part of the solution.

As I see it, if we are looking to find peace in that region, we can and should take a position that supports the rights of both peoples equally and unequivocally to create safe and secure homelands for their own people and to achieve full recognition and standing within the community of nations.

DAN ADAMS '67
Fulton County, Pa.

BLOGGER ANDREW SULLIVAN

JOHN BRAEMEN'S attack on Andrew Sullivan for not being the exact kind of pundit he wants (Letters, July-August, page 2)—which sounds to me to be William F. Buckley minus the sense of humor—began with a barely hidden attack on Sullivan for being gay: "But Sullivan has been—to be euphemistic—selective in his Catholicism in his personal life." I'm not positive, but I suspect that Braemen wouldn't bother to write something like that about a divorced Catholic politician or a Catholic judge who sentenced someone to death, even though, based on my understanding of Catholic teachings, both are vastly graver crimes than homosexuality.

Sullivan can be infuriating and unpredictable, but he also admits when he is wrong and changes his opinions based on facts on the ground, rather than reinterpreting the facts to fit his preconceived opinions, as many modern pundits do. His popularity and influence are based on the inability to peg him as a liberal or conservative; he has legions of readers from both sides of the spectrum. He retains his readers even when they disagree with him because we know that we're getting intellectual honesty, not partisan hackery. That's what makes him the best blogger in America. Instead of mocking Sullivan for his sexual orientation and for admitting that he has a human and not a robotic mind, Braeman should
(please turn to page 119)

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LETTERS

(continued from page 12)

read Sullivan's blog, which he clearly hasn't, since he has only his "imagination" to surmise "how awful the rest must be."

TED GIDEONSE '96
San Diego

THE MEANING OF LIFE, PART TWO

MADELEINE SCHWARTZ'S "The Most Important Course" (The Undergraduate, May-June, page 56) is the most profound piece I've ever seen in *Harvard Magazine*. Like Dean Dingman, I don't feel that additional coursework is the answer to the important issue she so skillfully articulates. What needs to change is the attitude of the College's faculty and student body toward deep and personal discussions. Schwartz mentions that "talking about the personal implications of a text in section would be gauche," that she "can't imagine" such discussions at the Kirkland House dining hall, and that a discussion about race during Freshman Week "was slow-going, mostly marked by cautious silence."

My experiences at the Extension School were nothing like this. Our in-class discussions drew parallels between readings and our lives outside the classroom as a matter of course, my friends and I went out of our way to eat at Dudley House before class specifically to engage in serious philosophical conversations, and lively debates about even the most contentious topics were the norm.

The College community needs to take a long, hard look at itself, and work together to promote a culture where probing, unfettered discussions form a regular (and integral) aspect of student socialization. Existing courses provide more than adequate raw material for the most profound conversations anyone could ever imagine. What's missing is the spirit of free enquiry.

MARC CALLIS, A.L.M. '05
Jupiter, Fla.

ON ROTC'S RETURN

I AM DEEPLY saddened to see that ROTC is returning to campus ("ROTC Returns," May-June, page 45). Sugarcoat it as you will, ROTC is an integral part of a military-industrial complex whose function is the expansion and enforcement of an empire unprecedented in human history. More to the point, the training of officers differs little from the training of soldiers

in its ultimate goal: to create more effective killers of designated "enemies." How this fits with Harvard's mission, which I had always assumed was to humanize and civilize, is hard to fathom. The efforts of students 42 years ago to rid the campus of ROTC were motivated by a deep understanding of this inherent contradiction; I can only imagine the forces driving Harvard's recent reversal of conscience.

RAMSAY HARIK, M.T.S. '91
Bloomington, Ind.

SARAH HICKS'S SWEET SOUND

I ENJOYED READING the profile of Sarah Hicks ("A Baton with Sting," July-August, page 16), who has joined us as associate conductor of the North Carolina Symphony, "America's Next Great Orchestra." The orchestra has blossomed into a wonderful, first-rate group, blending classical favorites with innovative, modern works, as well as undertaking challenging collaborations with local theater groups. We have enjoyed Maestro Hicks's concerts and found her explication of performed works to be lucid, literate, amusing, and very educational. The Harvard connection and the fact that she graduated in my daughter's class add to our personal pleasure.

STEPHEN R. KANDALL '61
Raleigh, N.C.

METABOLISM MATTERS

IN LIGHT OF healthcare costs, why are we talking about interesting, but expensive, "personalized medicine" ("Fathoming Metabolism," May-June, page 27)? Why are we not talking about fundamentals such as get off your ass and go for walk?

Let's give our bodies a chance. If the USA was peopled with citizens who had a healthy BMI and walked 30 minutes every day while eating mostly vegetables, fruits, whole grains, and legumes, do you really think healthcare costs and the costly prospect of "personalized medicine" would even be of interest? I doubt it. We accept 37 percent obesity rates and run around looking for pills to fix the problem.

MARY BETH FROST, M.B.A. '88
Phoenix

AMPLIFICATIONS AND ERRORS

MOLLIE KATZEN, featured on the cover and in "Restaurants Rampant" (July-August, page 24), wrote to note, "I appreciate your mention of the Food Literacy Project

(FLP) of Harvard University Hospitality and Dining Services (HUHDS). I want to make sure the creation of this terrific undertaking is correctly accredited to the estimable Ted Mayer, who recently wrapped up his 15-plus-year tenure as assistant vice president and executive director of HUHDS. Ted has been nothing less than a visionary leader—the kind who inspires and encourages excellence and creativity in his very large and complex team. He made possible countless good things during his tenure, and at the same time skillfully allowed everyone (myself included, as a friend and consultant to HUHDS) feel a part of the endeavor. This pertains especially to the FLP, which is nothing less than his brainchild."

Several readers noted the inaccurate reference to the "marriage of more than 50 years" of Mary and Bernard Berenson (Vita, July-August, page 30). Author Diane Booton responds, "'Relationship' would have been the mot juste, not only for its numerical accuracy. It aptly describes their unconventional union, challenged repeatedly by Bernard's dislike for Mary's children (or any children) and his resentment of her spending household money on them, and by the couple's mutual quest to find in the companionship of others what was missing from their own 45-year marriage."

In "The Senior Seniors" (July-August, page 69), we inadvertently ran a photograph of George Barner '29 instead of the intended image of Donald F. Brown '30, Ph.D. '55. Barner is from an earlier class, but Brown is nearly a month older.

Brevia erred in reporting that Susan Marine, who recently left the assistant deanship for student life to assume new responsibilities at Merrimack College (July-August, page 62), had not taught at Harvard. She taught courses twice, read theses, and served as a teaching fellow, among other academic duties.

Lisa Abend (Off the Shelf, July-August, page 21) in fact earned her Ph.D. in 1998.

José María Gómez Durán wrote to note that "Ants through the Ages" (July-August, page 60) misidentified Auguste Forel as "Auguste Morel."



George Barner



Donald F. Brown

Right Now

The expanding Harvard universe

DARWINIAN DRIVES

From Human Nature to Human Resources

IN 1990, just as professor of organizational behavior Paul Lawrence was preparing to retire from the Business School, he began to notice a new leadership model gaining traction among some of his colleagues. “Agency theory” argued that managers’ prime responsibility was to work in the best interest of shareholders, he says, and was widely embraced. Lawrence thought the theory ignored employees, customers, suppliers, neighbors, the environment—every other conceivable constituency—for the sake of shareholder profit. “To maximize just one of those didn’t make sense. ‘There’s more to human beings than just making money,’” he recalls thinking. “I had a kind of visceral reaction to this.”

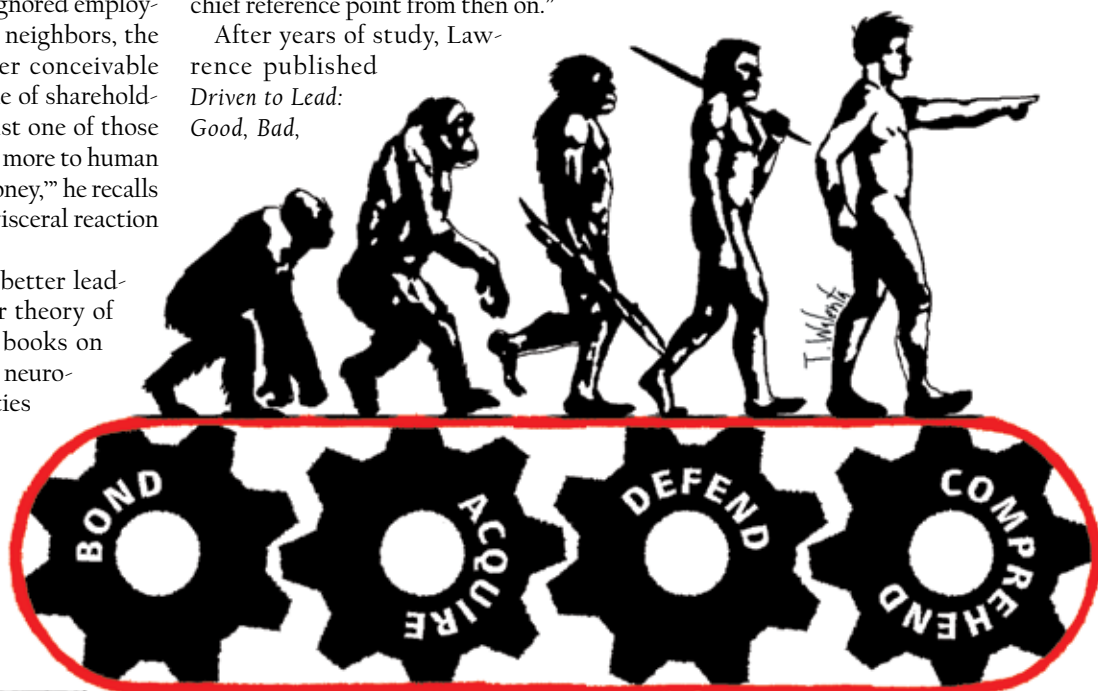
Looking not only for a better leadership model, but a better theory of human behavior, he read books on religion, paleontology, and neuroscience; histories of societies from ancient to modern American, in chronological order; and the latest science digests. Above all, he read Darwin.

In *The Descent of Man*, Lawrence found what he was looking for: Dar-

win’s description of human evolutionary history can be used, he says, to explain almost every aspect of human behavior, from religious faith, to the subprime mortgage crisis and the bond market, to the corporate corruption of politics—even the rise of Hitler. He read and re-read his personal copy, now well-worn and heavily annotated. “I thought, ‘There it is.’ It became my chief reference point from then on.”

After years of study, Lawrence published *Driven to Lead: Good, Bad,*

and Misguided Leadership (2010), which lays out what he calls Renewed Darwinian (RD) Theory of Human Behavior. In short, RD theory posits that all human beings are motivated by four independent, innate drives: the drive to *acquire* (the instinctive push to obtain things necessary to ensure continuity and reproductive success); the drive to *defend* (the desire to ensure that what is acquired is not lost); the drive to *comprehend* (humans’ need to understand the world around them); and the drive to *bond* (the push to connect and relate to our fellow human beings). Our behavior, according to Lawrence, is a result of our brain’s at-





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tempt to maintain a balance among these four drives.

It's a grand unifying theory that Lawrence says manifests itself in just about every aspect of human behavior, and even explicates the drafting of the Constitution. The Founding Fathers' motivations weren't born with the Revolutionary War, according to Lawrence, but were instead

and external enemies (drive to defend)." At the opposite end of the ethical spectrum is the current economic crisis, which he says stems from a few bad apples with an outsized drive to acquire and no moral conscience, due to a lack of the drive to bond.

Understanding human motivation has obvious implications for the field of man-

that if just one drive went unaddressed, that pulled down employee satisfaction for all the other categories. The best results came when all four drives were being fulfilled simultaneously. The authors offer a comparison of home improvement giant Home Depot with smaller competitor Lowe's: Home Depot's CEO embarked on a campaign that emphasized individual store performance—putting the drive to acquire over the employees' camaraderie (drive to bond)—and saw no growth in the company's stock price. Lowe's employed a "holistic approach to satisfying employees' emotional needs through its reward system, culture, management systems, and design of jobs" and gained ground. This kind of Darwinian analysis, Lawrence says, could be instituted to ensure productivity and motivation at every level in any group enterprise.

~DAN MORRELL

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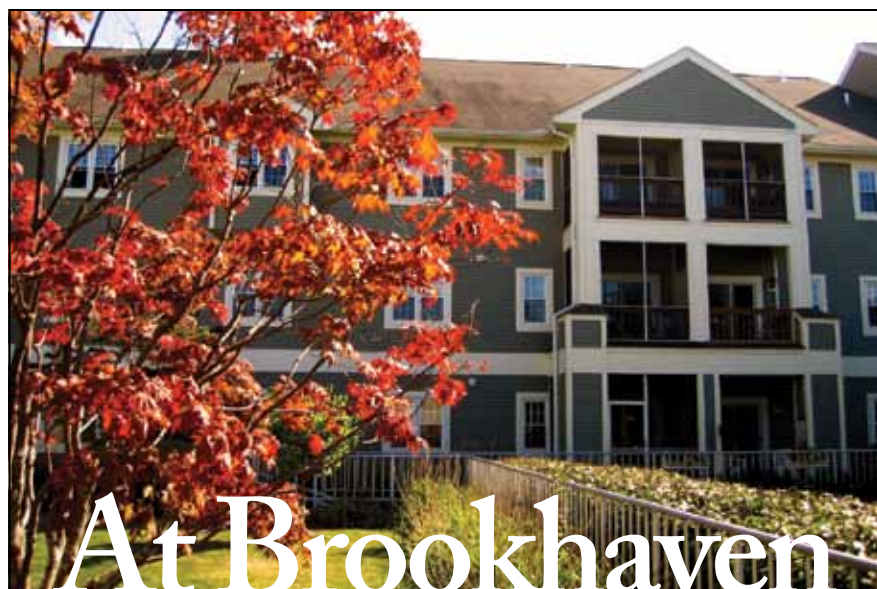
PAUL LAWRENCE WEBSITE:

www.prlawrence.com

"There's more to human beings than just making money," Lawrence recalls thinking. "I had a kind of visceral reaction to this."

formed tens of thousands or even millions of years earlier. His "four-drive" translation of the formative conversations that led to the drafting of that foundational document is straightforward: "We need to use our creative capacities (drive to comprehend) to design a government that can strike a reasonable balance between private individual property rights (drive to acquire) and the common good (drive to bond), while guarding us against internal

agement. In 2008, in the *Harvard Business Review*, one of Lawrence's former collaborators, Nitin Nohria (now dean of the school), and a few colleagues published the results gathered from hundreds of employees at multinational firms who'd taken a survey conducted as a sort of systematic test of Lawrence's four-drive theory. They found that not only did the four drives explain "60 percent of employees' variance on motivational indicators," but



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COVERING-UP, UNCOVERED

The Veil's Revival

ONE EVENING in the late 1990s, Thomas professor of divinity Leila Ahmed saw a group of people gathered on Cambridge Common. All of the women were wearing hijab, the headscarf worn by some Muslim women but rarely seen at that time in the United States. Just the sight of hijab provoked a negative, “visceral” response in Ahmed, who was born and raised in Cairo in the 1940s, when even devout Muslim women of the middle and upper classes did not wear veils because they considered them old-fashioned. She took the appearance of veils in Cambridge, she explained recently, to mean that “there could be some fundamentalism taking root in America.”

That incident launched her on a 10-year



MELANIE STETSON FREEMAN/THE CHRISTIAN SCIENCE MONITOR VIA GETTY IMAGES

study of women and Islam and their choices about the veil, and led ultimately to her new book, *A Quiet Revolution* (Yale). It also led her “into studying the very lively, complicated politics and history that were critical to—and in fact were the driving forces behind—both the unveiling movement of the early twentieth century and, later, of the re-veiling move-

Wearing hijab, Muslim women from the United States and around the world meet in Manhattan in 2006 during the Women's Islamic Initiative: Spirituality and Equity conference to discuss the issues and problems they face.

ment in the closing decades of the century,” Ahmed says. In the process, she says, she re-examined her own prejudices and reached surprising new conclusions about hijab. (Among women who wear it today, Ahmed explains, “hijab” usually refers to a veil that

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SHANNA WIGGINS '14 AND MIKKO NISSINEN

covers only the hair and neck; the burqa and niqab cover the face.)

Women in Egypt initially began to unveil around the turn of the twentieth century, as British occupiers sought to rescue Muslim women from what they took to be the oppression of Islam. But local women who unveiled had different reasons for do-

Islamic dress gave women “the freedom to attend school and go to work—in offices, for example, shared with men—in ways that were socially acceptable.”

ing so. “Unveiling,” Ahmed writes, “would become ever more clearly the emblem of an era of new hopes and desires, and of aspirations for modernity: the possibility of education and the right to work for both women and men, and of equal opportunity and advancement based on effort and merit.”

In the 1970s, most women began covering their heads again. After Egypt’s defeat in the Arab-Israeli War in 1967, groups that aimed to “Islamize” society, such as the Muslim Brotherhood—quashed under President Gamal Abdel Nasser—re-emerged and flourished. At the same time, Saudi Arabia wielded increasing influence as an economic superpower that sought to spread its strict Wahhabi Islam globally. Islamist leaders of the period worked to persuade women to wear Islamic dress, but scholars who interviewed women during this period found that those who adopted it typically reported doing so willingly.

“As is the case sometimes today in America, many of the women who took on hijab did so against parental wishes,” Ahmed says. “Islamic dress gave them new authority as strictly observant religious women, and in a society where men and women were expected to maintain a certain separateness, it gave them the freedom to attend school and go to work—in offices, for example, shared with men—in ways that were socially acceptable. It certainly had some positive outcomes.”

The recent movement in Europe to ban Islamic dress for women echoes the old colonial concern for Muslim women, but Ahmed says it’s layered with something new. Hijab is now identified—wrongly, she believes—with violent strains of fundamentalist Islam. These assumptions, which she shared at the start of her research, “were quite mistaken,” she says

now. “Certainly there are violent elements at the extreme edges, but the broad mainstream of the Islamist movement—according to all the experts—is overwhelmingly opposed to violence and committed to nonviolence.” She also emphasizes that the Muslim Brotherhood in particular has a long-standing commitment to social jus-

tice, including provision of education and medical treatment to the poor, and she believes such social activism is part of the organization’s legacy in America.

American Islam, she reports, was dramatically altered by 9/11, with more Muslims speaking publicly about their faith, and young Muslims insisting on a new dialogue within Muslim-American organizations. Immediately after 9/11, some women shed their veils to avoid harassment, but others began covering themselves for the first time in their lives. They cited a range of reasons: a desire to affirm their Muslim

identity, to educate others and counter stereotypes, and sometimes to express solidarity with the Palestinians. Ahmed was particularly surprised to meet an American Muslim woman in Boston who said she hoped her headscarf would prompt other women to think about gender bias in society, including how clothing choices and physical appearance may influence the treatment of women.

Ahmed’s book has been widely reviewed in the United States and Britain, and she has faced some criticism for suggesting that the veil might symbolize a new kind of Muslim feminism in America; critics say it cannot shake its history as an emblem of oppression. Clearly, Ahmed responds, hijab can’t stand for empowerment in a place like Iran. “In a country where you’re free to choose to wear a veil, its meanings are worlds away from what it means when you’re forced to wear it,” she says. “That’s a critical point. The veil today has no universal meaning. Its meanings are always local.” ~ERIN O’DONNELL

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PAINT, PIGMENT, CRAYON, AND CLOTH

High-Tech Art Sleuthing

CALL THEM art detectives. Using scientific methods, the researchers at the Fogg Museum’s Straus Center for Conservation and Technical Studies gather evidence and help solve art mysteries: Who painted this? What materials did the artist use?

One such mystery involves the self-taught American artist James Castle. Profoundly deaf, perhaps autistic, he never learned to speak or write. He lived in rural Idaho, creating compelling, intimate works, including hundreds of drawings using only woodstove-soot mixed with his own saliva. He sketched with color as well, and assembled three-dimensional figures from bits of packaging. His work was still largely unknown outside Idaho when he died in 1977 at the age of 78.

Flash forward three decades. Conser-

vators wanted to know where Castle obtained his pigments, what tools he used, and how he worked. Castle’s family had provided some clues, through artifacts and memories. For more precise information about certain pieces, Daniel Kirby, an associate in conservation science at the Straus Center who has a background in biotechnology, used an instrument common in biology but fairly new to art conservation: a laser-desorption-ionization time-of-flight mass spectrometer. The technique is often called LDMS, for short.

In one analysis, Kirby tested a single fiber of yellow paper from a Castle drawing, using the instrument’s laser to ionize the pigment molecules. (Pigment ionizes easily.) The resulting ions “flew” to the instrument’s analyzer, with smaller ions traveling faster than heavier ones, en-

I CHOOSE HARVARD...



JAMES L. MCLEAN '83 AND DEBRA MCLEAN

As a venture capitalist, James L. McLean '83 helps entrepreneurs fulfill their dreams. He is doing the same for Harvard's School of Engineering and Applied Sciences (SEAS). McLean serves on the SEAS Dean's Advisory Group and, with his wife, Debra, created the James L. McLean Dean's Discretionary Fund to enable SEAS Dean Cherry Murray, John A. and Elizabeth S. Armstrong Professor of Engineering and Applied Sciences, to strengthen areas she deems most worthy. McLean, a venture partner with Crosslink Capital in San Francisco, is thrilled that SEAS is raising the visibility of these disciplines among students. "Engineering uses the sciences," he says, "to solve problems in society."

To read more, please visit www.alumni.harvard.edu/stories/mclean.

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HARRIS L. KEMPNER, JR. '61

To mark his 50th Harvard reunion, Harris "Shrub" Kempner, Jr. '61 wanted to acknowledge the education he received from both faculty and friends. Kempner and his wife, Hetta, expanded an endowed fund in the Faculty of Arts and Sciences (FAS), the Shrub and Peaches Kempner Dean's Discretionary Fund, to enable FAS Dean Michael D. Smith, John H. Finley, Jr. Professor of Engineering and Applied Sciences, to add "touches of excellence" at his discretion. They also supported financial aid by augmenting a scholarship fund named for Shrub's parents, Harris '24 and Ruth Kempner. "I feel obliged to give back," says Shrub, president of Kempner Capital Management in Galveston, Texas, "and hope that other people do, too."

To read more, please visit www.alumni.harvard.edu/stories/kempner.

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abling a detector to determine each ion's mass by its time of flight, measured in billionths of a second.

The method produced a "mass spectrum," a distribution pattern of the ions' masses. When Kirby and his associates compared the patterns to those of known pigments, they found three matches in the single fiber. By comparing these pigments to those identified in materials known to come from Castle's studio, the team discovered intriguing evidence about the color sources and techniques the artist may have used: green tempera paint and a yellow wax crayon—both perhaps applied to paper using a piece of chartreuse fabric.

Narayan Khandekar, senior conservation scientist at the Straus Center, says that this new analytical technique has dramatically expanded conservators' ability to identify materials that artists use in contemporary art. Until Kirby tried LDMS, Khandekar says, "we had hit a dead end" in identifying complex modern organic pigments. Recently, for example, the center was able to determine that a Jackson Pollock-style painting likely was *not* a Pollock; LDMS identified a pigment in the painting that had been developed after Pollock died.

Kirby says LDMS is useful for identifying mixtures of pigments, even when they're blended with binders and other inorganic materials. He also believes, because of the simplicity of sample preparation, that LDMS is easier to use than other available methods. He wants to publicize the practice and has begun teaching it to visiting conservators from other institutions. "What we're trying to do is develop simple turnkey techniques that nonexperts can do," he explains. (For several years,

Kirby used an instrument at Harvard's chemistry and chemical biology mass-spectrometry facility on Oxford Street. Last March, after he gave a talk at the Waters Corporation on his use of LDMS, the company donated one to the Straus Center. "We're the only conservation lab on the planet that has its own," he says.)

He has also used the instrument, in a slightly different process, to identify paint proteins more precisely than previously possible—not just egg binder, for example, but egg white, specifically from a chicken, rather than a duck. In a Mark Rothko mural owned by Harvard, Kirby found that the artist had used both egg white and yolk in his paint, a combination that produces a particular sheen. "The choices an artist makes are incredibly important," Khandekar says. "We're now able to get in there and tell in great detail what those choices were." ~NELL LAKE

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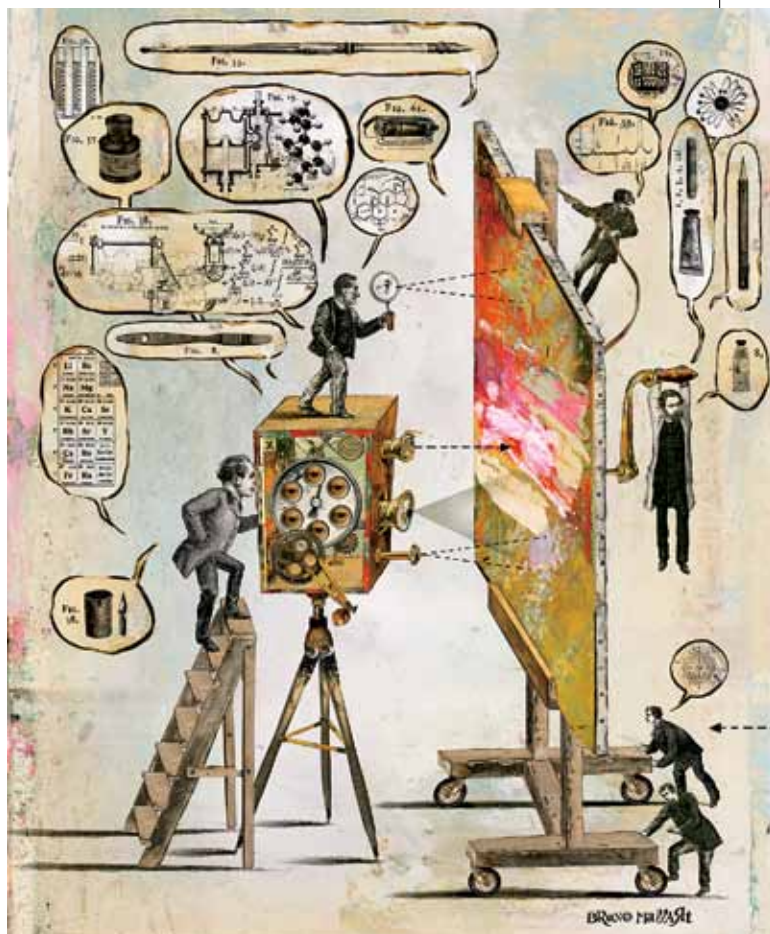


Illustration by Bruno Mallart

Montage

Art, books, diverse creations



- 25 Vocals, Guitar, and Stethoscope
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- 33 The “Steel Factory”

**Details from
Sunday Afternoon
on the Charles
River (left) and
the Mystic River
Mural Project
(below)**

block, stucco, Sheet-rock, and the panels of multiple density overlay (MDO; specially treated wood impregnated with resin) that make up

the Mystic River Mural Project. Begun in 1996, with a section added each summer by Fichter and a group of a dozen or so local teens, the mural depicts the life of the river in his trademark teeming, cornucopia-like style, with so many layers of distance and perspective that the effect is nearly three-dimensional. Recently, a panel had to be restored after an encounter with a speeding car—one of the hazards when your museum is outdoors.

Cornucopias in Paint

“Outdoor museums” display David Fichter’s murals.

by JULIA HANNA

IT'S THE MOST UNLIKELY of galleries—a concrete retaining wall in the shadow of Interstate 93, just outside Boston. But David Fichter '73 is a full-time muralist. His work (davidfichter.net) appears

in school cafeterias and train stations. It overlooks parking lots and playgrounds. Brick walls are his canvas and his preferred surface (for their “urban texture”), although he’s also painted on cinder





The Potluck (above) shows residents of a Cambridge neighborhood. Fichter stands in front of *From Orchids to Octopi: The Evolution Mural* (right), which features Charles Darwin.



Early on, Fichter, a fine-arts concentrator who studied set design with Franco Colavecchia, experimented with different artistic styles and painted political posters (he turned his Lowell House dorm room into a silk-screening studio during the 1973 graduate-student strike). Then a friend told him to visit Mexican muralist José Clemente Orozco's *Epic of American Civilization* at Dartmouth College's Baker Library. Fichter subsequently traveled throughout Latin America, where murals have a rich history as a form of social commentary. "Murals have always spoken to me as a way to push change in society without shoving it down people's throats," he says. "What I like is that people can find their way in—they feel empowered when they participate in the process or see themselves or their stories represented in public."

There was no place to study mural painting formally, but a contact with Victor Canifru, a Chilean muralist living in Nicaragua, opened the door to Fichter's first commission, at a school in Managua. And then? "I was hooked," he says. He's now completed more than 200 projects, the majority in Massachusetts, although his work has also taken him to locales like Wayne, Michigan (an historical mural of the city's deep connections to the automotive industry), and Madison, Wisconsin (a mural on the study of water science for the University of Wisconsin).

With an approach that blends the personal and public, Fichter generally works with neighborhood organizations or public officials to determine a work's overall design, a process that can involve a fair amount of give and take. On aver-

age, the lifespan of a project from start to finish is about one year. "I like to do work that comes out of lived experience," he says—which involves gathering oral histories and spending time in the community. "There's always a negotiation between ideas and images," he adds. "Weaving in my own story and connections helps inspire me."

In *Sunday Afternoon on the Charles*, for example, a commission for the Trader Joe's grocery store on Memorial Drive in Cambridge, Fichter can point out friends, neighbors, and his neighbor's beagle, Tyler. A blonde, straw-hatted toddler eating a peach separates a colorful Cambridge present from a black-and-white Harvard Square of the past; the toddler is Fichter's younger daughter, Olivia Wise, now 19 years old. A young girl with a bow in her hair in the black-and-white section is his "muse" and neighbor Suzanne Green, a lifelong Cantabrigian who will turn 99 this year.

The world of muralists is relatively small and familial, with plenty of information shared on the technical aspects of paint (which brands and colors best survive the elements) and the ins and outs of surface preparation. "There's a conservationist aspect to it," says Fichter. "If a wall is painted, I try to find out what's already on there to see how it will react with what

I'm planning to add." An outdoor mural usually requires a touch-up after 15 years or so. One of Fichter's oldest pieces is *Bread and Roses* (1985), for the Greater Lawrence Family Health Center in Lawrence, Massachusetts.

After determining the general design, Fichter makes a scaled drawing on paper and overlays it with a numbered grid (typically, one inch to one foot) that he uses as a guide when painting. "It becomes abstract," he says. "I don't think, 'I'm working on an eye.' You can really get lost." For an indoor mural, he may make a transparency of an image, project that onto the wall, and paint from there. Sometimes he listens to history books on tape as he works—he finds music too distracting.

The fishbowl aspect of working in the public eye often leads to serendipitous encounters. One day, a local resident wearing an EAT T-shirt wandered by and asked to be included in a commission for Cambridge's Area 4 Neighborhood Coalition. It was the perfect impromptu



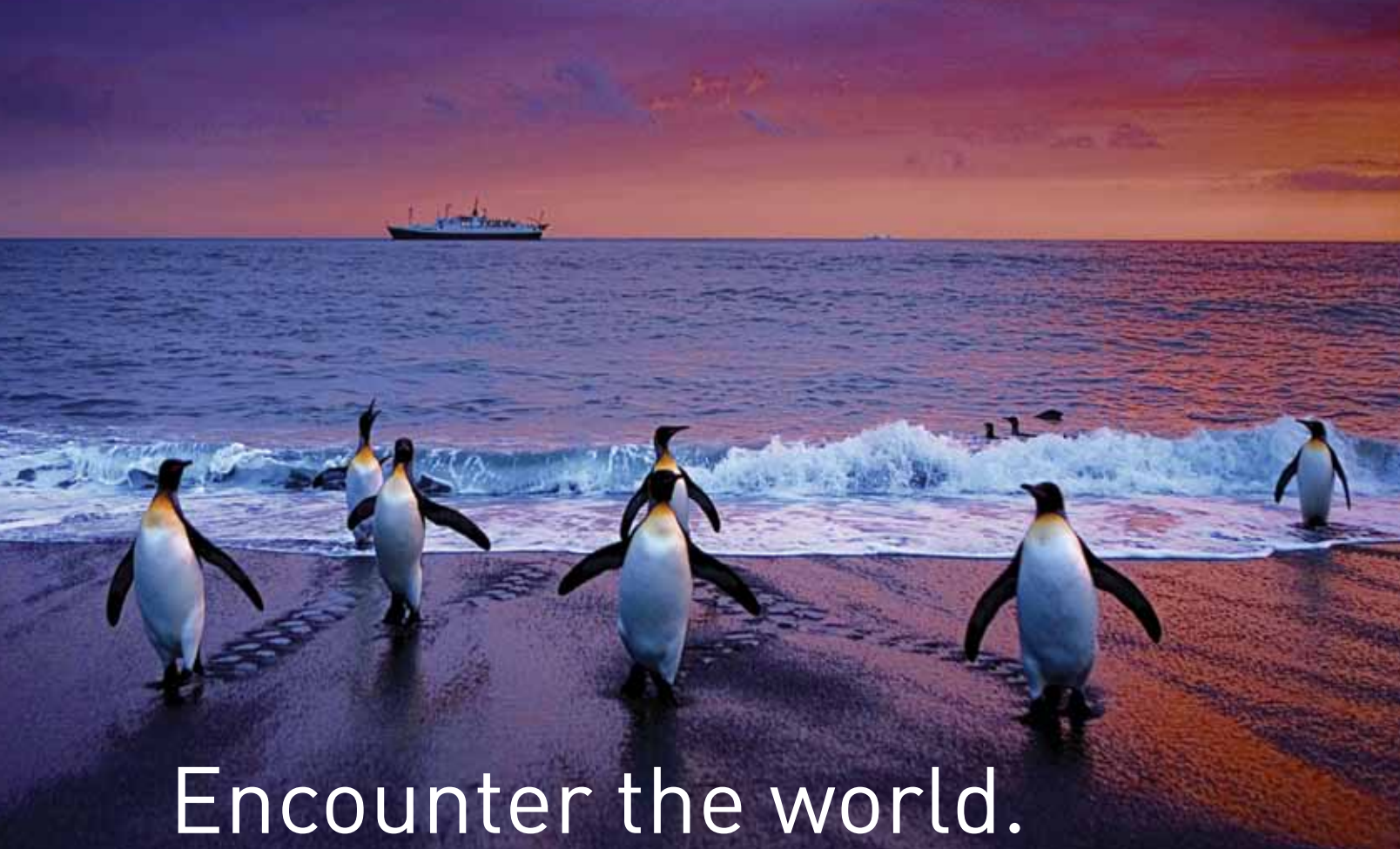
Visit harvardmag.com/extras to see additional images and a video of David Fichter talking about his work.

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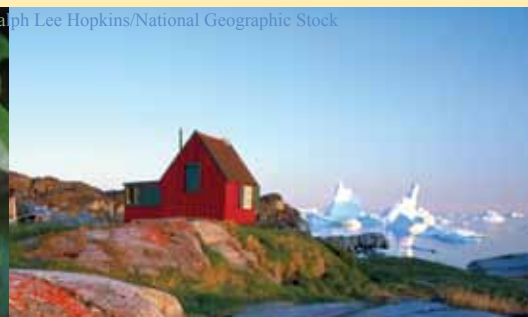
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addition to *The Potluck*, which shows a multiethnic gathering of Central Square residents enjoying a meal together.

"This was a never-ending project," Fichter says fondly. "So many people came by to ask if they could be in it." If they lived in the neighborhood, he considered their request. (Fichter himself

lives just a few streets away.) The 22-by-100-foot mural used about 20 gallons of acrylic paint and took four months to complete with the help of volunteers. He focuses on the larger elements, while volunteers work on smaller pieces, giving an overall effect of unity.

That collaborative aspect is an impor-

tant part of the process for him, despite the challenge of coordinating different talents and personalities. "It becomes a very engaging experience for people, even people who aren't artists," Fichter says. "I've likened it to religion. There's a real sense of withdrawal when the project is complete."

Vocals, Guitar, and Stethoscope

Suzie Brown, M.D., writes prescriptions—and love songs.

IN HER SONG "Nice Girl," cardiologist-singer-songwriter Suzie Brown, M.D. '02, declares in a honey-dipped twang, "Sooner or later you'll find out that sometimes/ I wanna scream and yell and run like hell and/ play it really loud/ So think twice before you come my way/ I ain't always such a nice girl." Like many of the bluesy, country-rock songs on *Heartstrings*, Brown's first full-length album, "Nice Girl" is ostensibly a reproof to a composite of lovers who didn't quite get the sultry, determined girl. But it also serves as a reminder to herself: for all her success as a Harvard Medical School graduate, Brown doesn't feel whole until she breaks free from the hospital and jumps on stage with a guitar.

The lesson took Brown, 37, a while to learn. For more than a decade she committed herself to becoming a top research cardiologist. Then, in 2009, just as she was about to complete a grant proposal that would have funded her work into her forties, she decided she couldn't ignore her musical desires any longer. She abandoned the grant for a part-time clinical job, treating patients with heart failure, and devoted the rest of her time to making and promoting her music. She says the decision felt reckless at first: "I think I was afraid to admit to myself that I didn't want a high-powered academic career...even if I could have had it."

Luckily, it didn't take long for the move to pay off. Within a year Brown had attracted A-list producer Barrie Maguire (formerly the bassist for The Wallflowers and Natalie Merchant) and recorded *Heartstrings*, released this May. Today she works three days a week in the heart-failure clinic at Albert Einstein Medical Center outside Philadelphia, plays at least one



show a week, and often finds herself up well into the night managing the logistics of her burgeoning music career.

Growing up in the Boston suburb of Natick, Brown always had a native voice that could stop people in their tracks and an ear for what makes a good song, but as the daughter of two physicians, she was certain she'd end up in a strait-laced career, "a doctor or a lawyer or something like that." She flirted with music at every stage in her education, joining an a cappella group her senior year at Dartmouth, moonlighting in a production of *Hair* in medical school, and fronting "a shameless, shameless cover band" during her residency. But her medical training was so intense that she didn't have time to worry about what might be missing in her life.

In 2006 she started a cardiology fellowship at the University of Pennsylvania, and

as her workload eased, the desire to sing crept back in. That fall, in the aftermath of a romantic breakup, Brown wrote her first song. "I just figured, 'If I can't write a song when I'm feeling like this, I will never in my life write a song,'" she says now. She wrote it in one night, in the key of G—because those were the only chords she knew. The experience was cathartic.

"I just felt like, 'Oh my god, I wrote a song,' and it was about love and loneliness," she recalls. Putting her emotions front and center was a radical departure from the stoic disposition she'd learned to maintain as a doctor. "My life over the last decade had been about putting the patient first," she explains. "I also felt that, as a woman trying to be a cardiologist, I had to be tough, I had to not show my emotions."



Visit harvardmag.com/extras to hear tracks from Brown's CD.

O P E N B O O K

Financial Reform: The Doggerel

seem late to the parade. Yet its editors (IBM professor of business and government Roger B. Porter, adjunct lecturer Robert R. Glauber, and Center for Business and Government senior fellow Thomas J. Healey, all of the Kennedy School) shaped an unusually intelligent discussion of the intersection of business and government oversight during a late 2009 conference, now published here. Their Kennedy School colleague Richard J. Zeckhauser, Ramsey professor of political economy, summarized his recommendations on enhancing transparency this way:

Fancy financial products and nuclear weapons share features beyond their irremediable escape from Pandora's box. Those who own them have power, respectively financial/economic power and military/political power. Though we might prefer that none had them, if our competitors have them, we certainly want them too. With financial instruments, this interactive relationship is true of firms as well as of nations. Further, both engineered financial products and nuclear weapons are extremely difficult to regulate, since critical elements of secrecy provide some of their value.

Surely some stiff modes of regulation will emerge to be placed on exotic financial products and on new financial institutions. But academia and Wall Street are infinitely creative, and 10 years from now new products and institutions will exist that offer or appear to offer superior profit opportunities, and that steer around the newly emplaced regulations....

Regulation...cannot be the complete approach to effective risk control. Private players must have adequate and appropriate information to take actions that protect and avoid actions that endanger themselves. Thus I propose that we cast a bright light that reaches into the financial shadows....

My analysis suggests that the current financial system has become effective at burying information that should be and can be uncovered. This unacceptable

**Cole Porter, prescient
financial analyst**

The financial cataclysm of 2008 has by now perhaps yielded as many books as failed investment banks, mortgage firms, and hedge funds. *New Directions in Financial Services Regulation* (MIT, \$35) would

situation poses continuing dangers. Thus, I conclude, with apologies to Cole Porter:

Let's Do It: Let's Illuminate

We know that banks do it, geeks do it;
Even educated Greeks do it.
We do it,
We all obfuscate.

Investment firms in New York do it;
Hong Kong hedge firms seeking
torque do it.
We do it.
We all obfuscate.

In London Town, AIG did it;
Moody's, Fitch, and S&P did it.
We do it.
We all obfuscate.

The Fed, feeling beyond reach, did it;
Bernie Madoff, in Palm Beach, did it.
We do it.
We all obfuscate.

But I think that we can evolve; do it.
We only have to resolve; do it.
Let's do it;
Let's illuminate.

Small light-emitting diodes do it;
Bugs and bolts of lightning do it.
Let's do it;
Let's illuminate.

Enlightened leaders, they have done it;
Like Edison, we could bank on it.
Let's do it;
Let's illuminate.

This song was like the polar opposite. I'm telling people I'm lonely and that was, like, this amazing thing."

Medicine and music might require different mindsets, but Brown has found that her training as a cardiologist has promoted her songwriting in one key way. "In cardiology, when you're learning how to do procedures like catheterizations and echocardiograms, you think, 'I can't do this, it's impossible, I'll never learn how,'" she says. "But then you do learn how, so you realize everything seems impossible until you learn how—and then almost nothing is, really. In terms of the music thing, it gave me a certain attitude of can-do, like, if I

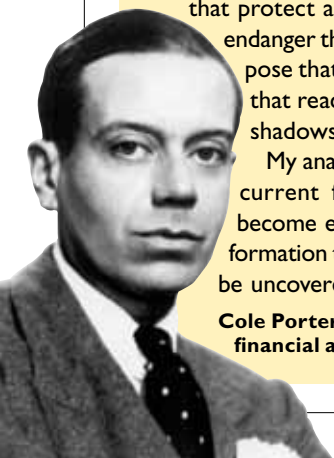


ZOE SLESS-KITAN

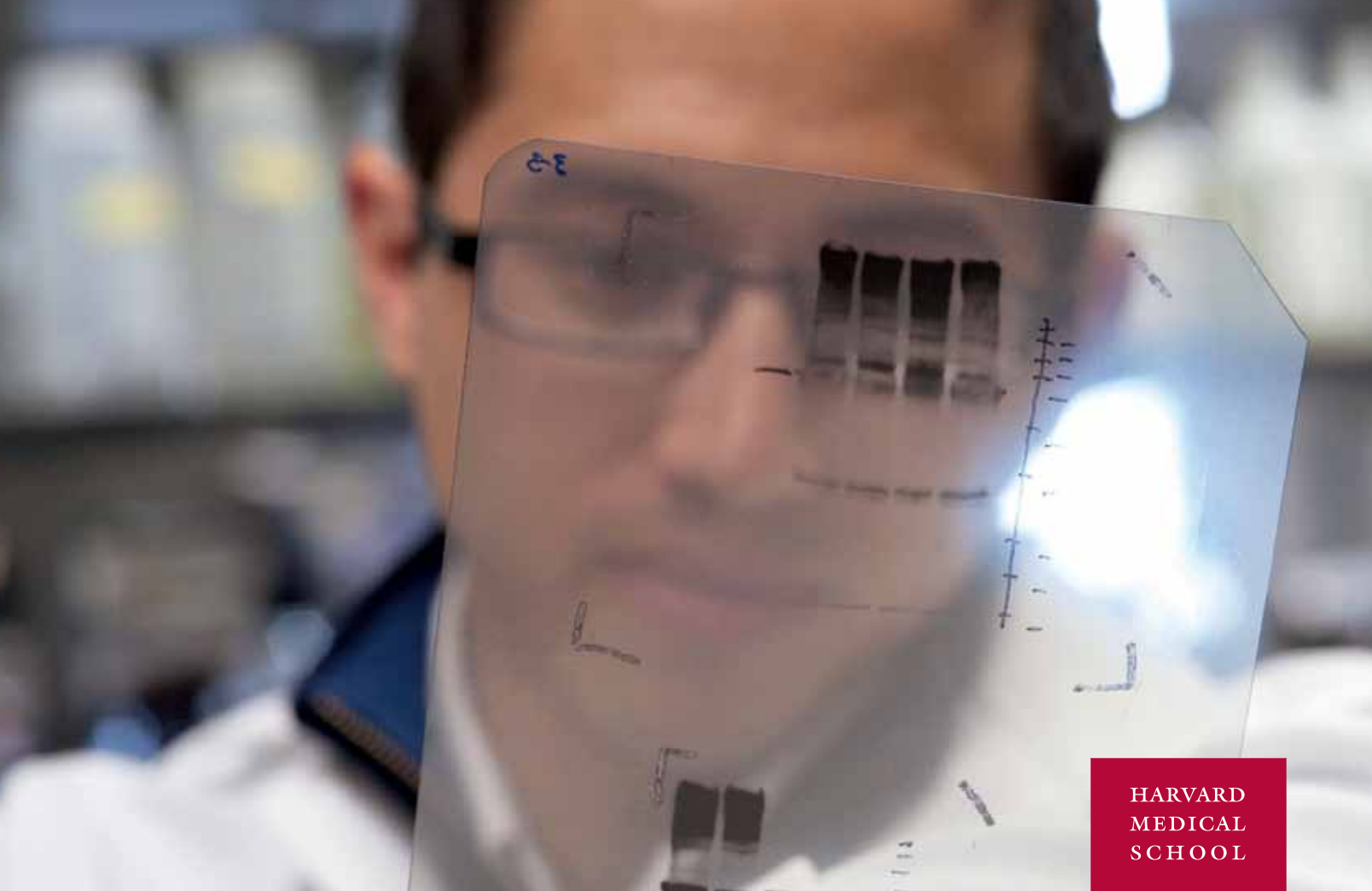
can learn how to be a cardiologist, I can learn how to play the guitar."

Her lack of musical preconceptions has freed Brown to jump across genres. Many of the songs on *Heartstrings* feature a country tilt, which favors the raspy edge of her pure voice. That surprised her. "I don't even listen to country," she says. "The most country I listen to is Bonnie Raitt [72] and Gillian Welch. It's just what came out." In "Song for Amy," written in memory of a friend who died of lung cancer, Brown sings in a slow folk cadence that recalls Joni Mitchell; the title track is a soulful lament about lost love that Brown built around the chords from Nina Simone's "Want a Little Sugar in My Bowl."

With songwriting, there are no prerequisites to clear before she's licensed to make music—and Brown likes that. "I feel completely unqualified to be a songwriter—completely," she explains. "It's this weird realization: to be a cardiologist you have to go through 15 years of training and take X number of board exams. To be a musician, you just make it up." ~KEVIN HARTNETT



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William Chin, MD, *Executive Dean for Research*

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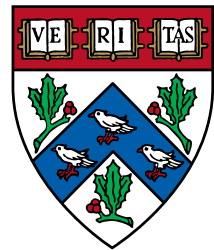
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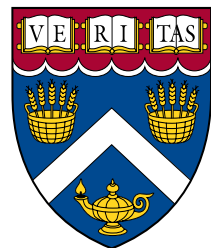
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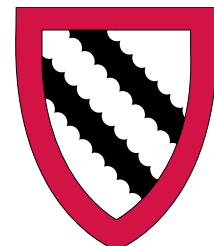
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Off the Shelf

Recent books with Harvard connections

Invasion of the Body: Revolutions in Surgery, by Nicholas L. Tilney, Moore Distinguished Professor of surgery (Harvard, \$29.95). A surgeon distinguishes a *knife*, with its dangerous connotations, from a *scalpel* and its healing potential. A leading practitioner of the latter skill documents its evolution, extent (85,000 elective procedures in the United States *daily*), and coming challenges.

America's Climate Problem: The Way Forward, by Robert Repetto '59, Ph.D. '68 (Earthscan, \$29.95). An environmental economist, now at the United Nations Foundation, says American action is crucial to solving Earth's greatest challenge—and can be consistent with growth and high living standards. Foreword by Timothy E. Wirth '61, Ed.M. '65, president of the foundation.

Tamil Love Poetry, by Martha Ann Selby, RI '05 (Columbia, \$27.50 paper, \$84.50 cloth). A meticulous translation and interpretation of a 500-poem work from the early third century, the subject of the author's Radcliffe Institute fellowship. From the section on "Jealous Quarreling": "That man from the place/where white reed flowers wave over the bushes/like cranes streaking through the sky—/because he wants fresh women,/my ignorant heart is wretched."

Constitutional Originalism: A Debate, by Robert W. Bennett '62, LL.B. '65, and Lawrence B. Solum, J.D. '84 (Cornell, \$29.95). In a back-and-forth deliberately drained of "sound and fury," Bennett, of Northwestern's law school, and Solum, of the University of Illinois College of Law,

plumb the philosophy of language and problems in textual interpretation to shed light on contending claims.

The Inner Life of Empires: An Eighteenth-Century History, by Emma Rothschild, Knowles professor of history (Princeton, \$35). The Enlightenment and global British Empire as experienced through the 11 Scottish Johnstone siblings, a remarkable family—whose friends included Adam Smith and David Hume.

Religion in Human Evolution: From the Paleolithic to the Axial Age, by Robert N. Bellah '48, Ph.D. '55 (Harvard, \$39.95). An enormous inquiry, by Berke-

the essential ingredient in resolving conflicts. Foreword by Archbishop of Cape Town emeritus Desmond Tutu, LL.D. '79.

Breaking Up with God: A Love Story, by Sarah Sentilles, M.Div. '01, Th.D. '08 (HarperOne, \$22.99). En route to her ordination as an Episcopal priest, the author lost her faith. A personal account of how that happened, and felt.

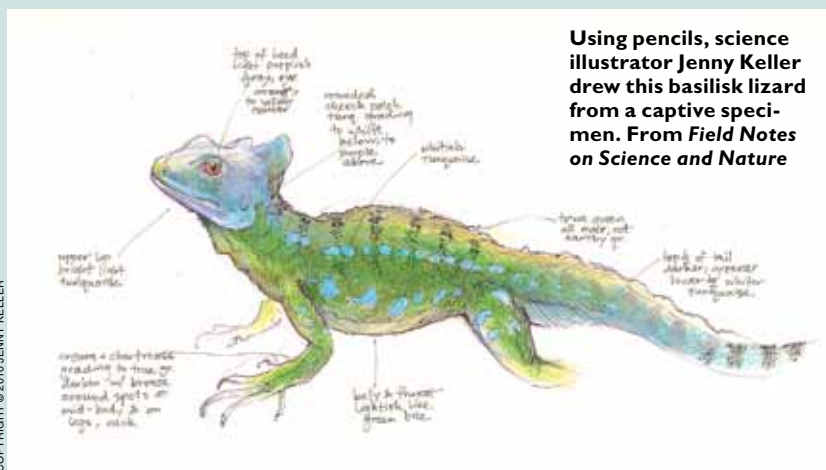
The New Global Rulers: The Privatization of Regulation in the World Economy, by Tim Büthe '95 and Walter Mattli (Princeton, \$27.95). International business organizations and commerce have outstripped the reach and expertise of governments, so the standards for accounting and for products traded

have been delegated to global private regulators. A Duke political scientist (Büthe) and University of Oxford political economist (Mattli) find that the process remains political.

Numerical Relativity: Solving Einstein's Equations on the Computer,
by Thomas W. Baumgarte and Stuart L.

Shapiro '69 (Cambridge, \$90). Astrophysicists can't toy with black holes or neutron stars in the lab. They simulate them. Baumgarte, of Bowdoin College, and Shapiro, of the University of Illinois at Urbana-Champaign (where Baumgarte also works as an adjunct)—a sort of binary-star pair who both held Guggenheim fellowships—provide a text to the field.

Field Notes on Science and Nature, edited by Michael R. Canfield, lecturer on organismic and evolutionary biology (Harvard, \$27.95). Excerpts from the field notebooks of great naturalists: George B. Schaller (*The Serengeti Lion*), Bernd Heinrich (*Bumblebee Economics*), and others. Foreword by Pellegrino University Professor emeritus E.O. Wilson. The illustrations may encourage children to explore nature, and tourists to keep journals.



ley's Elliott professor of sociology emeritus (co-author of *Habits of the Heart*), into the biological past to explore what kinds of lives people determined were worth living. Bellah interprets common elements of the cultural evolution of religion in ancient Israel, Greece, China, and India.

A Contest for Supremacy, by Aaron L. Friedberg (Norton, \$27.95). The author, of Princeton's Woodrow Wilson School, is, as his title suggests, anxious about the stakes, strategies, and outcomes as China and the United States (from the subtitle) "struggle for mastery in Asia."

Dignity, by Donna Hicks (Yale, \$27.50). An associate of Harvard's Weatherhead Center for International Affairs draws on her experience in working with warring parties around the world to home in on



The Saratoga Avenue Community Center in Brooklyn

PAUL WARCHOL

Oasis in Limestone and Brick

A community center grows in Brooklyn.

AMID THE aging bodegas, discount shops, and anonymous towers of Bedford-Stuyvesant in Brooklyn, hard by the Saratoga Village public-housing project, one building stands out. On first impression, the Saratoga Avenue Community Center

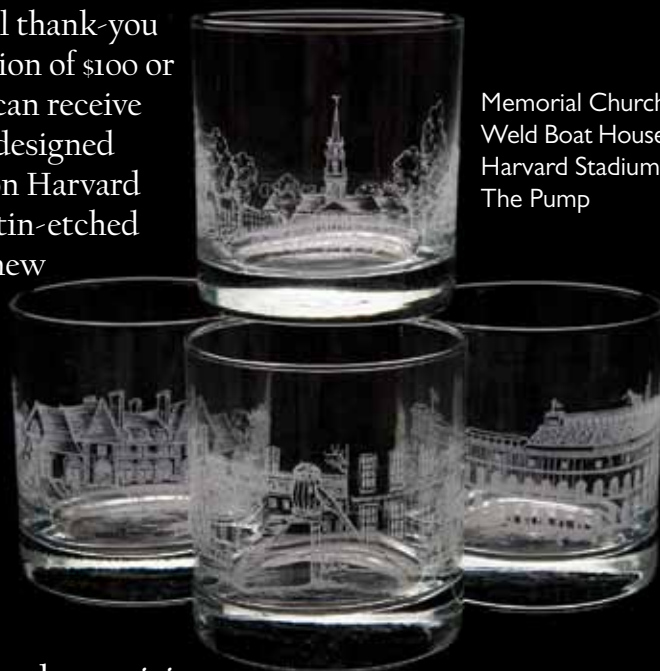
comes across as a hip adobe pueblo: its myriad elevations are simultaneously angular and irregular, arresting yet unobtrusive. "It's a function of wanting to make something that fits as comfortably as possible with the community," says its architect, George Ranalli, M.Arch. '74, "but also

exists as something in its own right."

The structure was a departure for Ranalli, dean of the Spitzer School of Architecture at City College of the City University of New York. It was his first fully freestanding work built from scratch, erected in this case on an inauspicious

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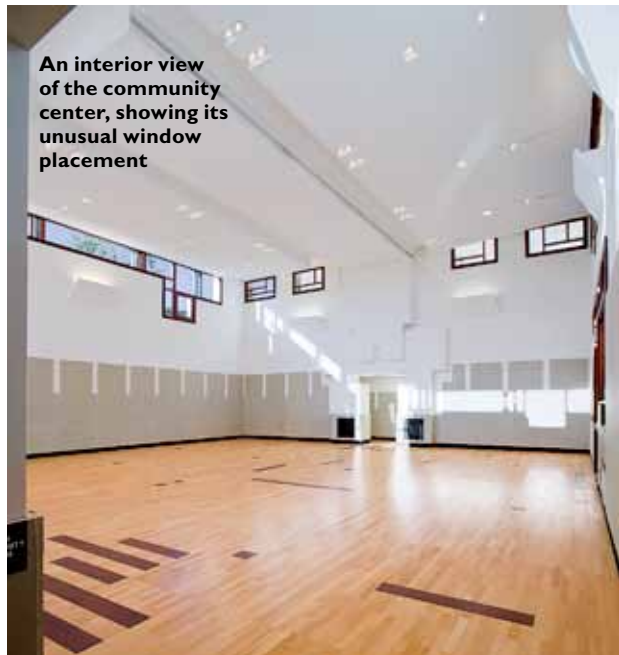
*What's changed,
what hasn't, and why*

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An interior view of the community center, showing its unusual window placement

PAUL WARCHOL



site in a “rough and tumble, blue-collar” neighborhood still overcoming a long-standing reputation for urban blight. (“It was a barren wasteland,” he recalls.) For more than two decades, he had been a self-described modernist concerned with “balancing innovation and stability” in his works. He had established himself as a de-

signer of luxury homes; one of his more notable assignments was carving out six unique residential units within the Callender School, a National Historic Landmark in Newport, Rhode Island (www.georgeranalli.com). But by 1999, when the Saratoga commission came through from the New York Housing Authority, he had come to focus on more civic-minded endeavors.

“It was always my goal to do public and institutional commissions,” he

reflects. “Public buildings were important to me growing up—libraries and museums, all these buildings that the city of New York always gave to its citizens. All of them were places of public assembly, where people come together.”

The 5,500-square-foot community center, built for only \$2.3 million and com-

pleted in 2009, straddles the middle ground between the tall drab heights of the Saratoga housing project itself and an old Metropolitan Transportation Authority substation. It has become a celebrated structure. In the *New Yorker*, Paul Goldberger welcomed the center as “exceptionally handsome and dignified” and one of the “Ten Most Positive Architectural Events of 2009.” In the *Wall Street Journal*, Pulitzer Prize-winning architecture critic Ada Louise Huxtable found it admirably postmodern, yet devoid of “the bad jokes or superficial historical allusions of postmodernism’s defiant denial of modernism’s rejection of the past.”

At the building’s heart is its spacious, 23-foot-high main assembly room, decorated on a late June afternoon with children’s watercolor paintings. No mere gathering space, it is shot through with dramatic angles and unexpected details. Unpredictable patterns of darker walnut inlays punctuate the pale oak floor; tooth-like panels of plycem cement break up any monotony in the walls. Most intriguing, perhaps, are the windows. All rectangu-

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The center from above, in its Bedford-Stuyvesant neighborhood

JULIAN OLIVAS

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lar yet utterly dissimilar, they are playfully juxtaposed from side to side like two-dimensional building blocks. When sunlight plays through, the overall effect is inviting and accommodating—designed, as the architect puts it, “to resonate with people on the feeling level first.”

The son of Italian immigrants from the Bronx, Ranalli appreciates the power of community input.

During Saratoga’s lengthy planning process, neighborhood residents reviewed the materials that would ultimately be used in its construction: limestone, iron-flecked orangey “roman” bricks (thinner and longer than usual), glass-fiber reinforced concrete (commonly known as GFRC casting stone), mahogany for the front doors and window frames. “It was an unusual palette for the Housing Authority,” Ranalli acknowledges. “They’re used to aluminum and stainless steel.” But the locals were delighted. “They said, ‘We’re actually going to get a building that’s made of this?’”

In its two years, Saratoga has been a local hit. It routinely offers nursery, day-care, after-school, and senior-citizens programs, as well as an urban summer camp. But residents also use the main hall for wedding receptions, graduation fêtes, and other purely celebratory get-togethers. “The response has been tremendous,” Ranalli says. “They fight to have their parties here. At a party six or eight months after the opening, people were saying, ‘We just can’t believe that we have this.’ This is what you make buildings for. It’s the framework in which people live their lives.”

—THOMAS VINCIGUERRA



Visit harvardmag.com/extras for more images of the Saratoga Avenue Community Center.

The “Steel Factory”

A monumental biography of Deng Xiaoping, the doctrinaire pragmatist who modernized China

by EDWARD STEINFELD

WHAT TO MAKE of the elfin man who in 1979 charmed Americans by donning a cowboy hat during his visit to a Houston rodeo, but 10 years later ordered an all-out military assault on unarmed protestors in his own capital? What to make of the revolutionary transformation to which he is justifiably and inextricably linked, a bewildering metamorphosis that has turned China into a global economic powerhouse, a playing field for unbridled capitalism, and home, too, to one of the world's last and most expansive single-party states? As Ezra Vogel, Henry Ford II professor of the social sciences emeritus, points out in his exhaustively researched 800-page biography of the late Chinese leader, Deng Xiaoping was not the initiator of China's post-Mao reforms (the first inklings of change actually began un-

der Deng's predecessor, the colorless Hua Guofeng). Nor did Deng during his roughly two decades as China's paramount leader ever grace those reforms with a clearly articulated vision or master plan. But the reforms and China's broader opening to the world were unquestionably Deng's. It was he over time who proved to be the manager, the architect, the motive force, and ultimately, the guarantor. To know Deng Xiaoping, as Vogel makes clear, is to know contemporary China.

Yet Deng, whether for Chinese insiders or observers from abroad, has never been an easy character to pinpoint. As his own children attest, he was a man of few words, somebody who had no interest in, and no patience for, idle talk or flowery ideas. Nicknames, though, say a lot. Mao Zedong was the “Great Helmsman,” the mercurial leader with the grand philosophies, the messianic visions, and the complete disregard for practicalities of implementation or catastrophic consequences of campaigns gone awry. Deng

During a visit to the Johnson Space Center in Houston—a highlight of his U.S. tour in 1979—Deng Xiaoping sits in a model of the lunar rover vehicle.



Photograph by Bob Daugherty/Associated Press



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Xiaoping was the opposite, the “Steel Factory”—totally unsentimental, totally grounded in the practical, and totally committed to keeping the operation moving forward, step by painful step. Deng, in Vogel’s telling, was a man who made few friends, shared few thoughts, and revealed little of himself for the historic record. But throughout his life he had a clear and unwavering ambition, to garner for China the prosperity and power enjoyed by France, the United Kingdom, Germany, the United States, and Japan. Mao’s dream for the future was clouded by abstraction— notions of “continuous revolution,” class struggle, and rejuvenation through upheaval. Deng’s, in contrast, was thoroughly concrete.



Deng first experienced the West as a 16-year-old temporary worker in 1920s France. He would experience it yet again on a series of state visits in the 1970s as China cautiously emerged from the isolation and darkness of the Cultural Revolution debacle. The lesson remained starkly similar across the decades: China was desperately behind. Everything the West had, China lacked: modern factories, state-of-the-art technology, gleaming infrastructure, and cutting-edge scientific expertise. For Deng, this wasn’t about abstract institutions like laws, rights, and freedoms, but about the concrete manifestations of societal prosperity and strength. The imperative of catching up—technologically, scientifically, and economically—would become the first inviolable rule of Deng’s leadership.

But by Vogel’s account, Deng divined something else during his early years

abroad: the need for unwavering loyalty to the organization, the Chinese Communist Party (CCP). That, indeed, became the second inviolable rule of his tenure in power.

By the time Deng emerged as China’s paramount leader, he was already 74 years old, having spent the better part of his life in intense revolutionary struggle. In his late teens, as a subaltern in the nascent CCP’s European branch, he barely evaded French police arrest by slipping off to the Soviet Union. By his early twenties, he was serving in the Shanghai party underground during Chiang Kai-shek’s murderous purges of communists and leftist sympathizers. By his thirties, he had already served as an official in besieged

At the White House, President Jimmy Carter looks on as former president Richard Nixon shakes hands with China’s vice premier.

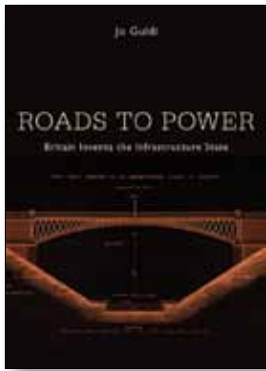
communist base areas and on the Long March, life-or-death situations that inevitably involved the ferreting out of enemies from within (whether real or imagined), summary executions, and sustained deprivation. By his forties, he was a seasoned military leader known during the Chinese Civil War for his unflinching willingness to throw tens of thousands of troops into meat-grinder-like, high-casualty campaigns. By his early fifties, as a senior official in the newly established People’s Republic, he headed up the Anti-Rightist Movement, the crackdown and subsequent persecution of hundreds of thousands of urban intellectuals who had taken up Mao’s earlier invitation to criticize the party. And Deng himself paid a price—he was purged from the party leadership three times: first during the early 1930s; second, and most famously, during the Cultural Revolution in 1966; and third, during the dying days of the Mao era in 1976. Throughout, he resolutely soldiered on. Everything for the cause. And for Deng, the cause became at once

the ultimate goal (China’s modernization) and the organization through which it would be realized (the Chinese Communist Party). Nothing could be permitted to come between the two. In the Deng worldview, this was a statement less of philosophical principle than accepted fact. Deng saw no viable path for China’s modernization other than that which led through the Communist Party.

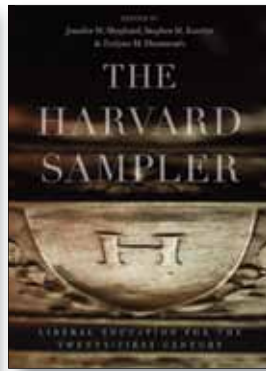
It is easy to see how such doctrinaire views led to the Tiananmen crackdown in 1989. It is much harder to understand, however, how they connected to the extraordinary economic and institutional changes which accelerated throughout the 1980s and continue today. After all, these changes, as Vogel points out, were about more than just generating growth. They were about thoroughly undercutting fundamental sources of state control—control over where citizens lived and worked, control over prices throughout the economy, control over production decisions by factories, control over contacts with the outside world, and control over what kinds of people could and could not be recruited to the party-state establishment. These were inherently political changes that at every turn met considerable resistance from party insiders. Yet time and again, Deng—determinedly, tirelessly, and relentlessly—pressed ahead against conservative opposition, including, and arguably most importantly, after the debacle of 1989.

Here, management style met commitment to mission. Deng was steadfastly determined to make China catch up, regardless of any resistance. That meant thrusting open China’s doors to the outside world, importing technology on a massive scale, allowing overseas firms in to compete on China’s own turf, establishing markets, and elevating scientific knowledge and professional expertise across society. No grand plan for the revolution was ever announced in advance. None probably existed. Step by painful step, however, the mission was advanced. When practical questions of policy arose, the question was inevitably asked, “What did the French do, what did the Americans do, what was done in Hong Kong?” As Vogel so carefully documents through an incredible array of primary

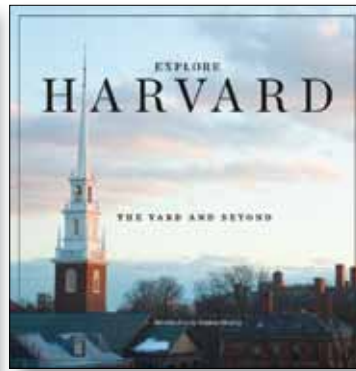
Ezra Vogel, *Deng Xiaoping and the Transformation of China* (Belknap Press/Harvard, \$39.95)



ROADS TO POWER: Britain Invents the Infrastructure State / JO GULDI



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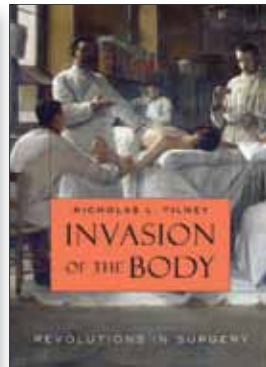
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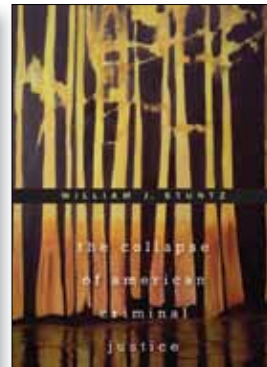
DENG XIAOPING AND THE TRANSFORMATION OF CHINA / EZRA F. VOGEL
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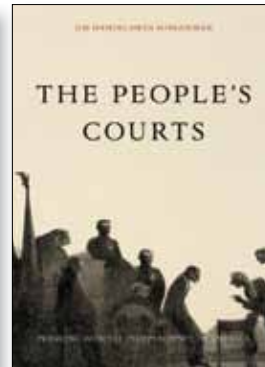
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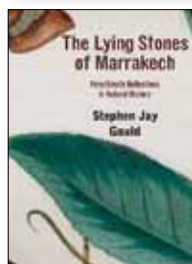
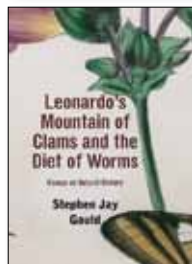
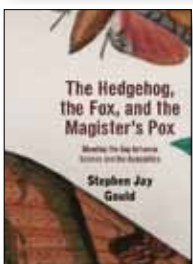
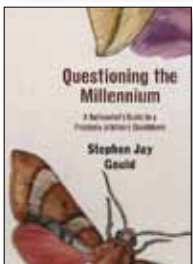
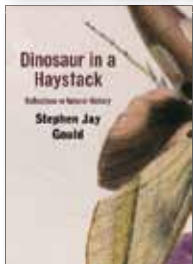


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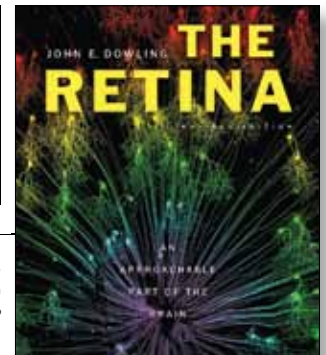
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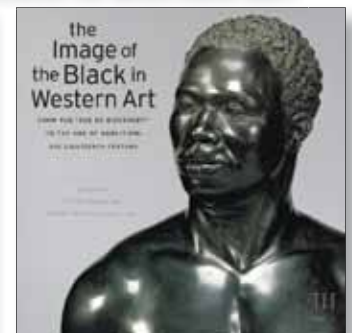
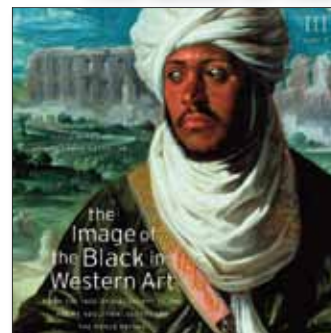
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sources and interviews, the process was messy, but the direction never changed. Those who stood in the way were ultimately moved aside. And the risks and uncertainties of what lay ahead—gargantuan though they may have been—were never permitted to impede forward motion. Problems, no matter how large, would be dealt with as they arose. Deng would not permit their anticipation, however, to be used as an excuse to forestall progress.

In the end, this style of management made Deng Xiaoping—this most doctrinaire, yet pragmatic of men—a true revolutionary. As Ezra Vogel notes, “Throughout his life, Deng kept learning and solving problems. In the process, stepping stone by stepping stone, he guided the transformation of China into a country that was scarcely recognizable from the one he had inherited in 1978.” Indeed, he established a tradition of results-oriented policy experimentation that still undergirds governmental legitimacy in China today. And he did all of this in the face of considerable risk—risk not just to his country in the event of policy failure, but risk to the party itself in the event of policy success. That is, in favoring experts over political loyalists, Deng drew into the party establishment people whose talents may have been necessary for furthering China’s modernization, but who did not likely share Deng’s unyielding commitment to single-party authoritarianism. Moreover, in undercutting the party-state’s control over Chinese citizens, Deng—whether intentionally or not—exponentially multiplied the number of voices claiming to speak for China’s future.

As Vogel so eloquently argues in this monumental biography—a capstone to a brilliant academic career—Deng Xiaoping may not have ended authoritarianism in China, but he was willing to risk planting the seeds for its ultimate demise. This most determined and hardened of men—the “Steel Factory” to those who both feared and respected him—was willing to roll the dice to realize China’s ultimate dream, modernity. ▢

*Edward Steinfeld '88, Ph.D. '96, is professor of political economy at MIT and author of *Playing Our Game: Why China's Rise Doesn't Threaten the West* (Oxford). He participated in the magazine's "Changing, Challenging China" roundtable (March-April 2010, page 25).*

New England

REGIONAL SECTION



Extracurriculars

SEASONAL

The Farmers' Market at Harvard

www.dining.harvard.edu/flp/ag_market.html

These outdoor markets emphasizing fresh, local foods and regional purveyors run through October 25.

In Cambridge: Tuesdays, noon-6 P.M.

Corner of Oxford and Kirkland streets, adjacent to Memorial Hall

In Allston: Fridays, 3-7 P.M.

Corner of North Harvard Street and Western Avenue.

THEATER

American Repertory Theater

www.americanrepertorytheater.org
617-547-8300 (box office)

• Through October 2

The Gershwins' Porgy and Bess. An American classic, directed and reinterpreted by Diane Paulus. Loeb Drama Center, 64 Brattle Street.

Continuing: **The Donkey Show**, a high-energy Studio 54 adaptation of *A Midsummer Night's Dream*. "Boogie...on down!" Oberon Theater, 2 Arrow Street.

MUSIC

Sanders Theatre

• October 21 at 8 P.M.

The **Harvard Glee Club** joins forces with the Princeton Glee Club for a concert on the night before the Harvard-Princeton football game.

• October 28 at 8 P.M.

A "Montage Concert," performed by the **Harvard Monday Jazz Band**, **Harvard Wind Ensemble**, and the **Harvard University Band**.

NATURE AND SCIENCE

The Arnold Arboretum

www.arboretum.harvard.edu; 617-384-5209

• Opening October 29, with an artist's reception on November 5, 1-3 P.M.

Trees and Gardens: Photography by Joseph Flack Weiler features intricate black and white images that reveal how trees touch our urban and rural lives.

The Harvard-Smithsonian Center for Astrophysics

www.cfa.harvard.edu/events

617-495-7461; 60 Garden Street

• September 15 and October 20 at 7:30 P.M.

Observatory Night lectures, followed by stargazing if weather permits.

FILM

The Harvard Film Archive

<http://hcl.harvard.edu/hfa>; 617-495-4700

Visit the website for complete listings.

• September 10-11

World on a Wire by Rainer Werner Fassbinder. A visionary science-fiction thriller made for German television in 1973.

• September 24-25

A Visit from Matt Porterfield. The Baltimore native will discuss his work after screenings of *Putty Hill* and *Hamilton*, which feature amateur actors and capture subtle aspects of youth and identity.

• September 26

Radical Light: Alternative Film and Video in the San Francisco Bay Area captures the punk music and art scene.

EXHIBITIONS & EVENTS

Harvard Art Museums

www.harvardartmuseums.org

617-495-9400

• September 21 at 6 P.M.

Standing Buddha. An "In-Sight Evening" talk by Dworsky curator of Chinese art Robert D. Mowry introduces a newly ac-

Left to right: Detail of "Painting Faces of Beijing Opera," by Christine Shen '12, on display in Lamont Library; from *Trees and Gardens: Photography by Joseph Flack Weiler*, at the Arnold Arboretum; from *Trash Talk: The Anthropology of Waste*, at the Peabody Museum

FROM LEFT TO RIGHT: CHRISTINE SHEN/HARVARD COLLEGE LIBRARY; JOSEPH FLACK WEILER/THE ARNOLD ARBORETUM; DARCY NORMAN/HARVARD PEABODY MUSEUM OF ARCHAEOLOGY AND ETHNOLOGY

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NEW ENGLAND REGIONAL SECTION



Two stars about to merge, a recent image from the Center for Astrophysics

quired Nepalese bronze sculpture (c. 8th-10th century) of the Buddha.

• Opening October 25

Beyond the Surface: Scientific Approaches to Islamic Metalwork explores pieces from the fourth through fourteenth centuries with special focus on adaptations from Roman and Byzantine styles.

• October 27-29

Vasari/500: Envisioning New Directions in Vasari Studies. A free symposium examining the work and life of Giorgio Vasari, courtier and architect to Cosimo de' Medici, founder of the Florentine Accademia, and author of *Lives of the Artists*, on the quincentenary of his birth. International scholars will reassess his central, if deeply contested, role in history.

Carpenter Center for the Visual Arts
www.ves.fas.harvard.edu; 617-495-3251

• September 13-October 16. Opening reception and panel discussion on September 29 at 6 P.M.

Pavel Schmidt: Franz Kafka—Verschrieben & Verzeichnet ["written and drawn"]. An exhibit featuring 49 sketches by Schmidt, a Swiss painter, illustrator, and installation artist, juxtaposed with fragments of Kafka's previously unpublished writings.

Peabody Museum of Archaeology and Ethnology

www.peabody.harvard.edu; 617-496-1027

• September 15 at 5:30 P.M.

"Trash Talk" Lecture Series

As part of the museum's yearlong exploration of what we waste, New York Univer-

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NEW ENGLAND REGIONAL SECTION

sity anthropologist Robin Nagle takes as her topic "Garbage: Learning to Unsee."

• October 10, noon-4:30 P.M.

Zooarchaeology Laboratory Open House

At this drop-in family event visitors examine bones and learn how scientists identify animals excavated from ancient sites.

• October 22, 10 A.M.-noon

Harvard Yard Archaeology Project

Families can learn about Colonial Harvard and Cambridge and what has been unearthed during a continuing excavation of the Yard. Meet at Matthews Hall.

Harvard Museum of Natural History

www.hmn.harvard.edu; 617-495-3045
Oxford Street

New England Forests, a new permanent exhibit, is a multimedia examination of the natural history and ecology of regional forests and their responses to human activity.

LIBRARIES

www.hcl.harvard.edu/info/exhibitions

617-495-2417

Houghton Library

• Through October 15

The Adventures of Thackeray in His Way Through the World: His Fortunes and Misfortunes, His Friends and His Family reintroduces the celebrated author of *Vanity Fair* on his bicentenary. 617-495-2449.

Wusku Wuttestamentum Nul-Lordumun Jesus Christ nuppoquohwussuaeneumun: The 350th Anniversary of America's First Bible. This exhibition brings together

copies of the 1661 New Testament and the complete Bible of 1663 (as translated into Algonquin and printed in Cambridge), and John Eliot's *The Indian Grammar Begun* (1666), from the Houghton Library, and some of the original printing types from the Peabody Museum. 617-495-2444.



Tozzer Library

• Continuing: *Native Life in the Americas: Artists' Views* showcases the work of little-known Native American and women artists. 617-495-1481.

Lamont Library


• Continuing: A display of images from the Harvard College Annual International Photo Contest. 617-495-2455.

Events listings also appear in the *University Gazette*, accessible via this magazine's website, www.harvardmagazine.com.

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It took two orthopedic surgeons, one rheumatologist, one neurosurgeon, and a devoted mother to get Courtney back on her feet.

A few years back, Courtney was a college basketball player. But inexplicably, she gradually became debilitated by severe bone and joint pain. As her mother Muriel says, in a relatively short time, Courtney “went from being able to run up and down a basketball court to struggling to walk a hundred yards.”

Referrals led Courtney here, to one of the most advanced orthopedic centers in the world. A multidisciplinary team found her most urgent problem was a malformation of the brain—Arnold-Chiari—a life threatening condition. An orthopedic surgeon and a neurosurgeon performed one of the most delicate and difficult surgeries imaginable.

But Courtney was afflicted with another

serious issue, rheumatoid arthritis—unusual for her age. She is now under the care of physicians in our rheumatology program, one of the largest and most comprehensive in the country.

“Brigham and Women’s has made all the difference,” says Muriel. A significant amount of Courtney’s mobility has returned; and though she doesn’t play basketball now, she’s coaching it.

Muriel adds, “It’s a hospital that really seems to pride itself on including the family.”

To see more of Courtney and Muriel’s remarkable story, or to make an appointment at the Orthopedic and Arthritis Center, visit everythingpossible.com.



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25 Years in Harvard Square

What's changed, what hasn't, and why • by Nell Porter Brown



The Square has always attracted those who want to shop, eat, gawk, and play.

ciation, which celebrated its centennial last year. “But the young people who are just discovering the Square now will have their own favorite places and memories, and come back in 60 years and will still say, ‘It’s not the way it used to be.’ The Square is, and I hope always will be, a unique place.”

A dynamic microcosm, the Square has keenly reflected its times throughout its history. During the last 25 years it has changed dramatically, due in part to a real-estate boom and demand for more offices, housing, and parking spaces. “There are the obvious changes of new development, which is larger in scale

A VISITOR from Kansas City who had never been to Harvard Square recently strolled through it and then enjoyed a grilled salmon dinner at The Harvest restaurant. “The Square is wild,” the man said, his eyes gleaming with appreciation. “There’s so much going on. The street musicians. The restaurants. The bookstores. I’ve never been anywhere like it.”

Those who knew the Square back in *their* day were tempted to respond, “Well, you should have seen The Harvest when it first opened in 1975, or....” And out would spill tales of the hipness of The Blue Parrot, the mirrored bathroom of the Algiers basement café, the ice-cream counter at Bailey’s, sandwiches at Elsie’s, foreign

films at the Janus. And, of course, burgers and banter at the Tasty, whose controversial loss in 1997 and later transformation into an Abercrombie & Fitch—and now a Citizens Bank—is still a source of outrage among many.

For every generation, it seems, the Square—a small commercial district in a small city—inspires disproportionately intense emotion, even devotion. Its businesses represent one’s youth, or bohemian leanings, nightlife, intellectual adventures, and political activism—whatever interest held sway during one’s time in Cambridge. “Alumni and others who come back to the Square may say, ‘It’s not the way it used to be,’” says Denise Jillson, executive director of the Harvard Square Business Asso-

than the older buildings,” says Kathy Spiegelman, a former long-time University planning administrator. Upscale retailers and service-oriented establishments that catered to visitors followed—“more chain stores, more banks and phone stores,” she notes, “and fewer bookstores, no music stores, and fewer local residents using the Square for commercial needs.” Since 1990 the number of booksellers alone has dropped from 25 to around seven. Just this summer, the Square lost the Globe Corner Bookstore and Curious George Books and Toys.

THE CURRENT LOOK of the Square (including structures from the 1980s and 1990s) began taking shape with the Red

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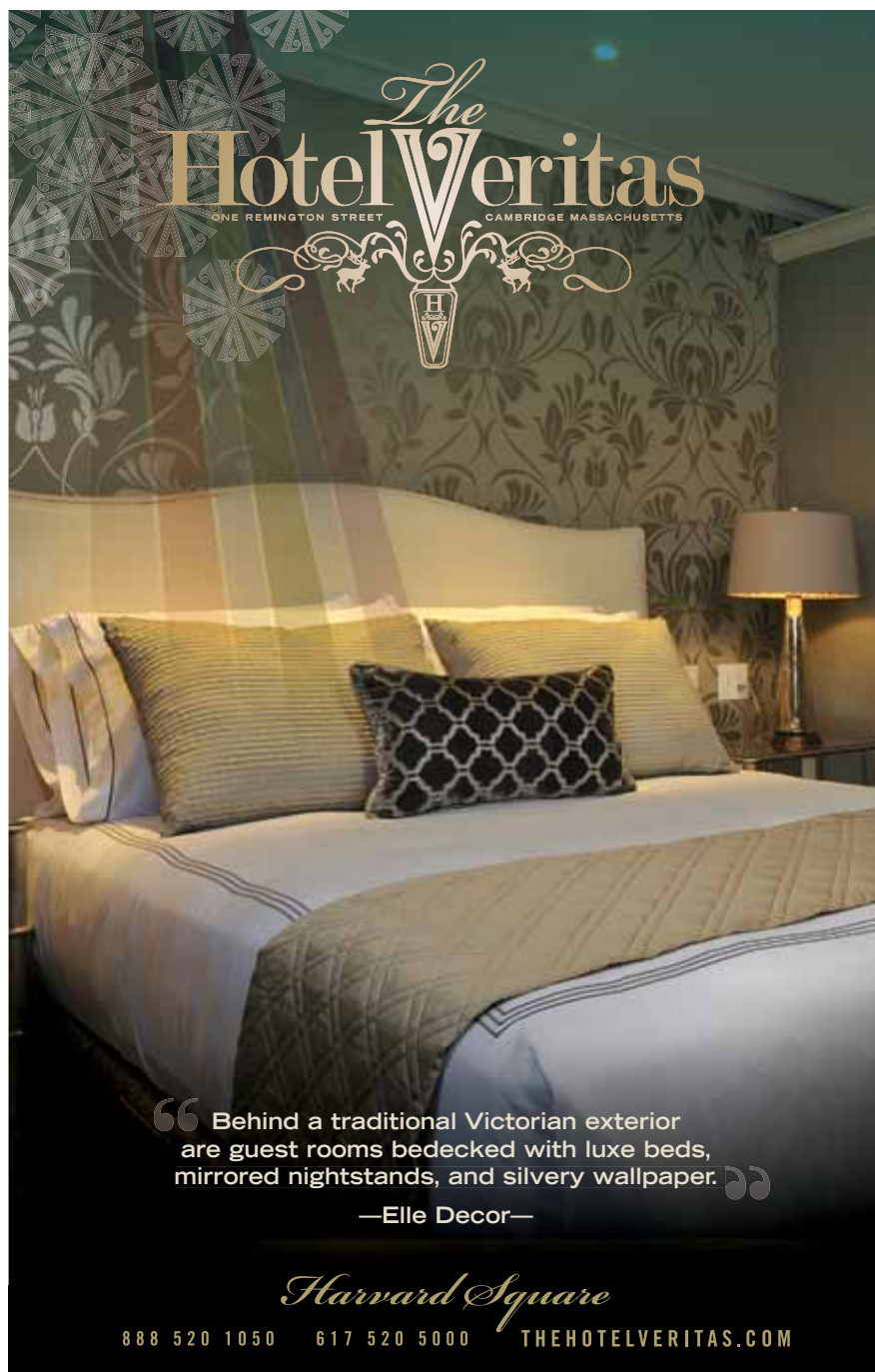
NEW ENGLAND REGIONAL SECTION

Line subway extension project. The discombobulating construction, which included opening, then closing, a canyon-like chasm in the heart of the Square, began in 1978; the new \$72-million subway station opened in 1983. Many people were “afraid suburbanites would park at Alewife, get on the subway, and go right through to Boston,” so local businesses would suffer, says Gavin Kleespies, executive director of the Cambridge Historical Society. Some people say the foot traffic never did recover, but Kleespies says business actually increased.

The Square has been a thriving commercial area since before the American Revolution, and long supported several department stores, including a Saks Fifth Avenue branch; the last one, Corcoran’s, closed in 1987 (in its place is Urban Outfitters). It even had chains and franchises, according to Charles Sullivan, M.C.P. ’70, executive director of the Cambridge Historical Commission, including a Howard Johnson’s (later the site of the Curious George bookstore), the Waldorf Cafeteria, and the Hayes-Bickford.

During the 1960s and 1970s, the Square was catapulted to national prominence as a hub of radical and creative activity with its cafés, coffeehouses, diners, bars, and music clubs, like Club 47 (which morphed into Passim and now Club Passim, still a music venue, but also home to the Veggie Planet restaurant), as well as numerous book and record shops. Add to the mix hippies and buskers, freewheeling social and political happenings, and a general overflow of youthful energy day and night. “Beginning in 1968,” Mo Lotman wrote in his 2009 book, *Harvard Square: An Illustrated History Since 1950*, “the Common was transformed every warm Sunday afternoon into a bohemian free-for-all, with drum circles, bead-sellers, tranced-out dancers, and a ton of pot.”

Following the tumult and protests of that period, the gleaming new underground subway complex (which many found unappealing compared to the 1912 station with its wooden escalator), when it finally opened, “radically reshaped what Harvard Square looked like,” says Kleespies, a Cambridge native. The central subway entrance, topped by glassed-in escalators, sat beside a newly constructed



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A veritable bird's-eye view of Square and the restored 1912 subway headhouse, home to Out of Town News.

concrete plaza known as The Pit. Vehicular traffic was re-routed around that plaza (and the iconic Out of Town News stand was housed in the restored, original subway headhouse) to create a more pedestrian-friendly milieu, Sullivan explains. Dignified red brick sidewalks replaced ugly sections of asphalt. Neoclassical light fixtures replaced aluminum highway-style goosenecks. Brattle Square was reconfigured to make a permanent outdoor performance space with granite bollards.

In 1985, the Charles Hotel complex opened; its condos, spa, and jazz club further raised the Square's commercial stature. The hotel was built on land that had recently been cleared of the transit authority's car barns, while the adjacent John F. Kennedy Park—dedicated in 1987, 12 years after plans to site the Kennedy Library there were scuttled (largely by opposition from the Harvard Square Defense Fund)—replaced the gritty, century-old railway and trolley yards. The wall between the Harvard Kennedy School and the path from Eliot Street to the park, Sullivan notes, is the only structure left over.

The mid 1980s also brought the four-story Eliot Street Garage (1985), with first-floor retail space, across from the Kennedy School, and the nearby brick-and-glass office building One Mifflin Place (1987), which replaced the old structures at 119-123 Mount Auburn Street where tenants included The Blue Parrot, the Ha'Penny Pub, and Vincent's, according to Lotman. At the other end of the Square, meanwhile, a faux Colonial Gulf station with white columns and a blue cupola, at the foot of Quincy Street, was razed by Harvard to make way for the Inn at Har-

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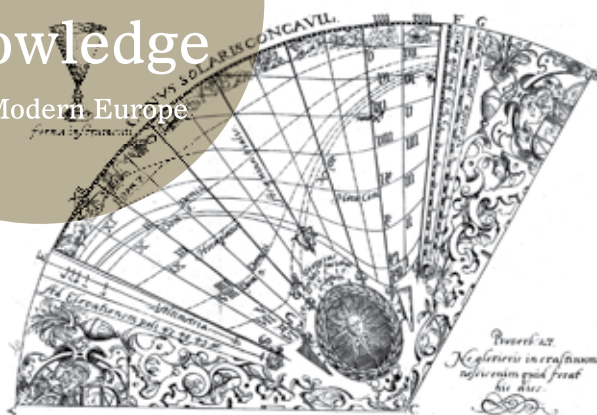
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vard and a diminutive public park, which opened in 1991.

To many, these changes cleaned up grub-biness and replaced shabby-looking structures. To others, they eroded the Square's authentic character, paving the way for yuppies instead of the "real people" who had long thrived there. "These projects combined to change not only the look of Harvard Square, but also the mindset," according to Lotman. "[The Square] was added to the National Register of Historic Places. An 'overlay district' was created by the city council to limit and oversee development. Harvard Square had become self-aware." (Test your own memory by looking at Lotman's list of the "places of yore" that once served the Square at www.harvardsquarebook.com/yore.html.)

Development continued during the 1990s, fueled by the ending of rent control in Cambridge. The 1994 decision created "a sea change in Cambridge real estate," Kleespies reports. "The number of permits pulled, the buildings that were gutted and/or renovated, went way up. This changed who was living in Cambridge and in and around Harvard Square." In parallel, development aimed at higher-rent commercial and retail tenants took place.

The resulting gentrification may be epitomized by the battle over redevelopment of the historic Read Block in the heart of the Square, which contained, among other long-time businesses, two icons: the Tasty and the Wursthau ("Gutes Essen," its large sign boasted). The two shared a wall as well as about 80 years in business. The Tasty was a 16-stool diner open 24/7 and populated by politicians, students, indigents, and famous visitors, all seeking easy

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conversation and a double cheeseburger with fries. A similarly devoted clientele plunked down on hard benches to even heavier fare at the Wursthau.

In 1994 the Read Block was bought by Cambridge Savings Bank (itself a Square veteran since 1834) and plans were laid to replace it with a six-story office building. Despite efforts by many residents and the Historical Commission (which negotiated to preserve the building's façade), the Wursthau (owned by Frank Cardullo, whose grandchildren still run his gourmet deli across the street), closed in 1996, and the Tasty the following year. "More than any other ghost, the late Tasty Sandwich Shop haunts Harvard Square's collective consciousness," wrote Lotman in a two-page spread about the institution. (Local filmmaker Federico Muchnik captured the spirit of the diner and its demise in a stirring documentary, *Touching History: Harvard Square, The Bank, and the Tasty Diner*; see www.federicomuchnik.com.)

The new era shuttered many other beloved local businesses (the Janus Cinema, Elsie's, Patisserie Française, Pangloss, and Reading International Bookstore) as rents rose, more chains moved in, and the consumer base changed. The Square shifted away from "being a commercial center used mostly by Cambridge residents and Harvard students, staff, and faculty for day-to-day activities," Kleespies says, "toward more of a shopping district for special occasions and gift-buying for people visiting from out of town." Not all the changes are due to Square-specific demographics and economics, of course. Larger forces like the Internet and technology took out the book and music stores that drew hordes of youthful browsers. For those who are counting, the booksellers remaining include: Harvard Book Store, Grolier Poetry Book Shop, Raven Used Books, Schoenhof's Foreign Books, Harvard Book & Binding Service, James & Devon Gray Booksellers, and the Harvard Coop. "For alumni coming back, it's a terrible shock," Sullivan notes. "But we've been like frogs in the boiling pot; the



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changes happened so gradually that we got used to it and it wasn't disturbing until it was too late."

BUT ALL IS FAR FROM LOST—as the fresh perspective of a Midwestern visitor reveals. Spiegelman, Jillson, and others choose to point to the number of new independent stores that have opened within the last decade. "Places that have been opened by young women entrepreneurs... are doing very well," Jillson reports, including the clothing stores Mint Julep and Forty Winks, TistiK (artisanal jewelry), Crema Cafe, Sweet (for cupcakes), and Follow the Honey. "What does that tell you? That their rents are reasonable," she says. "They are not places with a lot of money, but they have good business plans and vision and landlords who are giving them a chance. [Although] you still have to sell an awful lot

of cupcakes and coffee to make the rent."

In fact, nearly 80 percent of the businesses in the square are still locally

owned, according to Jillson; 15 percent are national chains and 5 percent are regional chains, such as Boloco (burritos). The



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NEW ENGLAND REGIONAL SECTION

idea that chains have overrun the Square stems from the fact that all the banks are clustered in the center near the subway, she adds, and because chains have the most retail space. "They need it and they can afford it," she says, "so visually, they are what people notice first. The reality is, you need anchor stores and you need a

Fixtures and Followers

The lists below include many of the oldest and newest Harvard Square businesses, according to information provided by the Harvard Square Business Association.

OLDEST

- Cambridge Savings Bank (1834)
- Cambridge Center for Adult Education (1876; a nonprofit, rather than a business)
- Harvard Coop (1882)
- Leavitt & Peirce (1883)
- Cambridge Trust Company (1890)
- J. August (1891)
- La Flamme Barber Shop (1898)
- Alice Darling Secretarial Services, Inc. (1913)
- Felix Shoe Repair (1913)
- Dickson Bros. True Value Hardware Store (1920)
- Brattle Square Florist (1925)
- The Sheraton Commander Hotel (1927)
- Grolier Poetry Book Shop (1927)
- Harvard Book Store (1932)

NEWEST (2010 and 2011)

- Follow the Honey
- Al's Sandwich Shop
- Chutney's
- Clover Food Lab
- Forty Winks
- Hotel Veritas
- The Maharaja
- Otto Pizza
- Pinkberry
- Russell House Tavern
- Starbucks Harvard Square (bi-level store)
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mix of retailers”—both local *and* national.

More interesting than who has left the Square, Spiegelman thinks, is who has remained, and how (see “Fixtures and Followers,” on page 36M). “For every Wursthau that has disappeared, there is a Cardullo’s that has stayed,” she notes. “Elsie’s is gone but Darwin’s,” a breakfast and lunch spot, now has two locations that bookend the Square. She still gets her hair cut at Gino’s and loves to shop for jewelry and artisan-made home goods at Motto and MDF (each opened in 1988). “There is no one better than Joe at Rizzo Tailor, and Pure Line Skin Care upstairs on JFK Street kept me looking young,” she adds. “In other words, with all of the changes and loss of small businesses, as a Harvard Square office worker looking for high-quality services, I was able to cover a lot of territory.”

Harvard’s own impact on the Square cannot be overstated. Opposition to its real-estate expansion across the years is well documented. On the other hand, Kleespies

notes, the University is a stabilizing factor that draws visitors from around the world and has been generally “responsible toward supporting independent tenants that probably would not have survived if their landlords were totally commercial. Harvard can be very heavy-handed with local businesses, but it has also protected the smaller places.”

Spiegelman points to Harvard’s efforts to keep a mix of businesses in the Square. It took over the lease at the corner of Brattle and Church streets after Sage’s Market (in business for 92 years) closed in 2000, and attempted to find another grocery store. The space was leased for a while to a cell-phone store instead, but now does house the Market in the Square. In another move to control development, Harvard purchased the Winthrop Street building that is now the Red House restaurant (next to Charles Kitchen), she adds. The Holyoke Center arcade was revamped within the last decade “to introduce more

vibrant commercial activity along the path traveled by the River House students and in a building with a large office worker population,” she says. “But the primary tenants have been restaurants, and the restaurant businesses have changed frequently, as is common in that sector.”

IF THE SQUARE had been subjected to the local planning agenda of the 1960s, Charles Sullivan reports, “The Cambridge Redevelopment Authority would have replaced everything with buildings on the scale of Holyoke Center [completed in 1966], which replaced a whole block full of traditional buildings. The redevelopment plan would have done just about the same thing on every block.”

As it happens, development in the Square has slowed significantly since 2000. Demand for offices and housing has waned. Local planning



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Felix Shoe Repair and J. August are among the oldest Square businesses; J.P. Licks is one of many new dessert spots.

policies have also shifted development to the Alewife and Kendall Square communities.

In 2000, Cambridge also established a Harvard Square Conservation District that gave the Historical Commission more power over proposed renovations and construction, including signage. “Before that, we only had jurisdiction if there was demolition involved,” Sullivan explains. “Harvard supported the conservation district and down-zoning [in 1986 new building heights were capped at 85 feet]. They finally realized that Harvard Square was their front door, and that if it was allowed to be developed as it looked like it was going to be, it would be detrimental to the University as well as aggravating to alumni.” Spiegelman responds that the University’s “interests have leaned toward preserving



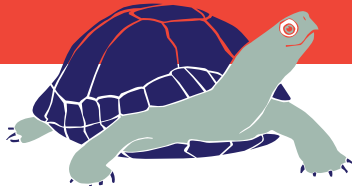
Harvard Square as a place with character that is friendly to pedestrians, familiar to alumni, and serviceable to students.”

And it is. Despite the recent economic downturn, the Square is about 98 percent

occupied, with a healthy mix of services and goods, according to Jillson of the business association. She is frustrated by those who bemoan the Square’s changes and say they support local businesses but haven’t,

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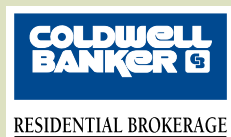
for example, taken in a film at the Brattle Theatre in more than a year. “People can sit around philosophizing all day long, saying, ‘There are too many banks, too many phone stores,’” she says. “But the bottom line is that students are out there shopping at Urban Outfitters and American Apparel and that’s their choice and if other people want to see eclectic, unique, funky businesses, that’s also a choice. Support those businesses. If you don’t go to the Brattle to see a film, then send a \$50 check to its nonprofit Brattle Film Foundation so it can stay there.” (The Brattle, which now serves beer and wine during movies, in 1956 became one of the first movie houses to bring foreign films to Americans. It now offers a diverse range of movies, performances, readings, poetry slams, film festivals, and special events, such as its annual Watch-A-Thon fundraiser.)

Spiegelman is among those who believe the Square will continue to fold changes into its essentially dynamic character. She misses Bob Slate Stationer, which closed its three locations earlier this year after 78 years in business (due to both declining sales and advancing age of its owners). But she is increasingly fond of Clover Food Lab, which opened last fall on Holyoke Street. “It’s not pizza. It’s not burritos,” she says bluntly. “It’s a healthy, fast menu with a no-nonsense space and delivery menu.”

Clover morphed from a lunch-truck business into a small restaurant that emphasizes fresh, innovative, and inexpensive vegetarian food—like its soy BLT sandwich—priced at \$3 to \$5. People eat in a loft-like, bi-level, white dining space with a full view of the young, good-humored cooks. Casual servers stand at the entrance taking orders by iPhone and payment, dispensing cash from metal coin-changers attached to their belts. Novel and lively, Clover is a big hit with students, office workers, professors, and everyone else who happens across it. It’s not the Tasty. It’s not Elsie’s. But compared to what’s offered in the multitude of malls and sprawling roadside shopping districts across America, it is, relatively speaking, “wild, man.”



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RESTAURANTS COME AND GO, in the Square as elsewhere, but, happily, some standbys endure.

Casablanca (40 Brattle Street, 617-876-0999; www.casablanca-restaurant.com) opened in 1955 as the Club Casablanca, a dark and smoky basement watering hole that drew crowds of artists and intellectuals, along with everybody else who sought a looser social milieu. It was a hip haven with a beloved jukebox. Over time, adjacent businesses in the



same Brattle Theatre building came and went: various bars and boutiques, including Truc. In 1972 there was a popular disco upstairs. But in a sign of the often unpredictable times, the club's co-owner was shot dead one night by an angry customer.

That's unlikely to happen these days in the Square, or at the current Casablanca, now a full-service restaurant. It inhabits the original back bar and dining room, along with a front dining area that borders Brattle Street. (Algiers Coffee House, which



opened in 1971, is its current upstairs neighbor.) There is no longer any smoking of anything inside Casablanca. But with its ochre-colored walls, ceiling fans, and a few

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potted palms, the place does have a faint whiff of an “anything goes” Moroccan outpost. Window shutters block out distractions from the street; wicker settees and benches in one corner are leftovers from a previous bar that also briefly cashed in on the *Casablanca* movie theme. The colorful murals depicting characters and scenes from the classic film still adorn the walls.

Casablanca thrives, packing in people for an eclectic mix of Mediterranean-style

food and some of best-made cocktails in town. The attentive waitstaff do not rush you; the place feels relaxed and easy to be in on any occasion. The prices help. One can make a meal of deviled eggs (\$4) and ricotta dumplings (\$5), or the tasty lamb taco with slices of



lemon (\$3). Full entrées are also available, such as the fresh sautéed bluefish topped with spices, accompanied by almost-bitter pea tendrils and vine leaves and fried green tomatoes with a dollop of *charmoula* (\$24).

Another veteran of the Square, **Charlies Kitchen** (10 JFK Street, 617-492-9646; www.charlieskitchen.com), opened in 1951. It serves a mix of beef and veggie burgers, sandwiches, and dinner entrées—all accompanied by fries—and in recent

years has opened a cheerful urban outdoor garden with 18 beers on tap. **Leo's Place Diner** (35 JFK Street, 617-354-9192), established in 1949, is another casual spot. The current owners are brothers who do all the cooking



at this 25-stool breakfast and lunch joint, which has yellow counters and lots to look at—including framed photos of musicians and actors (Ben Affleck is a fan of Leo's)—while eating from a typical diner menu, complete with terrific home-made soups. For more voluptuous burgers with clever names, hit **Mr. Bartley's Burger Cottage** (1246 Massachusetts Avenue, 617-354-6559; www.mrbartley.com), opened in 1960. The politically charged side of the menu offers the “Scott Brown burger” (with bacon, American cheese, onions, and jalapeños) alongside the “Ted Kennedy” (“a plump, liberal amount of burger with cheddar cheese and grilled

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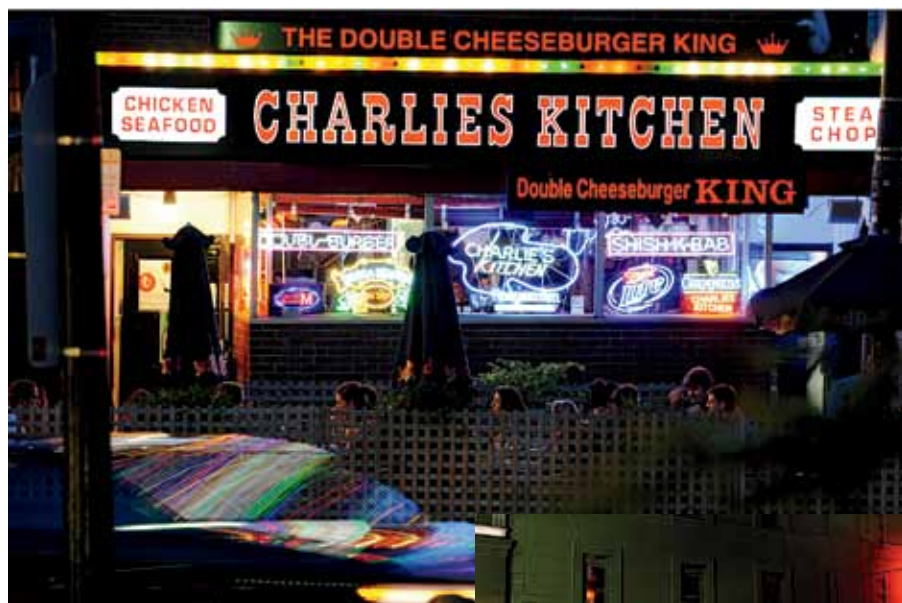
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mushrooms"); apolitical types might opt for the leaner "Drew Faust," a veggie burger with red peppers, feta, tomato, red onion, and garlic mayonnaise. All these are served, along with soups and salads, Grape-Nut custard and fresh lime rickeys, in a jovial atmosphere in a jam-packed room that also features framed, autographed pictures of the celebrity clientele. Next door to Bartley's is the Hong Kong (1238 Massachusetts Avenue, 617-864-5311; www.hongkongharvard.com), which debuted in 1954 and just had its giant sign restored, updated with LEDs. A restaurant, lounge, nightclub, and comedy club (many of the spaces have been newly renovated), this Square mainstay has fed and entertained a largely student crowd for decades. And yes, the scorpion bowl made from "a secret family recipe of alcohol and juices" is still on the menu.

For a wholly different atmosphere, head around the corner to the European-style Café Pamplona (12 Bow Street, 617-492-0352). Serving coffee and soups, salads, and sandwiches for dining in or out on the



patio, Pamplona opened in 1959 as one of several such cafés in the Square that first introduced Cantabrigians to the joys of lingering over *really good* coffee with friends or colleagues.

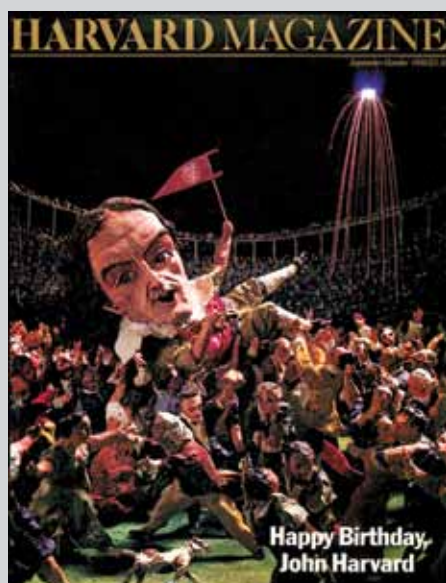
Grendel's Den and Restaurant (89 Winthrop Street, 617-491-1050; www.grendelsden.com), meanwhile, is celebrating its fortieth anniversary of healthy, affordable food. Gone is the laudable salad bar, but the half-priced dining hours (check the website for details) still lure crowds, as do its vegan and wheat-free menu items. Its former high-ceilinged dining room is now home to the pricier Upstairs on the Square (91 Winthrop Street, 617-864-1933; www.upstairsonthesquare.com), which began life in 1982 as Upstairs at the Pudding and is still going strong with innovative cuisine served amid quirky, colorful décor. For similarly higher-end, inspired food, head to the Harvest, which opened in 1975 and was named one of the best pick-up joints by *Playboy* in the early 1980s. After closing briefly, it was reopened in 1998 by new owners who polished its interior but kept the emphasis on fresh "contemporary New England cuisine." ~N.P.B.



Photographs by Stu Rosner



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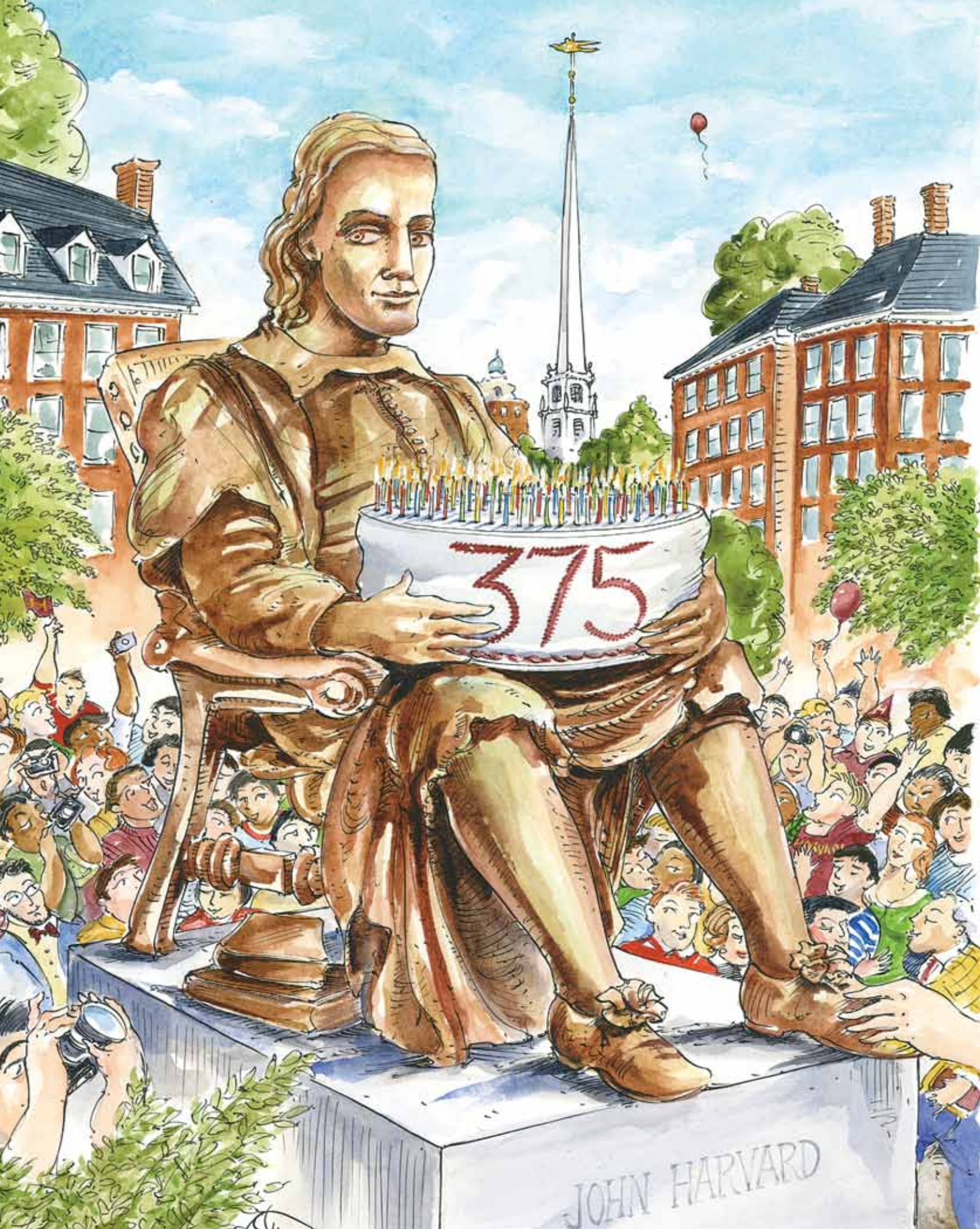


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Cardell's, The Tasty, Tommy's Pizza: Which defunct Harvard Square establishment do you miss the most? Vote in our poll.



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The Constancy of Change

SNAPSHOTS OF HARVARD'S PAST QUARTER-CENTURY

Illustrations by Mark Steele

GREAT UNIVERSITIES endure—in the United States, none more so than Harvard. It is startling to read through the list of 102 academic symposiums presented during the University's 350th anniversary extravaganza and to recognize how many of the participants remain active professors today.

But such institutions do not stand still; this University has changed significantly in the past 25 of its now 375 years, and promises to continue doing so. In the last five of his 20 years as president, Derek Bok focused on Harvard's international role as the Iron Curtain rusted apart and China's surge gathered momentum—and, looking decades ahead, initiated the University's land purchases in Allston. Neil L. Rudenstine effected fundamental organizational changes (from the provost's office to Radcliffe's rebirth), emphasized interdisciplinary scholarship, championed diversity, and launched an imaginative international initiative. He worked relentlessly on a successful fundraising campaign; as the economy cooperated and federal support for research soared, those resources underlay the investments in facilities, faculty growth, financial aid, and the sciences made during Lawrence H. Summers's administration. Back for an interim year, Bok mustered support for science, approved the first Allston construction (later halted for financial reasons), and re-focused attention on teaching and learning. Drew Faust has enlisted faculty members to plan Harvard's future in the arts, reemphasized access and inclusion, drawn her new decanal team together to weather the severe financial downturn, brought University governance into the twenty-first century—and set in motion what will surely be an enormous capital campaign to advance the academic agenda.

Here, to put Harvard in perspective, are snapshots of an evolving institution midway from its 350th anniversary to its 400th.

International Harvard

Bok read from "a fictional history of Harvard written on the occasion of our 400th anniversary."...[He] went on to describe a twenty-first-century multinational Harvard: branch campuses in 20 countries linked by teleconferencing and communications satellites; foreign students comprising one-third of the enrollment at the mother campus; a six-month overseas work-study requirement for graduation; and an Institute for International Development running projects worth \$100 million a year in more than 30 countries.

His future history recorded a downside to these initiatives...[including] the Harvard president looking "more and more like a zombie" as constant jet lag causes her to fall asleep during speeches and to address major donors in confusing languages.

~July-August 1987 (reporting on Commencement)

DEREK BOK BROUGHT the world to Harvard Yard often during his presidency—never more so than toward its conclusion, as the

Commencement guest speakers from 1986 on included NATO Secretary General Lord Carrington; the Federal Republic of Germany's president, Richard von Weizsäcker; Costa Rican president Oscar Arias; Pakistani prime minister Benazir Bhutto; and German chancellor Helmut Kohl. After Bok spent three months in India, Israel, and Spain during an early-1987 sabbatical, he returned with an expansive vision for engaging Harvard with the world, fancifully outlined in that year's Commencement address. The Faculty of Arts and Sciences (FAS) followed suit, appointing an associate dean for international affairs—but by the time his report recommending a more international student body and international exchanges reached the faculty for debate, the administration was in transition, and FAS deficits discouraged ambitious initiatives.

Nevertheless, as Eastern Europe opened to study and two-way scholarly exchanges, and Asia's growth accelerated (despite the brutality in Tiananmen Square), two developments during Neil Rudenstine's tenure underscored the University's expanding reach. First, the president willingly subjected himself to the jet lag Bok foretold, famously drafting the case for a \$2.1-billion capital campaign while flying back from Asia; touring Europe, Mexico, Brazil, and Argentina; and making separate visits to Hong Kong, Beijing, and Taipei, and then Tokyo, Seoul, and Shanghai in the first months of 1998. Second, in a partnership with David Rockefeller '36, G '37, LL.D. '69, Rudenstine built the Rockefeller Center for Latin American Stud-

ies, complete with offices in Santiago and São Paulo, and, today, dozens of faculty visits annually and hundreds of student trips for research, internships, and service, spanning Harvard's schools. Other area centers grew, too.

The peripatetic Lawrence Summers—a legendary traveler during his earlier U.S. Treasury service—broadened the itinerary still further, planting the Crimson flag in Chile,

and in India on an extended trip toward the end of his term. Perhaps the most consequential change effected was FAS's decision to alter its policies, making it vastly easier for students to study abroad during their College careers. Another gift from Rockefeller, later in the decade, made student access to international experiences essentially universal and need-blind. In her own travels (to Europe, China and Japan, southern Africa, and, most recently, South America), Drew Faust has made it clear that Massachusetts Hall is a global hub—and that any future president will find it easy to meet with Harvard students almost anywhere.

During the past three decades or so, the proportion of students enrolled full-time at Harvard from other nations has probably quadrupled, to more than 4,100 of 19,200 in 2009. International



HARVARD NEWS OFFICE

Neil Rudenstine visiting the Forbidden City, Beijing, 1998

al students continue to be far more common in the professional schools, but even the undergraduate population has become more global (although admissions are far from “passport-blind,” to use one administrator’s vivid phrase; see page 52). Graduates have spread widely: in the 2010 *Harvard Alumni Directory*, some 83,000 of 320,000 listings are for addresses outside the United States. There is a vice provost for international affairs, whose Harvard-Worldwide website shares information about research and other engagements globally. Three schools now have foreign-born deans: public health’s Julio Frenk (Mexico), design’s Mohsen Mostafavi (Iran), and business’s Nitin Nohria (India).

And though Harvard has so far eschewed the rush by other American universities to establish campuses in China or the Persian Gulf, its venerable Renaissance research center at Villa I Tatti (outside Florence) has now been complemented by Harvard Business School (HBS) research centers in Hong Kong, Buenos Aires (with branches in São Paulo and Mexico City), Tokyo, Paris, and Mumbai. The vast Shanghai facility, commissioned in 2010, is the first to have full teaching facilities for HBS executive-education classes. A few other outposts—devoted to Hellenic studies, AIDS care, and training programs—are scattered from Greece and Botswana to Ho Chi Minh City.

Information Technology

Some 8,000 microcomputers—also known as PCs (personal computers)—now call the Harvard campus home....A secondary need is for a function traditionally performed by secretaries: collecting and forwarding messages. It is relatively easy and inexpensive to provide service enhancements such as “voice mail” as part of a new telecommunications system....

~September-October 1987

AS HARVARD STRETCHED GLOBALLY, it also became much more closely linked locally (and to an ever-more-wired world). Technology had already begun to change teaching a quarter-century ago: this magazine reported in mid 1986 that “computerization of M.B.A. courses—another innovation—continued on schedule. This June’s graduates were the first class required to use IBM personal computers for assignments. By making data analysis faster... the computers give students more time to focus on the managerial considerations that remain the core of the M.B.A. program.”

More expansive visions—of modern telephony, with miracles such as voice mail, and data communications—were already in the sights of the 240-person Office for Information Technology as it sought Corporation approval, in 1987, to fund a \$20-million to \$30-million campus network. Six years later, the Yard dorms were wired into the University’s fiber-optic system. By 1995 the Internet exceeded e-mail as Harvard’s most-used online service, and pioneering professors began building course websites; by 1998, some 300 FAS courses had a Web presence.

Today, information technology has become inseparable from re-



search, teaching, and learning. The multiple tens of millions of dollars Harvard spent redoing its major libraries in the past two decades readied them for digital use. The 1992 agreement to form a common electronic catalog now seems a quaint harbinger of tools to come. The proliferation of electronic resources, databases, and technologies figures prominently in the changes in library management and organization announced in late 2010. At the “Harvard IT Summit” held this past June, the University reported, nearly 1,000 technology staff members turned out. Although Summers in 2001 became the first president to have a personal computer in his office, secure BlackBerry’s are now de rigueur for senior administrators and Harvard crossed the half-million mark in Facebook fans this July (just ahead of LSU and Ohio State).

Faculty members have led the development of sophisticated geographic information systems, elaborate databases to map Song-dynasty China’s bureaucrats, and “digital humanities” techniques able to mine information from individual texts—or thousands. Undergraduates in an early-American history course accessed online tax records to reconstruct the colonial economy down to the household level. A student confessed to accessing *all* of the research materials for his thesis from his bedroom. A professor who studies social capital acknowledged having closer professional (and personal) ties to research colleagues abroad, with whom he communicated daily, than to his next-door neighbor.

And further uses of the technologies are already arising. As the new undergraduate General Education courses emphasize art and art-making, many have begun to require visual and video products in lieu of, or alongside, papers. The Extension School offers about 150 of its courses online, to a global student body. And real-time, interactive cases, involving decisionmakers from around the world, are within reach for professional-school students enrolled on campus.

Inclusion and Access

...student diversity has, for more than a century, been valued for its capacity to contribute powerfully to the process of learning. It has also been seen as vital to the education of citizens—and the development of leaders in heterogeneous democratic societies such as our own.

~Neil Rudenstine, “Diversity and Learning,” *The President’s Report*, 1993-1995, excerpted March-April 1996

THE BROAD MOVEMENT to diversify student bodies—forcefully so in selective private colleges and universities, starting in the 1960s—continued throughout Derek Bok’s administration. Faculty composition changed more slowly, given Harvard’s weighting toward tenured appointments, but gathered selective momentum in recent years, with more women appointees (even as underrepresented minorities remained a very small part of the professoriate; see page 48). Against the backdrop of that larger movement toward greater diversity, access, and inclusion, certain moments stand out.

First, there were symbolic, highly visible personnel decisions. In 1987, Bok tapped Sally Zeckhauser, then head of real estate, as vice president for administration—the first woman to achieve that rank in Massachusetts Hall. Judith Richards Hope, J.D. ’64, joined the Corporation in 1989. And in 1990, poetry critic Helen Vendler

became the first woman elevated to the rank of University Professor. Neil Rudenstine appointed a second woman to the Corporation, Hanna Holborn Gray, Ph.D. ’57, and Conrad Harper, J.D. ’65—the first person of color to serve. He named Cornel West and William Julius Wilson University Professors, integrating those ranks, and further populated the vice presidencies with women. Board of Overseers elections yielded many more women as well.

The 1997 adoption of gender-neutral language for “Fair Harvard” signaled a culture shift, as did Rudenstine’s deliberate outreach to world leaders such as United Nations Secretary General Kofi Annan and South Africa’s Nelson Mandela, whose visits electrified campus on successive days early in the fall term of 1998.

Both Rudenstine and Bok went out of their way to serve as forceful advocates for diversity and affirmative action—the former in the second of the only two presidential reports he issued, the latter in *The Shape of the River* (1998), a highly influential analysis of affirmative action in admissions co-written with William G. Bowen,

president emeritus of Princeton. Responding to the Fifth Circuit Court of Appeals ruling in the *Hopwood v. Texas* affirmative-action case, Rudenstine issued a blunt public statement (“I respectfully and strongly disagree”) and rallied other presidents to the cause.

Lawrence Summers took a different tack entirely. Early in his presidency, he laid out the case for economic inclusiveness, urging financial aid for students studying for careers in low-paying public service—and backed that up with allocations of scholarship funds. In 2004, he set off a national debate by launching the Harvard Financial Aid Initiative, cutting the parental cost of sending a child to college for families with incomes below \$60,000—a step that other institutions emulated, and Summers and Drew Faust progressively expanded and defended even when financial crisis cramped University funds later in the decade.

But Summers’s suggestions that affirmative action and diversity programs might conflict with merit appointment of faculty brought him into conflict with other members of the University community. There was vigorous internal debate about what position Harvard would take in the Supreme Court review of the University of Michigan’s race-conscious admissions procedures in the spring of 2003; Summers finally agreed to support an amicus brief crafted by Laurence H. Tribe (now Loeb University Professor). Given that context, which overlapped long discussion in FAS about the lagging appointments of women, the president’s skeptical comments about women in science and mathematics in early 2005—and the task forces he appointed, coordinated by Drew Faust, to address the resulting controversy—probably galvanized action toward making faculty appointments more inclusive.

The University became more inclusive in other ways as well. Peter J. Gomes, Plummer professor of Christian morals and Pusey minister in the Memorial Church, in 1991 revealed publicly that he was gay. In 1998, Diana L. Eck, Wertham professor of law and psychiatry in society, was appointed to lead Lowell House, alongside co-master Dorothy A. Austin, Sedgwick associate minister in the Memorial Church and University chaplain. In 2008, the Harvard Gay and Lesbian Caucus celebrated its own quarter-century anniversary in a campus event sponsored by the Harvard Alum-



Twenty-first-century president Lawrence Summers—and personal computer, 2001

JUSTIN ALLARD/KOYE KNIGHT

ni Association and addressed by President Faust. In 2011, she was able to bring another long-term dispute to a close, extending University recognition to the Naval ROTC program once the military services' "don't ask, don't tell" policy of discriminating against openly homosexual members came to an end—thereby returning a new Harvard to its deep roots in supporting students preparing for military service, a commonplace half a century and more ago.



Barack Obama, president—
of the *Harvard Law Review*, 1990

Innovation, Science, and Engineering

A vaccine [for HIV/AIDS] probably will not be available for several years.

~November–December 1986 (from a 350th-anniversary panel)

DURING a 2001 interview about his presidency, Neil Rudenstine said the sense of “fields of knowledge moving” had become palpable in the sciences—reflecting everything from advances in genomics and other fields of biology to much more powerful computing systems to the resources happily made available by what he called the “tail winds” of the then-robust economy and renewed federal interest in research (most notably, the doubling of the National Institutes of Health budget). As Jeremy R. Knowles, the chemist whom Rudenstine made dean of FAS—the first natural scientist to serve—steered the faculty out of deficits to financial health, he finally felt flush enough in early 1999 to outline a plan to invest \$150 million to \$200 million in interdisciplinary scientific initiatives, beginning with new research centers on genomics and on imaging and small-scale structures, and, prospectively, extending to work in neuroscience, climate change, and Internet-based search engines to harness vast scientific databases.

Thereafter, ambitions only accelerated. President Summers ranked science among his highest priorities, providing seed funding for new programs and centers. Harvard Medical School's 525,000-square-foot New Research Building, the University's largest research and education project at its dedication in the fall of 2003, augmented laboratories in the Longwood Medical Area. FAS increased its own laboratory space by one-third, in the Laboratory for Integrated Science and Engineering and Northwest buildings (unfortunately incurring several hundred million dollars in debt in the process). And those were only down payments on the planned growth, as Summers fashioned plans for Allston around enormous new interdisciplinary laboratory facilities (including the first complex, on which construction began and was subsequently halted in 2009). Faculty appointments and research grants were all envisioned as keeping pace.

Harvard science has clearly begun a new era in the twenty-first century (and, like the global initiatives, has its own Harvard Science presence on the University homepage). In a May interview with the news office, departing provost Steven E. Hyman said of his return to Cambridge in 2001, after directing the National Institute of Mental Health, “What brought me back...was Larry Summers's invitation to come here and help build interdisciplinary science and engineering.” During his interim year as president after Summers, Derek Bok brokered a University-wide mechanism for planning and funding science initiatives that do not naturally

fall within departmental, or even school, boundaries and often cannot yet attract sponsored funding. The provost's office oversees such programs, ranging from stem-cell research to inquiries into the origins of life.

The research enterprise, overall, is enormous. Federally sponsored research totaled \$136 million in fiscal year 1986—and \$621

million in fiscal 2010. (Other sponsors provided \$156 million in additional funds that year, making the total more than three-quarters of a billion dollars, *excluding* hundreds of millions more directed to the independent but Harvard-affiliated hospitals.) Huge gifts have underwritten creation of the Broad Institute in 2003 (originally a partnership with MIT, the Whitehead Institute, and the hospitals), now a freestanding, leading medical genomics center. Despite federal constraints on funding the technology, the Harvard Stem Cell Institute attracted private support, networked dozens of researchers, launched an undergraduate concentration, and soon will locate 275 people in the renovated Sherman Fairchild laboratories. The Wyss Institute for Biologically Inspired Engineering, launched in 2008, is scaling up on a similar trajectory.

As promising, and impressive in academic organizational terms, are signal examples of organic growth. The medical school in late 2003 committed itself to an entirely new, integrative field: creating an ambitious department of systems biology, and aiming to staff it with 25 new faculty positions; it promptly began a new doctoral program. (Read more about its work, as described by professor of systems biology Pamela A. Silver, on page 72.) And in an era of urgent challenges and huge opportunities for applied science—from software applications to new energy technologies (see Dean Cherry A. Murray's views at page 76)—the 2007 elevation of FAS's division into a School of Engineering and Applied Sciences (SEAS) made the University's commitment to scientific research and education more visible than ever before. The results—in surging graduate applications, much-heightened undergraduate interest, new courses and concentrations, and steady growth in the faculty ranks, with much more planned—have at least matched the expectations raised when SEAS was reborn.

Academic Agendas

...we know that efforts to evaluate education will be very difficult. Even so, they are no more difficult than many other problems to which committed scholars devote their professional lives. It would be anomalous not to pay the same, serious attention to understanding a process so central to the purposes of the university.

~Derek Bok, “Toward Education of Quality,” May–June 1986

THROUGH HIS extended annual reports (including the one cited here), President Bok became perhaps the foremost American spokesman for the role of higher education; the principal defender of universities from what he viewed as misguided criticisms; a champion of education for public service and in ethics; and the leading advocate for effective curriculums (most of the professional schools scrubbed their courses of study during his tenure,

and the College replaced the World War II-era General Education with the Core curriculum). He also advocated systematic approaches to enhance teaching and evaluate learning: in his 1986 message, for example, he supported formation of a faculty seminar on education assessment led by Richard Light, a professor at the schools of education and government (whose interviews with scores of College students later became the basis of *Making the Most of College*, a Harvard University Press bestseller).

In succeeding administrations, the schools' curriculums changed continuously. Thus the College has reduced concentration requirements to give students more room to explore different fields; deferred the timing of concentration choice until the third semester; and after a years-long debate, replaced the Core with a new General Education curriculum (enacted during Bok's year as interim president). The Law School remade its first-year program, reducing class sizes and making room for more international material and enhanced focus on practice. HBS created a mandatory first-year M.B.A. course in ethics and corporate accountability, and this fall launches its students on team-based projects—complete with international field visits to the companies involved (read Dean Nitin Nohria's perspective on page 73). The Graduate School of Education has created a new doctoral program in educational leadership, drawing on business and government professors and case-study methods to equip the school reformers of the future. And so on.

Much of what has changed reflects new knowledge (hence the proliferation of undergraduate concentrations in the life sciences, now numbering seven distinct paths), or changing fields of practice (a joint M.D.-M.B.A. degree for future healthcare managers, for instance), or the deepening of global inquiries.

But as Bok wrote

in *Our Underachieving Colleges*, published in 2006 just before his unexpected return to Massachusetts Hall, faculties' apparent reluctance to investigate their own teaching—pedagogy per se, and its effects—remained as pervasive and persistent as he had lamented 20 years earlier. As interim president, he supported Graduate School of Arts and Sciences dean Theda Skocpol's effort to define and advance a "compact" on teaching and faculty members' career development. The report, fully aired in FAS, encouraged committed individuals, but largely languished as an institutional priority as administrations changed and belt-tightening became the dominant concern after 2008. This past spring, FAS dean Michael D. Smith again highlighted pedagogy and teaching excellence, but a more systematic effort to develop pedagogical training and learning assessments remains controversial and constrained by resources.

In the meantime, pedagogy evolves in other ways. The business school is renowned for assessing junior faculty members' classroom skills, and investing in their ability to teach cases effectively—efforts that some faculty members elsewhere at Harvard have taken to heart. Generational factors play a role, too: from the waning Rudenstine days through the advent of the financial crisis, FAS's faculty ranks expanded about 20 percent—the first such growth in nearly 40 years; and FAS put in place a tenure "track,"



enabling it to recruit junior professors more effectively, and assure that those appointed are considered potential candidates for later promotion. Those factors brought to campus younger scholars, more attuned to new ways of teaching, and at least the promise of refreshed classrooms.

Inspiring Moments

...where is it written that someone who is good on television is necessarily also a good politician? I never fail to be astonished at how...television forces me to express my thoughts as sparely as possible, in witticisms, slogans, or soundbites, at how easily my television image can be made to seem different from the real me...I know politicians who have learned to see themselves only as the television camera does. Television has thus expropriated their personalities, and...I sometimes wonder whether they even sleep in a way that will look good on television.

~Václav Havel, from the Commencement address, 1995

HARVARD CONVENES great gatherings—notably, but not only, at Commencement. A few from the past 25 years merit remembering both as part of Harvard's quarter-century history and for present-day resonances.

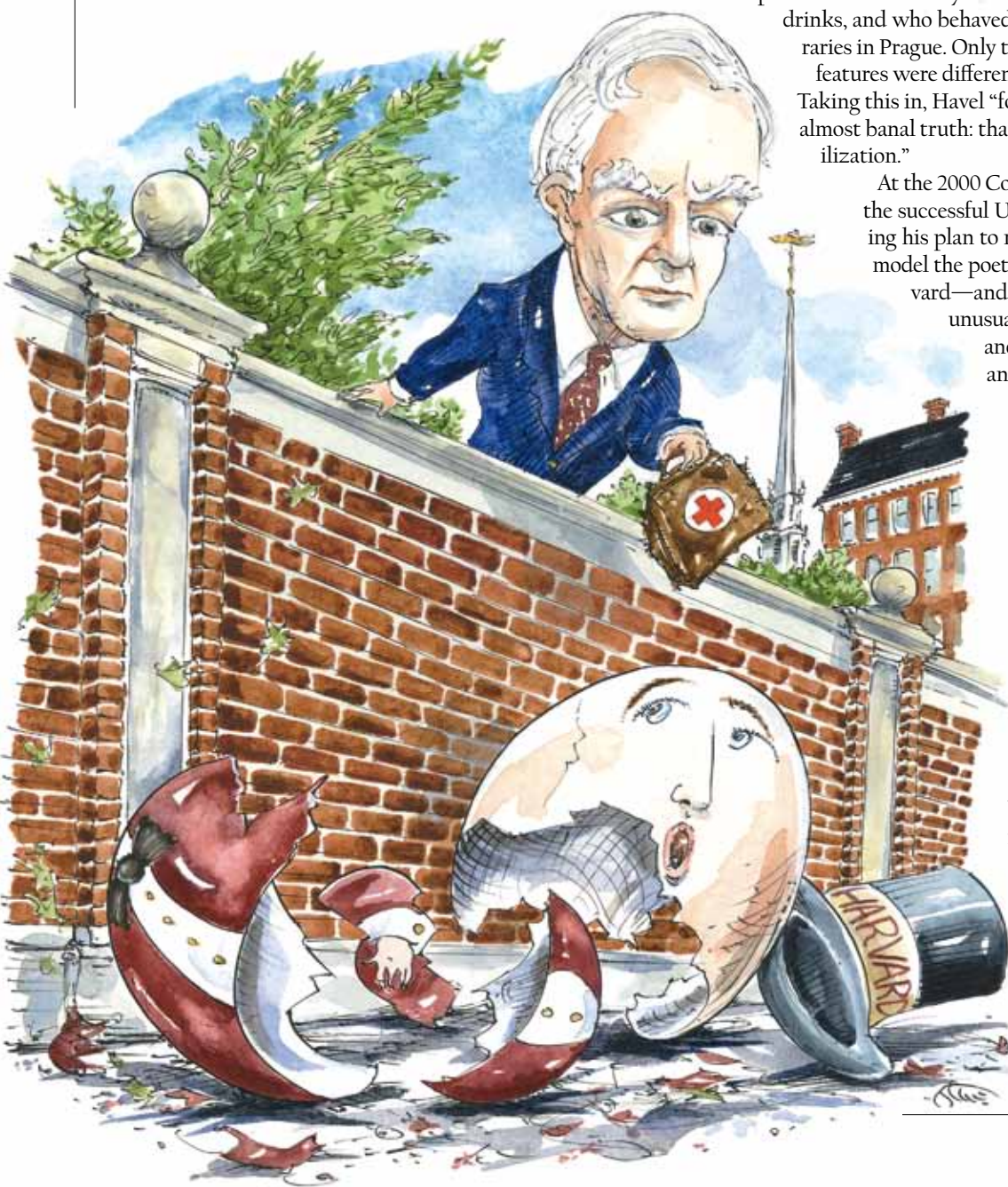
At the 1995 Commencement, 50 years after World War II's end, Václav Havel, president of the Czech Republic—which suffered greatly and where the hard path to freedom took many decades—spoke of the dangers threatening the “thin veneer” of civilization. He began a sobering argument by vividly making the case for the existence of that technologically progressive civilization, before explicating threats arising from reactions to it:

One evening not long ago I was sitting in an outdoor restaurant by the water. My chair was almost identical to the chairs they have in restaurants by the Vltava River in Prague. They were playing the same rock music they play in most Czech restaurants. I saw advertisements I'm familiar with back home. Above all, I was surrounded by young people who were similarly dressed, who drank familiar-looking drinks, and who behaved as casually as their contemporaries in Prague. Only their complexion and their facial features were different—for I was in Singapore.

Taking this in, Havel “for the umpteenth time...realized an almost banal truth: that we now live in a single global civilization.”

At the 2000 Commencement, just after celebrating the successful University Campaign, and announcing his plan to retire, Neil Rudenstine managed to model the poetic and practical aspirations of Harvard—and of society—in his introduction to unusual twin speeches by Nobel laureates and faculty members Seamus Heaney and Amartya Sen. Referring to their roots in Ireland and in India, he called them “emblematic figures—‘relics and types’ of important aspects of the past century’s experience. Both...have been schooled as witnesses to conflict and war—the often unyielding ferocity and exiguousness that have so wounded so much of our recent history....They offer us...fruitful, reasoned, imaginative, and tested ways of conceiving how a good society might be animated and ordered...” in pursuit of freedom and knowledge.

The rhetoric was less elevated, but the Crimson currents ran even more strongly, in an event apart from the festival rites. On December 1, 2008, in a special convocation in Sanders Theatre, the University conferred an honorary degree on U.S. Senator Edward M. Kennedy '54, who was under treatment for the brain cancer that would soon end his life. As reported:



The ceremony was by turns nostalgic (it began with footage of Kennedy, in his Crimson number 88 jersey, scoring Harvard's lone touchdown in the snowy 1955 Game...); stem-winding and revivalist (the huge standing ovation for Vice President-elect Joseph R. Biden, who...sat next to Caroline Kennedy '80 and across the aisle from Senator John Kerry; Kennedy's own thundering defense of liberalism in the words of his brother, John F. Kennedy '40, LL.D. '56, shortly before his election as president); valedictory (Kennedy recalled, "As I said in Denver last summer, for me, this is a season of hope"...); and warmly funny (President Drew Faust quoted Kennedy on his model of service [concluding with a reference] to his weekly visits to a Washington elementary school, where he has become known for his "virtuoso rendition of 'The Itsy Bitsy Spider.'")

For sheer emotional effect, the surprising high point may have been *Harry Potter* author J. K. Rowling's 2008 Commencement address. From her initial, self-deprecating confession ("...the weeks of fear and nausea I have endured at the thought of giving this commencement address have made me lose weight. A win-win situation!") to her quixotic choices, given the occasion ("On this wonderful day when we are gathered together to celebrate your academic success, I have decided to talk to you about the benefits of failure. And as you stand on the threshold of what is sometimes called 'real life', I want to extol the crucial importance of imagination."), Rowling wowed a crowd variously attired in academic gowns and wizardly gear. She conferred the gift of permission on her younger listeners—even as she told the wrenching experience of working, when she was their age, at Amnesty International's Africa department:

I shall never forget the African torture victim, a young man no older than I was at the time, who had become mentally ill after all he had endured in his homeland. He trembled uncontrollably as he spoke into a video camera about the brutality inflicted upon him....I was given the job of escorting him back to the Underground station afterwards, and this man whose life had been shattered by cruelty took my hand with exquisite courtesy, and wished me future happiness.

Out of those reservoirs of horror and love, Rowling modeled the building of her own unexpected life.

The same themes, emerging from the same torn part of the world, and ultimately with the same uplifting result, were indelibly acknowledged and celebrated at one of Harvard's great moments, when the University donned full regalia to confer an honorary degree on Nelson Mandela, president of the Republic of South Africa, on September 18, 1998. Rudenstine recognized his accomplishments and moral stature in a suitably unembellished citation: "Conscience of a people, soul of a nation, he has brought forth freedom from the crucible of oppression and inspired, by his courageous example, the better angels of our nature." In the words

of Memorial Church minister Peter J. Gomes, "For an instant we were able to associate ourselves with a man of such magnificent moral stature that the association elevated us all."

The Enterprise

...if the Faculty of Arts and Sciences can use existing buildings optimally, and develop new sites wisely, it won't run out of space for 20 years. Next question: What happens then?

~March-April 1989 (The answer: land purchases in Allston, through nominees, began in 1988.)

BY ALMOST ANY MEASURE, Harvard has become *bigger* in the past quarter century. True, the student body has remained essentially

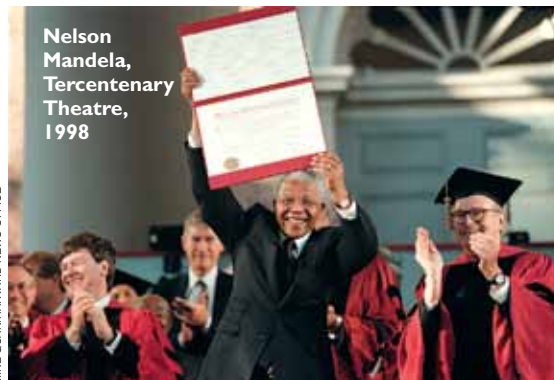
the same size, and the ranks of faculty members—particularly in FAS—held fairly stable from as far back as the 1960s until the growth spurt in the new millennium (choked off by the financial crisis). But the increasing scale and complexity of the enterprise are everywhere evident, as research has required new staff and compliance measures; as laboratory investments, housing, and other facilities have grown apace; and as information technology and international operations have expanded.

• The endowment. In the fiscal year ended June 30, 1986, Harvard's endowment—propelled by a 31 percent rate of return on investments—was valued at \$3.4 billion, surpassing \$3 billion for the first time (all figures are as originally reported, and not adjusted for inflation). Distributions from the endowment accounted for 17.5 percent of University income for the year (down about 5 percentage points from the level in the mid 1970s) and student tuition and fees 26.7 percent (5 percentage points higher)—reflecting a policy of protecting principal during an extended period of high inflation and depressed investment returns.

Turn the calendar ahead two decades, to the glorious financial markets from 2003 through 2007: investment returns ranged between 12.5 percent and 23 percent, and the *annual increment* in the value of the endowment exceeded its *entire* value in 1986, culminating in the \$5.7 billion gain (after distributing nearly \$1.2 billion to support University operations and Allston costs) in fiscal 2007. Despite lower returns and larger distributions (\$1.6 billion) in fiscal 2008, the endowment appreciated further, peaking at \$36.9 billion. With the Corporation aiming over time to distribute about 5 percent of endowment value to support operations and Allston and other capital costs, the sustained manna from Wall Street



Victoria Reggie Kennedy, Edward M. Kennedy, and Drew Faust, Sanders Theatre, 2008



Nelson Mandela, Tercentenary Theatre, 1998

transformed Harvard's financial profile: during fiscal 2008, endowment distributions accounted for 34 percent of operating revenues—far more than income from students or sponsored research (20 percent and 19 percent, respectively). Hence the problems when the endowment's value fell by 29.5 percent to \$26.0 billion in fiscal 2009 (a crisis exacerbated as the University realized about \$3 billion in additional losses on Allston financing hedges and its liquid accounts). Fiscal constraints shadowed the balance of the decade—notably in FAS, which derived more than half its revenues from the endowment.

- **Getting and spending.** The eleven-fold growth in the endowment had the intended effect—the assets and income are to be spent in part, to operate Harvard, not solely hoarded. From fiscal 1986, when University revenues and expenses were both about \$716 million, the budget grew by leaps and bounds, particularly in the past decade: to \$2 billion for the first time in fiscal 2000 (and an operating surplus of \$120 million); to \$3 billion just six years later; and peaked at more than \$3.8 billion in fiscal 2009, when the brakes had to be applied. Those increased outlays paid for increases in financial aid totaling tens of millions of dollars annually; new faculty positions; debt service and operating costs for the huge new laboratories and other buildings; and more.

- **Physical plant.** As reported elsewhere (see page 68), the campus has been transformed. Harvard's prior great building era was in the 1960s and 1970s—when abundant sponsored-research funds fueled the addition of more than six million gross square feet of facilities—setting the stage for the Bok administration's search for more usable land (and for hundreds of millions of dollars to assemble Allston sites and plan for their use in the following quarter-century). By the early 1990s, following two decades of more average growth (a million or so square feet every 10 years), Harvard facilities totaled 17.5 million square feet. From 2000 to 2009, the campus was a continuous construction site, adding several million square feet of new buildings—the Cold War-era boom compressed into one frenzied decade—making Harvard a very much bigger place even before a single new structure rises in Allston.

- ...and most of all, the people. The point of those budget funds and facilities, of course, is to enable faculty and staff members and students to pursue teaching, learning, and research. And indeed, their numbers grew. By the University's count at the time, there were 1,680 nonmedical faculty members of all categories in 1986 (plus about 550 in the medical, dental, and public health schools proper, for a total of 2,230)—and 2,804 in total in 2009. Staff employment during that period rose from 8,994 to nearly 12,500 (after the voluntary retirements and layoffs that ended that trying fiscal year).

Two particular Harvard human-resources events merit mention. First, following 13 years of campaigning in face of concerted administrative opposition, much of the institution's workforce voted in May 1988 to form the Harvard Union of Clerical and Technical Workers. That autumn, the University dropped

its challenges to the election, and began negotiations on a labor agreement. The first contract was settled in mid 1989, and HUC-TW today represents some 4,800 employees. Second, in 1994, the federal law ending mandatory retirement ages came into effect for tenured professors—all but ensuring that the faculty as a whole would become more aged.

Two further developments exemplify the recent evolution of the University as an enterprise. In December 1989, Harvard launched its trademark licensing program (the last Ivy school to do so)—aiming, the magazine reported, to “control the use of the Harvard name on ‘insignia goods’ such as clothing, mugs, glasses, watches, pens,” and undertaking “to ensure that such things are of good quality and in good taste,” with proceeds earmarked for student aid. And in a concession to the practicalities of running Harvard well, an executive vice presidency was created early in Drew Faust's administration to better manage finance, information systems, human resources, campus services, and capital planning and construction (including Allston development), and rationalize the president's myriad reporting relationships.

The Institution

Bok's 20-year tour is not unusual for Harvard; his four immediate predecessors, Pusey, Conant, Lowell, and Eliot, averaged more than 25 years apiece at Harvard's helm.

~July-August 1990 (upon President Bok's announcement that he would step down the following year)

AFTER THE REMARKABLE staying power of its presidents from Charles W. Eliot through Derek Bok—just five leaders from 1869 through 1991, with the stability (or stagnation, critics might argue) that provided—the University's dynamic changed dramatically. Neil Rudenstine's decade in Massachusetts Hall exceeded the average tenure of modern university presidents. But the subsequent transitions from Lawrence Summers (five years) to Bok II (one interim year) to Drew Faust (beginning in 2007), and related changes among deans and senior administrators—not to mention the impact of Allston planning and the financial downturn—were disorienting. The augmented vice-presidential ranks,

put in place by Bok to address the shortcomings, revealed in the 1960s, of an “extremely underadministered” institution, provided capacity and continuity. But as he explained in a 1986 interview, Bok declined to appoint a provost, lest he be insulated from the “educational issues” he cared about most.

Rudenstine, a past provost at Princeton, embraced the idea for Harvard, in furtherance of his own educational aims: an agenda that included extensive global outreach; an ambitious, University-wide capital campaign; and central investment in five interdisciplinary academic initiatives (and others as fundraising permitted). In 2011, after Steven Hyman's decade as provost, the post has become established and significant, extending from oversight of Harvard's many allied and affiliated institutions (the museums, the American Repertory Theater, etc.) and the overhaul of the library system to sharing that most traditional of Harvard presidential prerogatives: conduct-



Radcliffe dean-designate Drew Faust, acting dean Mary Maples Dunn, and Neil Rudenstine, 2000

MARC HALEV/HARVARD NEWS OFFICE

ing the final “ad hoc” reviews of proposed appointments to tenured professorships.

Nor did that end Rudenstine’s mark on the shape of the University and its management. In 1999, he untied Harvard’s prickliest Gordian knot, effecting and subsidizing transformation of Radcliffe from a college (with alumnae, but neither students nor faculty) into an institute for advanced study. And in his final year, he managed to put in place the “strategic infrastructure fund,” an annual half-percent levy on all the schools’ endowment balances to pay for Allston campus development. (Originally slated to run for five years, it was extended to a quarter-century during the Summers administration.)

Where Rudenstine sought consensus—involving deans in 40 meetings and four retreats to set academic priorities—Summers hustled to quicken the pace through central directives. As noted, he chose a provost who could direct vast interdisciplinary science initiatives, and Summers himself drove ambitious Allston campus plans, aiming to initiate construction on a fast track—both strongly centralizing initiatives. He appointed deans who would launch what he hoped would be wholesale curriculum reviews. To carry his message beyond the Harvard community, he added communications and news staff, and many of the schools quickly did, too. And he created vice presidencies for policy and for human resources. (With the abrupt end of his presidency, many of the academic initiatives were recalibrated—or were derailed by the 2008 crash in the endowment and the unraveling of financial steps Summers had taken to accelerate Allston construction; but his staffing initiatives persisted even as the personnel subsequently changed.)

In the initial years of her presidency, Faust re-emphasized consensual decisionmaking—involving

many interests, for instance, in planning Harvard’s future in the arts, and stocking the Allston Work Team with eight deans so they could, for the first time, air common and conflicting priorities, agree on near-term actions, and identify issues requiring longer-term consideration as needs evolve.

But perhaps most significantly, Faust completed the unfinished business first identified during the traumas that shook the University in the late 1960s: rethinking governance at the highest level. Bok, as noted, put Harvard management on a modern footing, but other recommendations from that era sat on the shelf. Conrad Harper’s resignation from the Corporation in mid 2005 unveiled the fissures within the senior governing board; his criticisms, coming from a respected expert in governance, suggested inadequacies of procedure and even of composition.

Summers’s departure, and the \$3 billion in losses on financial hedges and long-term investment of liquid reserves, prompted searching questions about the Corporation’s core responsibilities: choosing the University’s leader and overseeing its resources. And so, last December, on the verge of Harvard’s 375th anniversary, Faust, the Corporation, and the Board of Overseers effected the seemingly unthinkable: updating the Charter of 1650 by nearly doubling the size of the senior governing board, adopting term limits, and putting in place a committee structure intended to make it more expert and effective.

However those changes ultimately unfold, or are refined, they unmistakably create, at the very highest level of University governance, a crucial opportunity for more strategic thinking about the future of the institution. In a world in the midst of rapid, sweeping change, that capacity will surely be critical to shaping the course that Harvard must navigate in the next 25 years—and beyond. —JOHN S. ROSENBERG



Professorial Permutations

HARVARD'S EVOLVING FACULTIES

by Jonathan Shaw

DURING THE PAST QUARTER-CENTURY, Harvard's faculty has become more diverse and has refocused its intellectual energies. The University's professoriate includes more women and minorities, and is larger, more international, and stronger in science, technology, engineering, and math. Effecting these deliberate changes has been a slow process at times. When Conant professor of education Judith Singer joined the faculty in 1985, for example, there were so few tenured women that she could easily have held a cocktail party for *all* of them in her present Holyoke Center office, where she is senior vice provost for faculty development and diversity. That would be impossible today: there are now 200 senior women faculty members University-wide.

This 300-plus-percent increase might be counted a very great triumph if the starting point hadn't been so low. Singer points out how recently it was that Patricia Graham, the thirteenth woman to receive tenure, became the first female dean: Derek Bok named her to run the Graduate School of Education (GSE) in 1981.

"Ironically," Singer points out, women are now better represented in *leadership* positions than they are in the *faculty* ranks, because it is easier to make changes in leadership: Elizabeth Cohen became interim dean of the Radcliffe Institute on July 1, succeeding Barbara Grosz; Martha Minow became dean of Harvard Law School (HLS) in 2009 when Elena Kagan, that school's first female dean, was named solicitor general of the United States; Kathleen McCartney is dean of the GSE; the dean of Harvard College is Evelyn Hammonds; and the dean of the School of Engineering and Applied Sciences (SEAS) is Cherry A. Murray (see page 76). But when Drew Faust became Radcliffe Institute dean in 2000, she was—remarkably—only the second woman dean at Harvard; and Faust, now president, has pointed out that, had she been an undergraduate here, she would not have been allowed to enter Lamont, then Harvard's student library, until her junior year. As this story of women illustrates (with apologies to Radcliffe and Laurel Thatcher Ulrich for this "womanless" account of Harvard's history; see "Harvard's Womanless History," November-December 1999, page 51), changes in the ranks of faculty occur gradually—at best.

Pipeline Problems

ALTHOUGH Harvard's tenured faculty is almost one-quarter female now, that nevertheless lags the percentage of women

who are earning Ph.D.s: in some fields, such as molecular biology, neuroscience, and ecology, more than 50 percent of the doctorates are awarded to women. Moreover, "The representation of minorities on the Harvard faculties," Faust said earlier this year, "is not what we wish. We have made progress, but we are not satisfied and it is something that we are continuing to work on."

Because the case of women has been so heavily scrutinized, it provides an opportunity for understanding why *any* change in the senior faculty is slow. Low turnover is an obvious factor. "Because relatively few senior faculty leave Harvard for another position, and the rates of retirement since the end of mandatory retirement in 1994 are also low," says Singer, "we estimate that more than 95 percent of the senior faculty in any given academic year were also on the senior faculty in the prior academic year."

Harvard has worked to counter the effect of this low turnover by instituting retirement incentives for faculty members who wish to remain active. These programs gradually reduce teaching load and salary, while allowing professors to continue their research and remain eligible for grants. Typically, the University also makes contributions to retirement funds as though the professors were still working full time. Last year, more than a quarter of eligible faculty signed up for the program.

A second obstacle to increasing faculty diversity—in any dimension—has been termed the "pipeline" problem: the fact that a particular group (e.g., women or minorities) may be poorly represented in the pool of eligible candidates for a position in a given field: women in physics, computer science, and engineering, for example, or blacks in astronomy. One answer is to increase the size of the eligible pool by nurturing young scholars, beginning in college. But progress has been slow. Harvard did not reach gender parity among undergraduates, for example, until 2007; the Ph.D. population downstream necessarily trails.

By 2000, it became apparent that a narrow pipeline itself was not the only problem. In the sciences, in particular, women continued to be underrepresented because they left those concentrations at higher rates than men. "This 'leaky pipeline,'" reported the National Symposium on the Advancement of Women in Science in 2000, "continues to leak throughout graduate school and postdoctoral work."

Identifying the problem as a leaky pipeline led to speculation about the intrinsic causes (most notoriously, by President Lawrence H. Summers in 2005), but the evidence, even years earlier,



ROSE LINCOLN/HARVARD NEWS OFFICE

had suggested that external factors were more important. “Science is a very demanding profession, for anyone, male or female,” physicist Margaret Geller told this magazine for a 1994 article on her work mapping the cosmos. “You are always standing on a precipice, having to prove yourself no matter who you are. And women face an extra problem here, because if as kids they were interested in science, they were interested in something they were not supposed to like.” In graduate school (at an Ivy League university), the article noted, “both faculty members and other students said things about the role of women in science that were deeply shocking [to

“One of the most significant barriers to women in science is the perception that they will become less valuable if they choose to start a family...”

her]. Although she did well academically, she emerged from graduate training with her self-confidence badly shaken.” Geller added at the time that “women are not well represented at the best universities at the senior levels, and there are plenty of good candidates out there.”

In 2002, GSE research associate Cathy Trower and professor of higher education Richard Chait made the case—with data to back it up—that the “pipeline” problem, an inadequate supply of candidates, remained true in the case of minorities but not for women. An “unaccommodating culture,” they said, was the main culprit in discouraging female academics.

A young female scholar wrote anonymously in this magazine in 2006 that “One of the biggest barriers facing young women in science today, long before they ever marry or have children, is a lack of support and encouragement for those very life events.” She described her own first experience with the “oft-discussed ‘discrimination’ against women in science”: in England, a male professor supervising her doctoral studies warned her and another female colleague to focus on their careers, not on their relationships, when he heard that the second woman’s significant other was coming to visit; she had not seen him in more than a year. The writer believed the professor’s concern was well-meant, with “its roots in the fear of losing potentially excellent scientists to the ‘leaky pipeline’ phenomenon once they begin family life.” But his advice, she pointed out, was counterproductive:

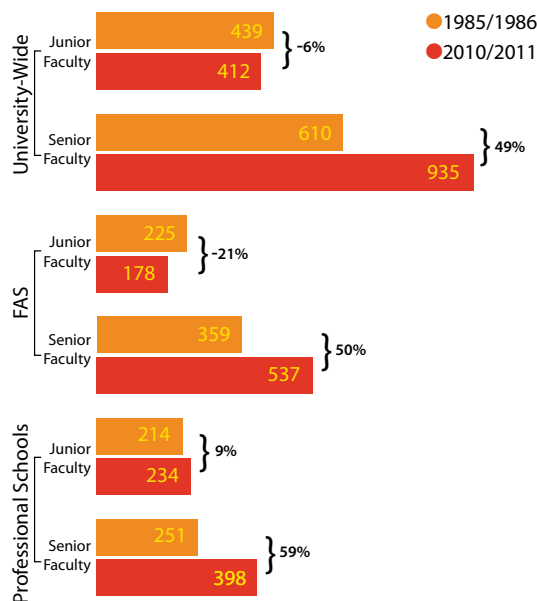
One of the most significant barriers to women in science is the perception that they will become less valuable if they choose to start a family....Thus, even as concrete advances are made in work flexibility, tenure-clock adjustments, maternity/paternity leave, and other policies designed to achieve a healthy work-life balance for both sexes, the attitudes of those at the top have to change alongside, and possibly before, tangible policy modifications are put into place.

In the wake of Summers’s controversial remarks about women in science (see “Gender Gap,” March-April 2005, page 62), two 2005 task forces appointed by the president (their work organized by then-Dean Faust) made several important recommendations about women pursuing academic careers at Harvard, including one that led to the creation of the office that Singer now heads. Soon Harvard began programs to address the specific problems that the task forces had identified: by increasing recruitment efforts, implementing improved mentoring and advising, and instituting retention strategies designed with women in mind. Official parental leave for faculty members began in 2006-2007 (previously, women—and men—had to approach their department heads to ask permission for leave on a case-by-case basis); and the tenure clock began to be extended automatically during such leave. “Harvard’s childcare program is now the best in higher education,” says Singer, with grants of up to \$20,000 made to 50 to 60 faculty members per year. A dependent-care

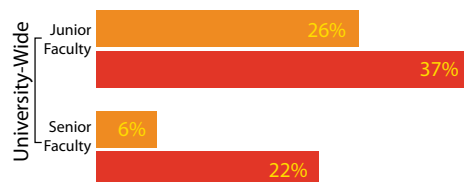
Faculty Demographic Trends

(excluding the medical and dental schools)

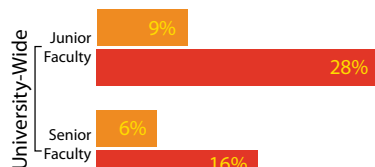
While the senior faculty has grown 50 percent since 1985-86, the number of junior faculty has remained nearly steady, reflecting the shift to a tenure-track system. The number of senior women faculty has quadrupled, a rate of growth that exceeds the underlying growth rate. The number of minorities among senior faculty has increased two-and-a-half-fold, and more than tripled in the ranks of junior faculty.



Women



Minority



SOURCES: 1985-86 FACT BOOK, 1990 IR DATA TRENDS, PEOPLESOFIT;
SOME TOTALS MAY REFLECT DUAL APPOINTMENTS

fund even pays for children to travel to conferences with their parents, and a baby-sitting service is being rolled out this fall. Job-seeking assistance is available for dual-career academic couples. “We’ve changed as an institution,” she notes, “but we still have to be vigilant.”

Getting Junior Professors on Track

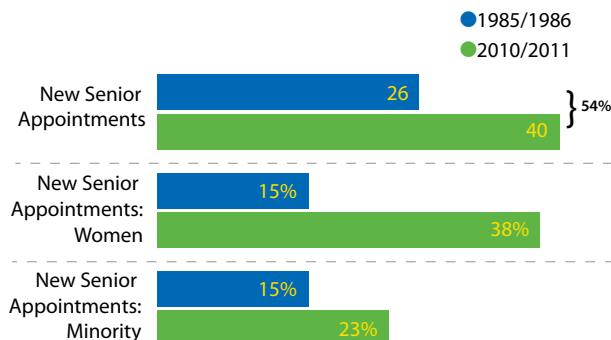
SUCH CHANGES have made the prospect of working at Harvard more attractive to *any* scholar seeking a job. But no change has been as important to Harvard’s ability to recruit the best scholars—men, women, minorities, scientists, engineers, applied mathematicians, or scholars from abroad—as its improved treatment of junior faculty members, especially the creation of a tenure track.

In 1986, this magazine repeatedly reported news of celebrated junior professors being denied tenure. Harvard’s dominant practice was to recruit senior faculty—proven scholars—from other institutions. But that strategy of predominantly external recruitment progressively hampered the University’s ability to fill its internal pipeline with good candidates for the senior faculty—particularly in an era of dual-career couples and prohibitive housing prices. That made it especially difficult to nurture under-represented groups for possible future promotion—particularly blacks, Latinos, and Native Americans whom other elite Ph.D.-granting institutions were also actively recruiting. Why would an outstanding young scholar accept a junior faculty position at Harvard when the prospects of advancing to tenure were far less than 50 percent?

Recognizing the problem in 1986, President Bok said, “We should greatly increase our efforts to develop people from within.” In 2000, after a period of financial austerity, then dean of the Faculty of Arts and Sciences (FAS) Jeremy Knowles announced

Newly Tenured Faculty University-Wide

Across the University, the percentage of new senior faculty who are female more than doubled from 1985-86 to 2010-11, while the percentage of minorities increased by half.



SOURCES: OGB APPOINTMENTS DATA BASE; PEOPLESOFT

significant increases in junior-faculty compensation. But it was not until mid decade that a true tenure track was instituted. “The biggest reputational challenge we have right now is getting the word out that we *do* have a tenure track. It’s robust; it’s effective,” says Singer. “In FAS, we went from a 40/60 internal versus external hiring ratio 25 years ago to a 60/40 ratio today. That is a big shift.” Every junior faculty member hired now is considered for tenure within seven or eight years.

The change also means that Harvard now takes greater care in selecting its junior faculty members. Empty positions used to be filled in a year. “Now,” says Singer, “we’ll wait another year if we have to for the right candidate,” to ensure they are worthy of future promotion if their work progresses as planned.

The shift to a tenure track is also evident in the comparative size of the junior faculty cohorts of 1985-86 and 2010-2011. Given senior faculty growth of 50 percent University-wide during this period,* the number of *junior* faculty remained relatively steady during the past 25 years. The effect of the tenure track is most evident within FAS, where the number of junior faculty today is 21 percent *lower* than it was 25 years ago.

A Generation of Growth

THE MOST DRAMATIC CHANGE in FAS has been the growth in the professorial ranks beginning around 2000. During the preceding 40 years, the number of tenured and tenure-track (“ladder”) faculty members had remained relatively steady, at around 600. But that January, in his annual letter to the faculty, Dean Knowles an-

*Excluding Harvard Medical School and the School of Dental Medicine, for which historical data don’t separate Quad faculty from affiliated-hospital faculty. This applies to all the data in this article.

Political Diversity?

THE UNIVERSITY’S FACULTY are increasingly diverse demographically—but are they diverse politically as well? “I’d rather entrust the government of the United States to the first 400 people listed in the Boston telephone directory than to the faculty of Harvard University,” the late William F. Buckley is said to have quipped in 1963. The Yale-educated conservative writer said he was concerned with “conformity among intellectual cliques,” particularly in education and the arts.

Buckley would no doubt be disheartened to know that the Harvard faculty is probably slightly *more* liberal than in the past. A rigorous study of the political attitudes of U.S. professors (Harvard faculty members were among the study subjects, but in numbers too small to draw reasonable inferences specific to the University) by Neil Gross, then an assistant professor of sociology, and Solon Simmons of George Mason University, found that although the academy is still dominated by liberals, as it was 25 years ago, traditional attitudes among conservative faculty members have subsequently given way to more centrist views among the younger generation. Gross’s work went on to posit a reason: conservative labeling of universities as liberal has led to typecasting—more liberals than conservatives, in other words, grow up *wanting* to be professors, just as more women than men grow up wanting to be nurses. “The irony is that the more conservatives complain about academia’s liberalism,” Gross told the *New York Times* in 2010, “the more likely it’s going to remain a bastion of liberalism.”

nounced that financial discipline, low inflation, and “superb” endowment performance meant that it was time to consider how to “invest our new resources to transform the educational experience of our undergraduates and graduate students and to improve the scholarly lives of the faculty.” He proposed adding six new faculty members per year for a decade, for growth of 10 percent in the ladder faculty.

The ensuing growth, which continued after Knowles stepped down in 2002, exceeded his expectations, ranging from 16 percent in the physical sciences, to 17 percent in the social sciences, 19 percent in the arts and humanities, and 20 percent in the life sciences. Extraordinary as it was, this growth was dwarfed by the deliberate 40 percent growth in engineering and applied sciences—the only group within FAS that expanded in relative size during the decade prior to the financial crisis of 2008 (at which point all new hiring slowed almost to a halt).

The origins of this renewed emphasis on applied sciences—work potentially of direct benefit to society—go back to the early 1990s, when then-president-elect Neil Rudenstine named Knowles, a chemist, as the first scientist to lead FAS. The stated reason was to balance Rudenstine’s expertise in Renaissance literature. Knowles, in turn, further extended scientific leadership of the University when he named McKay professor of computer science Harry Lewis dean of the College.

Growth in the professional schools exceeded that of FAS. In particular, expansion of the so-called STEM fields of science, technology, engineering, and mathematics was reflected in the professional schools’ focusing on health sciences. Interdisciplinary, collaborative, and frequently holistic endeavors such as systems biology, which uses math to elucidate biology; neuroscience, which melds engineering with life sciences; and the study of stem cells, both for basic research and poten-

course, “Justice,” into an online offering for alumni. The point of all this, says Singer, is to make academic life at Harvard as attractive as possible.

A More Global Faculty

DURING THE past quarter-century, even as the percentage of women quadrupled in FAS and quintupled in the professional schools, the internationalization of the faculty proceeded faster still. In 1993, just 1 percent of tenured and tenure-track faculty were nonresident aliens (neither U.S. citizen nor permanent resident). By 2010, 7 percent of these ladder faculty members were international.

In his annual report of 1987, Derek Bok stressed Harvard’s role as an international institution, and subsequent presidents have enlarged both the institution’s global presence and the repre-

sentation in Cambridge of scholars from abroad. As in the case of female deans, change is—ironically—easier at the top. Julio Frenk, the dean of the School of Public Health, is from Mexico; Nitin Nohria, the dean of the Business School, hails from India; and Mohsen Mostafavi, dean of the Graduate School of Design, is from Iran. The successful internationalization of the faculty in part reflects the breadth of Harvard’s language instruction: Singer notes, “We teach more languages than any other institution.”

Institutional leadership has also played an important role. The growth of the Ken-

nedy School, which in 1986 had been in its current location less than a decade and has the most international student body among Harvard’s schools, was of special interest to Bok. Globalization has grown apace since, as other schools—business (with research offices and programs abroad), design, arts and sciences, and public health (with a renewed focus on global health)—have become increasingly international as well. The trend is likely to continue,

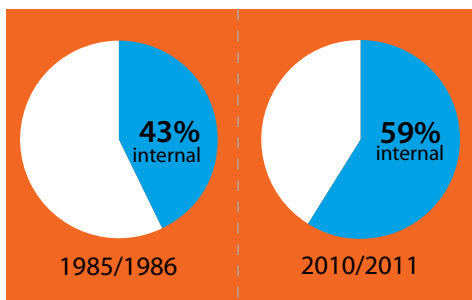
according to Singer. “We’re ‘passport-blind’ in our recruiting for appointments,” she says. “We reach out internationally in all our searches, so if you are a top scholar and interested in teaching, we’re interested in you.”

GETTING THIS MESSAGE OUT to underrepresented minority candidates for faculty positions—and making the University a more attractive place for them to work—may be next on Harvard’s agenda. (A resumption of faculty growth and more diversity are likely goals for the prospective capital campaign, the first in the twenty-first century.)

Attracting such minority scholars has proven difficult, not only because of “pipeline” problems born of such factors as first-generation immigrant parents who would rather see their children earn an M.D. than a Ph.D., but also because of Boston’s reputation as a place with a history of fraught race relations. Nevertheless, the Business School and the Kennedy School outpace their peers in minority tenure-track faculty. Why not the rest of Harvard? ▢

Jonathan Shaw ’89 is managing editor of this magazine.

Internal versus External Promotion to Tenure within FAS



SOURCES: OGB APPOINTMENTS DATA BASE; PEOPLESOFT

“We’re ‘passport-blind’ in our recruiting for appointments...so if you are a top scholar and interested in teaching, we’re interested in you.”

tial therapeutic benefit, drove expansion at the medical school, while greater National Institutes of Health funding from the late 1990s and a renewed focus on global health fueled increases in the number of faculty at the School of Public Health.

Harvard is working to address the needs of all these scientists, too, with mini-courses in subjects they don’t teach in graduate school, such as how to explain complex scientific ideas to the media, or how to run a lab. “Being a scientist is like running a small business,” says Judith Singer. “You have grant money, a lab to run, and you have staff relations.” The office for faculty development and diversity provides mentoring in such skills—“How to turn your dissertation into a book,” was a popular recent offering—and more. Michael Sandel, a young faculty member himself in 1986, recently shared his experience in turning his popular



The Twenty-First-Century Student

CHANGING DEMOGRAPHICS, AND DEMANDS, IN THE COLLEGE

by Elizabeth Gudrais

IN 1986, incoming freshmen did not receive Harvard e-mail addresses. The computer-science concentration was just five years old. Less than 9 percent of students reported significant work, study, or extended travel abroad before they graduated. (Today, that number is above 50 percent.) The undergraduate student body was 6 percent black and 4 percent Hispanic; only 40 percent received grant aid from Harvard. Upperclassmen were still assigned to the Houses based on their preferences, resulting in self-segregation in categories ranging from race and sexual orientation to varsity sports and the dramatic arts. And the student body was still roughly 60 percent male. Women had lived alongside men in the Houses and freshman dorms for 15 years, but “there were still so few female professors,” recalls Erika Christakis ’86, now co-master of Pforzheimer House. “There were so few female administrators.” Looking up at the dais on Commencement day, she recalls, “It was just a sea of men.”

The University now has women serving as president and executive vice president, as vice presidents, and as deans of several schools. The House populations are fully randomized; the last three years have even seen a pilot program in gender-neutral housing, including a few mixed-gender rooming groups. Students and faculty members have long since taken cell phones, computers, and the Internet for granted, giving rise to new worries: House masters and tutors fret that undergraduates spend too much time

staring at screens at the expense of socializing in person. But they say e-mail emboldens meek students to contact professors, starting conversations that continue face to face during office hours. Professors experiment with new teaching formats: they tape lectures for students to watch *before* class sessions, which are then used for questions; or they require students to submit questions about the week’s reading in an online forum before each class, increasing accountability and engagement.

During the last 25 years, technological, economic, and cultural forces have shaped the student body into a more diverse population that approaches college life with intense focus. Today’s undergraduates are always on, always busy—and closer than previous generations to their parents: changes to which the College has had to adapt.

Who They Are

HARVARD COLLEGE has become vastly more diverse. The class of 2015, arriving this fall, has record numbers of black (9.8 percent) and Latino (10.3 percent) members. (The respective percentages in the overall U.S. population, according to 2010 census data, are 13 percent black and 16 percent Hispanic.) The share of undergraduates reporting Asian/Pacific Islander origin in 1986 was 8.9 percent; in the class of 2015 it is 18.7 percent.

(Only 4.8 percent of the U.S. population falls into this category.)

Dean of admissions and financial aid William R. Fitzsimmons says there are still barriers to raising the representation of black and Hispanic students in particular. For poor, nonwhite students, he explains, “Every piece of the playing field is tipped against you.” Students may attend schools where the quality of instruction is so low, they would be lost as Harvard freshmen. Their schools may have eliminated extracurriculars such as music and sports. The admissions committee considers students’ records in context, but at a certain point, admitting very disadvantaged students may set them up for failure—and deny admission to others who have worked hard and excelled in higher-resource settings.

Though the proportion of students receiving financial aid has crept up over the years, the big jump came in 2008, with the introduction of a sliding scale under which families making up to \$180,000 were asked to contribute no more than 10 percent of their annual income. Today, 61 percent of students receive aid; one-quarter of all students come from families with annual incomes less than \$80,000. (Again, the student body does not mirror the U.S. population: nationally, median household income was \$50,221 in 2009.) The College tracks those students’ experiences closely, and has found that they are no less prepared than their higher-income peers. Although the percentage of students required to take two semesters of expository writing has increased, “Students being overwhelmed the first year doesn’t seem to track with socioeconomic status,” says Jay M. Harris, dean of undergraduate education.

As for gender parity among undergraduates, that was not attained until 2007. The percentage of men had begun inching downward year by year after 1992, in what Fitzsimmons calls “a long, difficult battle”: Harvard’s reputation as a male-dominated institution deterred talented female students from applying. (Percentages in the admitted group tend to mirror percentages in the applicant pool. All along, he says, the policy has been “to admit the best people regardless of gender.”)

The undergraduate community also includes more international students—10 percent today versus 6 percent in 1986. (Some graduate and professional schools are *much* more international: at the Business School, the Graduate School of Design, and the School of Public Health, 32 percent of students come from foreign countries; at the Graduate School of Arts and Sciences, 36 percent; and at the Kennedy School, 42 percent.)

Some of the graduate and professional schools

have also augmented financial aid. Notably, the School of Public Health offered aid to just 32 percent of its students in 1999, but assisted 61 percent in 2008—and the average package grew to cover 45 percent of costs, up from just 6 percent. As a priority of his presidency, Lawrence H. Summers designated scholarships for graduate study and public-service-oriented professional study. And from 2006 through 2009, the Graduate School of Arts and Sciences increased its support packages to bring them in line with what peer institutions offer; students in the social sciences and humanities, for example, are now guaranteed dissertation-completion fellowships and summer support for four years instead of two.

Even as the College has opened itself to students from other countries and a more diverse slice of America, it has become more selective: the acceptance rate was 16.1 percent for the class of 1989 (13,617 students applied), and dropped to a low of 6.2 percent for the class of 2015 (from 34,950 applications). As the process has grown more competitive, the admissions office increasingly chooses among candidates so uniformly excellent that there is little way to distinguish among them based on grades and test scores; deliberations frequently come down to what Fitzsimmons calls “the intangibles”: an alumni interview, a letter from a teacher, a guidance counselor’s recommendation.



Visit harvardmag.com/students-375 for interactive graphics, including a chart of undergraduate concentrations and a map showing international students’ places of origin.

Purposeful Pupils

TODAY’S STUDENTS arrive at college eager to have their next four years, and beyond, planned from day one. Some administrators report that students choose even supposedly recreational extracurriculars strategically: assuming a leadership post in one group one year, moving to a different type of organization the next year—concerned all the while at least as much about what looks good on a résumé as about what would be fun or fulfilling.

This intense sense of purpose is attributable in part to economic factors. Sean and Judith Palfrey, the masters of Adams House since 2000, see September 11, 2001, as a turning point: a blow to the world economy that also shattered Americans’ sense of safety. Students who graduated in 2001 and before “saw the world as their oyster,” says Judy Palfrey. In the years since, a sense of vulnerability and fear has pierced that bravado: Bureau of Study Counsel associate director Sheila Reindl ’80, Ed.D. ’95, recalls being struck, in a recent discussion with students about their values, by how “the word ‘security’ came up a lot.”

Employers’ recruiting schedules have also crept earlier in senior year. “When I started here 15 years ago, the fall recruiting season was only for January graduates,” says Nancy Saunders, director of undergraduate career programming and advising for the Office of Career Services (OCS). “Employers seeking someone graduating in June didn’t even arrive on campus until January,” and it wasn’t uncommon for students to wait until *after* graduation to figure out what came next. The on-campus recruiting program has grown from 2,904 interviews in the 1985-86 academic year to more than 6,000 this past year; 80 percent of full-time hiring now takes place during the fall round, a switch that dates to the 1990s.

This “careerist” atmosphere may lead some students to focus

International Undergrads

The top 10 home countries, outside the United States, for undergraduates in the classes of 1990 and 2015 (entering this fall). A dash indicates the country was not in the top 10 for that year.

	Class of 1990	Class of 2015
Canada	35	34
United Kingdom	15	33
Australia	--	7
Kenya	--	7
Korea	9	--
India	--	9
Singapore	--	7
China	6	6
Pakistan	--	6
Germany	5	4
Greece	3	4
Japan	4	4
Jordan	--	4
Taiwan	5	--

SOURCE: OFFICE OF ADMISSIONS AND FINANCIAL AID

so much on creating an attractive package for prospective employers that they lose sight of the point of a liberal-arts education. But some advisers say that urging students to ignore economic pressures is insensitive—particularly now that more of them come from low-income families and may find themselves helping to support parents or younger siblings immediately after, or even *during*, college.

Harvard graduates' job choices are as much a reflection of the changing economy as of their own changing priorities—in the College's senior survey, 41 percent of the class of 2011 who responded went into four business fields: financial services (17 percent), consulting (12 percent), sales and marketing (3 percent), and other business (9 percent). In 1986, when there was only one such category, 18 percent of seniors planned business careers.

Roughly equal numbers of students are entering communica-

When Judy Palfrey arrived at Radcliffe in the fall of 1963, parents' attitude toward sending their children off to college was "I love you very much. Goodbye," she recalls. That "goodbye" moment may be delayed until *after* college now; technology enables students to talk with parents daily—sometimes several times a day.

Although the phenomenon is not universal, it is common enough that administrators have become concerned about "helicopter parents." The freshman dean's office added sessions for parents at "Pre-frosh Weekend" (the April visiting program for accepted applicants) after they began showing up along with their children. Dean of freshmen Thomas A. Dingman sees their influence on his academic advisees: "I'll have a meeting with an advisee about whether he wants to drop a course, and he'll walk out of here and he'll be on his cell phone in the lobby with his parents to tell them what I said."

Administrators report receiving more frequent calls from par-

ents on their sons' and daughters' behalf. Dingman (who acknowledges placing calls on his own daughters' behalf) worries about the consequences for students' independent thinking: "The students are missing an opportunity to advocate for themselves. They don't get familiar with their own voices, and they can think their own voices don't even matter."

Instead of revising their own research papers and applications for fellowships and graduate school, students report e-mailing them to parents for proofreading. The trouble with that practice? "Red ink can help you learn, rather than someone else cleaning it up for you in advance," Dingman says. Students today feel "that there isn't much room to make mistakes," he adds: with productivity, efficiency, and perfection as goals, they fear that

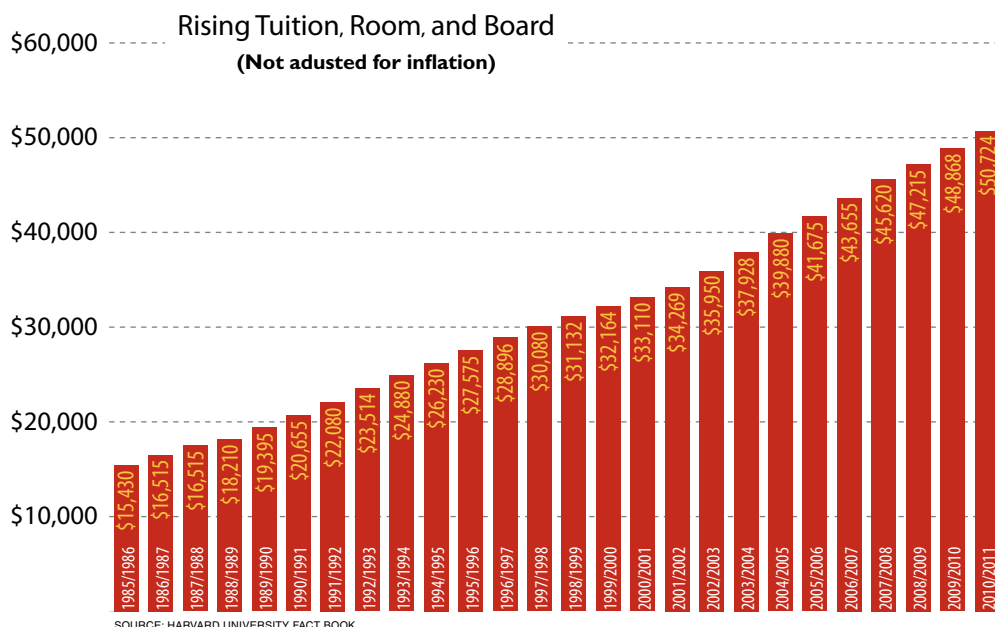
mistakes, dalliances such as hobbies, or even downtime itself, may hurt their chances for success in the job market, and in life.

Always Busy, Always Learning?

"I DON'T THINK students are making choices," Timothy McCarthy '93, an adjunct professor at the Kennedy School and resident tutor in Quincy House, told Undergraduate columnist Casey N. Cep '07 in 2007. "Instead, they are choosing to try and do everything." (For more on the frenetic pace of student life, see "Nonstop," March-April 2010, page 34.)

In a 2001 column, Arianne R. Cohen '03 captured the pressure on students to accomplish more than humanly possible in a 24-hour day, detailing how she adjusted by cutting out sleep, and the consequences:

After a full night of procrastination and studying, I would collapse into bed around 4 or 5 A.M., only to drag myself back out of bed at 6:45 A.M. to make my 7 A.M. monitoring shift at the Malkin Athletic Center, where I would fall asleep every few minutes while sitting straight up



tions, media, and the arts (10 percent in 2011; 12 percent in 1986), and information technology (3 percent in 2011; 4 percent working in "science/technology" in 1986). Seven percent of the 2011 graduating class planned to work in the nonprofit sector, a category that wasn't listed in 1986.

Fewer students planned to enter law (4 percent in 2011; 10 percent in 1986) or health and medicine (8 percent in 2011; 15 percent in 1986). But OCS director Robin Mount notes that the office has changed the way it asks the question. It used to ask seniors what they planned to do immediately; the answer was often "undecided" or some short-term activity unrelated to long-term career plans. Now, students almost *always* know by senior spring what they'll be doing after they graduate, for at least the next couple of years, and it's what comes after—the long-term plan—that is the question mark.

The Parental Prop

THOSE WHO WORK with students inevitably mention a major cultural shift: *parents* have become a bigger part of college life.

The Students Speak

"We discuss our regrets—none of which involve studying more for Core class midterms, an alarming number of which involve the sending of ill-advised e-mails to unrequited loves..." ~Amelia E. Lester '05



The "Undergraduate" column provides snapshots of life as a Harvard student, showing what's changed over the years—and what hasn't. Find a collection of past columns at harvardmag.com/students-375.

on a metal stool for two hours, before heading off to class. Accordingly, I considered myself one of Harvard's hardest-working, most self-sacrificing students.

Today's students "seem to fill up every available moment," says Dingman. The number of registered student extracurricular groups doubled between 1985 and 2010, to roughly 400. Professors and administrators report that today's students spend less time on classwork and come to class less frequently—and are often sleep-deprived when they do. They increasingly operate on a 24-hour schedule: Lamont Library now stays open all night, and all the dining halls offer "Brain Break" (late-night snacks) five nights a week.

Professor of sociology and of medicine and Pforzheimer House co-master Nicholas Christakis notes that students give his undergraduate sociology course a difficulty rating of 3 (on a scale of 1 to 5). For this moderately challenging class, the students report spending an average of three hours per week on coursework outside class—and consistently complain about the heavy reading load. Christakis has little sympathy: "I'm old-fashioned in this regard. I think the primary reason you're here at Harvard is to study and learn."

In his 2006 book *Excellence Without a Soul*, McKay professor of computer science Harry R. Lewis, dean of the College from 1995 to 2003, wrote that students turn to "episodic frantic activity—studying, partying, exercising, organizing a road trip for some student group—as a way of avoiding the gnawing question: Am I doing what I really want to do with my college years, and am I heading where I want to go? In college, with its endless distractions, it is easy to find excuses for looking intensely anywhere but inside oneself."

Even if these activities fill a recreational role, they are an important component of the student experience. "You can't dismiss this as ancillary fluff," says dean of student life Suzy M. Nelson. "Making connections when you get to campus, making friends—those are some of the most important things a freshman can do. You're probably not going to be successful in the classroom unless that happens."

Serving the Whole Student

BECAUSE TODAY'S STUDENTS are more diverse, busier, and more stressed by career concerns, the College has responded with more institutional supports, starting with freshman advising. Dingman recalls that when he was a student in the 1960s, an academic adviser would tell a student, "You've got four courses on your study card. See you later."

Today, training for freshman advisers includes guidance on paying attention to students' mental health, physical activity, nutrition, and social, family, and financial concerns—all factors that affect academic success. In recent years, the number of students per adviser has been reduced significantly to allow more frequent in-

teraction. Peer advising fellows, upperclassmen assigned to each freshman entryway, are expected to spend one-on-one time with each student (and refer students to other fellows with relevant knowledge for subject-specific mentoring as necessary), in addition to planning group events for the whole entryway.

A particular concern is helping students from disadvantaged backgrounds adjust to life at Harvard, where they may be floored by what their friends take for granted, or feel alienated from classmates whose families have much more money. Training for House tutors, masters, and resident deans, and for freshman advisers and proctors, now incorporates these concerns—reminding administrators, for instance, that some students will not be able to afford to go home for Thanksgiving. Students from low-income families can get free tickets to campus events such as theatrical performances and House formals. (The financial aid office determines eligibility and notifies students confidentially.)

Students today are more likely to *live* on campus than ever: just 120 undergraduates chose to live off campus last year, compared to 500 in 1980. But *social life*, increasingly, may be moving off campus. Some House masters and administrators claim that the all-male final clubs have become more central to student social life in the last decade. Women have founded all-female variants (the Seneca, the Bee), and the *Crimson* reported in May that students were joining national fraternities and sororities in record numbers: 268 women rushed Harvard's three sororities, and there is talk of adding a fourth to meet demand. (None of these groups are officially recognized because of their gender-exclusive nature.)

Despite a perception that binge drinking is on the rise, its prevalence is essentially unchanged, says Ryan Travia, who directs Harvard's office of alcohol and other drug services. But there is increased concern about the problem, partly due to parents' growing expectation that the College take care of their sons and daughters. Since Travia's office was created in 2005, it has trained a network of 80 student peer advisers on drug and alcohol issues, and it funds the purchase of snacks and nonalcoholic beverages for student parties. The College also requires students to register room parties now, declaring how many guests are expected and whether alcohol will be present.

WHAT WOULD THOSE who work with Harvard students wish for them in another 25 years?

Sheila Reindl, of the Bureau of Study Counsel, hopes that, with renewed focus and proposed renovations, the Houses will become places where students more frequently experience "genuine connection" with others. Suzy Nelson, the dean of student life, hopes that Harvard becomes more of "a place where you meet people from different backgrounds and you really get to know them, and you don't just stick with your own group."

Thomas Dingman, the dean of freshmen, hopes that the trend of preparing for a job and professionalizing one's life ever earlier will have begun to reverse itself. The college years, he says, are "an awfully early time in your life to be shutting off the chance to grow in some potentially exciting directions." ▽

Elizabeth Gudrais '01 is associate editor of this magazine.



Visit the online version of this article at harvardmag.com/students-375 to see a sample party form, resources for College students from low-income families, and other relevant links.

Faster, Higher, Stronger

ATHLETIC ACCOMPLISHMENTS, HIGHLIGHTED

IN 1986 CHARLOTTE “CHAR” JOSLIN ’90, M.B.A. ’95, was a freshman at Radcliffe College. Joslin is still around, but Radcliffe College is not, nor is an athletic archetype that Joslin represented: the three-letter woman. She played varsity in three sports at Harvard, lettering all four years in field hockey, ice hockey, and lacrosse. Joslin was in all likelihood the last of the three-sport Mohicans. College teams now recruit specialists, athletes who find not only their sport but their role within it—say, soccer forward—at earlier and earlier ages.

Specialization was under way even in 1986 (see “The Professionalization of Ivy League Sports,” September-October 1997, page 36), but it is only one of the many changes that have

rippled through athletics. With specialization comes the opportunity to spend all 12 months training for one sport, in-season and off-season both. Intense, high-level competition, much of it on club teams, has filtered down to ever-younger cohorts; adult training and coaching also kicks in earlier. The result is better-conditioned, more skillful, and less versatile college athletes than in years past. Those players are more heavily recruited than ever, and come from all over the world, especially in international sports like soccer, tennis, basketball, squash, and rowing.

Approximately 20 percent of undergraduates now play on the teams that Harvard fields in 41 varsity sports—the most of

The Crimson Triumphant

25 high moments in Harvard athletics, 1986-2011

by John Bethell

The past quarter-century was an era of prosperity for Harvard athletics. Varsity teams won 184 Ivy League championships in 17 different sports, while 11 teams captured national titles in crew, fencing, hockey, lacrosse, sailing, and squash. More than 30 individual athletes won national titles.

These were some of the era’s memorable moments:



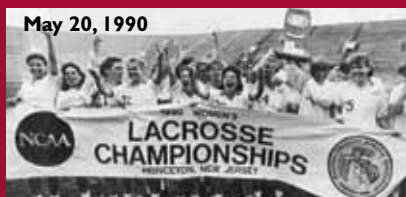
November 21, 1987

November 16, 1986. After an hour and 50 minutes of tense, scoreless action, a penalty-kick shootout gives the men’s soccer team a 2-1 victory over Yale in the first round of the NCAA tournament. Harvard reaches the tournament semifinals for the first time since 1971.



April 1, 1989

November 21, 1987. With the wind chill at minus 10, the football and men’s soccer teams clinch Ivy League titles within hours of each other in New Haven. The unbeaten soccer team holds Yale’s defending champions to a 0-0, double-overtime draw, and the gridgers top the Blue in a 14-10 cliffhanger. The soccer team again makes the NCAA semifinals.



May 20, 1990

March 4, 1989. Olympic medalist David Berkoff ’88 (’89), the world record-holder in the 100-meter backstroke, competes in his final swimming meet at Blodgett Pool and wins his second NCAA title.

April 1, 1989. A 4-3 overtime victory over Minnesota at St. Paul’s Civic Center brings the men’s hockey team an NCAA championship. Wing Ed Krayner ’89 gets the decisive goal. Captain Lane MacDonald ’88 (’89), wins the Hobey Baker Award as the nation’s top college player.

June 2, 1989. Meredith Rainey ’90 places first in the 800-meter event at the national track and field championships in Provo, Utah. Rainey is the Ivy League’s first woman athlete to win a national title.

May 20, 1990. Climaxing a 15-0 season, the women’s lacrosse team comes from four goals down to upset Maryland, 8-7, in the NCAA championship final. Two-time all-American Charlotte Joslin ’90, a three-sport athlete (field hockey, ice hockey, lacrosse), closes out her college athletic career with

a twelfth varsity letter and a twelfth all-Ivy citation.

November 10, 1991. With 25 seconds to play, all-Ivy midfielder Becky Gaffney ’92 scores the game-winner to defeat Princeton, 2-1, giving Harvard an Eastern field hockey championship.

March 1, 1992. Jeremy Fraiberg ’92 and sister Jordanna ’94 both win national collegiate squash championships. Harvard also claims the men’s and women’s team titles.

November 9, 1996. The women’s soccer team, sparked by all-American midfielder Emily Stauffer ’98 captures a second consecutive Ivy title, defeating Brown, 3-1, in a downpour. The team’s regular-season record of 15-1 sets a standard that remains unmatched.

May 10, 1997. The men’s tennis team rallies to gain a 4-3 victory over powerhouse Miami in NCAA regional play. Captain Mitty Arnold ’97 and Thomas Blake ’98 go on to the semifinals of the national doubles tournament, the best showing for a Crimson duo in 70 years.

any college. Add to this the participants in intramural athletics and club sports, of which there are 51, plus those who exercise for recreational and fitness reasons—the Malkin, Hemenway, and Murr gyms buzz constantly—and by some estimates nearly 80 percent of the College leads the vigorous life.

Several sports where Harvard has had a long record of success have stayed at or near the top of collegiate rankings—men's heavyweight and lightweight crew, women's basketball and squash, tennis, football, and swimming and diving. Other once-dominant programs have become part of the pack, including men's squash and ice hockey. In still other instances, Crimson squads have risen from humble records to great ones, as with men's and women's fencing, which won a national title in 2006; wrestling, which has produced national champions Jesse Jantzen '04 and J.P. O'Connor '10; and men's basketball, where coach Tommy Amaker's team last year shared the Crimson's first Ivy title (with Princeton). Four Harvard teams have won NCAA championships, and all four have come since 1986: men's ice hockey in 1989, women's lacrosse in 1990, women's rowing in 2003, and the coed fencing title of 2006. Harvard has also won

many national championships in non-NCAA sports like men's rowing; women's squash was the most recent one, in 2010.

These athletes deploy their skills in a changed physical plant. The department of athletics and its coaches moved to the newly opened Murr Center in 1998; in retrospect, it is hard to believe that the department once operated out of a square brick building at 60 JFK Street, or that the three Palmer-Dixon courts were the only indoor tennis venues at Harvard, which now has six courts at Murr, along with a bank of new, international-size squash courts. The Stadium's playing field has been changed to artificial turf, making it possible to inflate a bubble enclosure there each winter and get far more sportive use from that space. New lights atop the Stadium also enable nighttime football games, as well as after-dark contests in other sports. The illuminated, artificial-turf Soldiers Field Soccer Stadium welcomes nighttime practice sessions and games as well, an accommodation prompted by the nocturnal habits of current undergraduates. If Char Joslin were a freshman today, she would still, no doubt, become a star athlete, but her star would shine in a different sky, with some new constellations. ~CRAIG LAMBERT

May 22, 1997. Frank Hogan '97, the Ivy League's pitcher of the year, throws eight strong innings as the baseball team upsets fourth-ranked UCLA, 7-2, in the NCAA tournament's opening round.

March 14, 1998. Behind 35 points and 13 rebounds from co-captain Allison Feaster '98, the women's basketball team stuns top-seeded Stanford, 71-67, in an NCAA first-round game. Harvard is the only sixteenth-seeded team ever to oust a top seed in tournament play.

April 28, 1998. Ace pitcher Tasha Cupp '98 crafts a perfect game as the softball team defeats Rhode Island, 3-0. Unbeaten in its 12 Ivy League contests, the team makes its NCAA debut in May.

March 27, 1999. The women's hockey team defeats New Hampshire, 6-5, in a national championship final. Angie Francisco '01 has a hat trick; Jennifer Botterill '02 scores the deciding goal. The team finishes with a 30-game unbeaten streak and a record of 33-1.

June 5, 2001. Three women track stars are NCAA titlists: Dora Györfy '01 wins the outdoor high jump, Kart Siilats '02 wins the indoor high jump, and co-captain Brenda Taylor '01 wins the 400-meter hurdles.

November 17, 2001. Coach Tim Murphy's football team completes Harvard's first unbeaten, untied season (9-0) since 1913, capping it by outscoring Yale, 35-23, at Yale Bowl.

May 31–June 1, 2003. Men's and women's crews win three national titles in a span of two days. The men's heavyweight and lightweight boats take firsts at the Intercollegiate Rowing Association regatta at Camden, New Jersey; a day later, Radcliffe's heavies outrow top-ranked Stanford to earn an NCAA championship at Indianapolis.

March 20, 2004. Jesse Jantzen '04 wins the national 149-pound wrestling title. The NCAA crown is the first for a Harvard grappler since 1938.

June 3, 2005. The sailing team wins the women's intercol-

legiate championship—the team's third women's or coed title in four years.

November 19, 2005. In the Ivy League's first triple-overtime game, the football team overcomes a 21-3 second-half deficit at Yale Bowl, ties the score with just over three minutes to play, and prevails at last, 30-24. Halfback Clifton Dawson '07, who will graduate as the Ivy League's all-time rushing and scoring leader, makes the tie-breaking touchdown.

March 19, 2006. With nine all-Americans competing in foil, sabre, and épée, the men's and women's fencing teams win their first national championship. Benji Ungar '08 is the individual champion in épée.

August 16, 2008. Emily Cross '08, the women's fencing team's first NCAA titlist, is a silver medalist at the Beijing Olympics.

November 21, 2009. The football team records a fifth straight win at Yale Bowl, scoring two late touchdowns in a 14-10 thriller. Quarterback Collier

Winters '10 throws long passes for both Crimson tallies.

March 7, 2010. Senior Colin West '10 and freshman Laura Gemmell '13 win national squash titles. The unbeaten women's squad (12-0) wins a national team championship for the twelfth time in program history.

March 5, 2011. The reascent men's basketball team (23-7, 12-2 Ivy) defeats Princeton, 79-67, to give Harvard a share of the Ivy title for the first time since the inception of formal league play in 1956.



Study Card

A SAMPLING OF CURRENT UNDERGRADUATE COURSES

SHORT of taking a sabbatical and enrolling in the College for a semester, how can you know what undergraduates study today? Enter *The Harvard Sampler*, a collection of essays by faculty members derived from or about their courses in the Core Curriculum or its successor, the General Education curriculum (first implemented in 2009, with many Core and departmental offerings carried over, plus dozens of new ones; see www.generaleducation.fas.harvard.edu)—intended to broaden liberal-arts studies in eight fields. The volume, edited by Jennifer

M. Shephard (in the division of social science), Stephen M. Kosslyn (a psychologist and former dean of social science, now director of the Center for Advanced Study in the Behavioral Sciences at Stanford), and Harvard College dean Evelyn M. Hammonds, includes a dozen chapters, in disciplines ranging from evolutionary biology and human rights to global history and psychology. Excerpts from five of the essays (minus their references to the underlying academic literature) follow. The book will be published by Harvard University Press in October. ~THE EDITORS



Enhancing Religious Literacy

by ALI S. ASANI

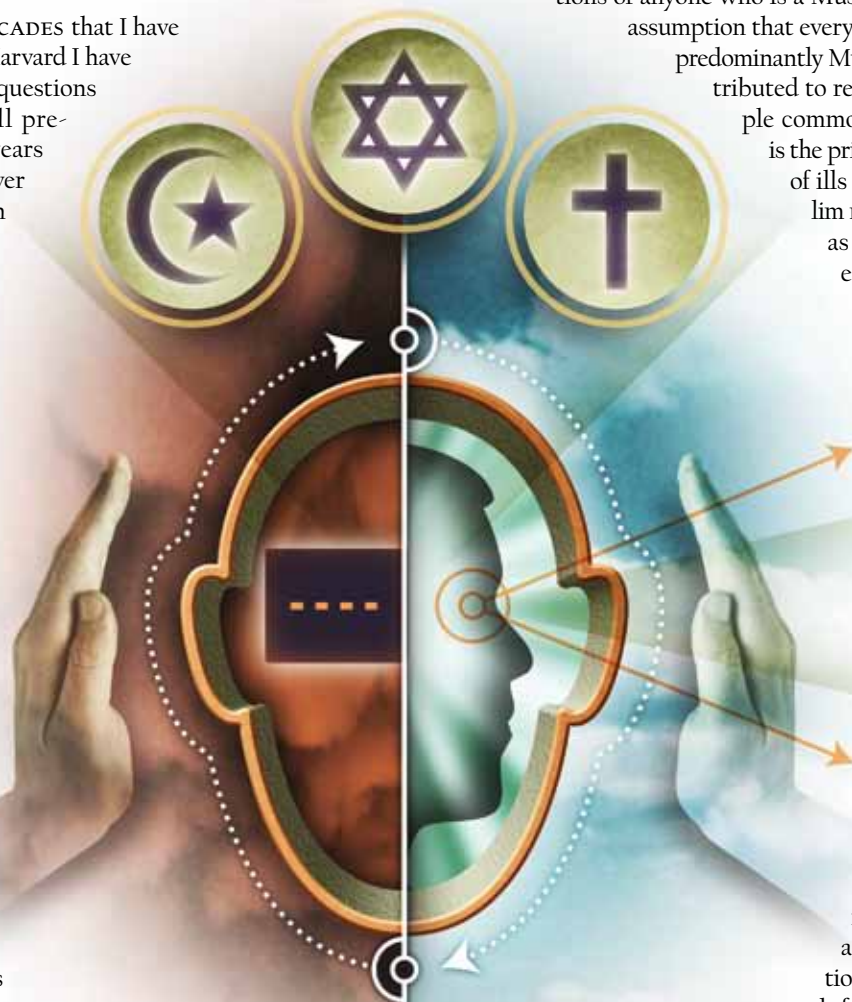
OVER THE TWO DECADES that I have been teaching at Harvard I have been asked many questions about Islam, but I was ill prepared when, a couple of years ago, a student asked me over dinner at a restaurant in Harvard Square: “How can anyone who is rational and intelligent believe in and practice a religion that promotes violence, terror, [and] suicide bombings and is blatantly against fundamental human rights and freedom?”

Exacerbating the lack of knowledge about Islam and Muslim cultures in the United States is a widespread illiteracy about the nature of religion in general.

One of religious illiteracy’s common symptoms is the tendency to associate a religion solely with its devotional practices, such as rites, rituals, and religious festivals. Another is the pro-

pensity to attribute the actions of individuals, communities, and nations exclusively to religion. With regard to Islam, it results in the perception that the faith is chiefly responsible for all the actions of anyone who is a Muslim. It also leads to the

assumption that everything that happens in a predominantly Muslim country can be attributed to religion. Thus many people commonly assume that Islam is the principal cause of a variety of ills that plague some Muslim majority countries, such as the lack of democracy, economic underdevelopment, unjust treatment and marginalization of women. To many Muslims, such explanations are as absurd as the claim that Christianity is responsible for the United States, a predominantly Christian nation, having one of the highest crime rates in the world. Illiteracy about religion and culture hinders the ability to look for complex and more plausible explanations rooted in political, economic, and sociological conditions. It also hampers people from realizing that, while religion may be invoked as a le-



gitimizer for certain human actions, the primary motivating forces are often rooted elsewhere. Religious literacy helps students to recognize that all interpretations of religion are essentially human enterprises; the faithful may consider certain religious truths to be divinely revealed, but the meanings they construct from these truths are heavily dependent on their worldly circumstances and realities.

Ultimately, if unchecked, religious and cultural illiteracy strips peoples and nations of their history, their culture, their politics, their economics—in short, their humanity. History is full of examples of conflicts and tragedies that result from a group of people from one religious, racial, or ethnic background failing to accept and to respect the humanity of others. During times of

heightened political and military conflicts, religious and cultural illiteracy strongly influences how peoples of different nations, cultures, and religions perceive each other.

From “Enhancing Religious Literacy in a Liberal Arts Education through the Study of Islam and Muslim Societies,” by Ali S. Asani, professor of Indo-Muslim and Islamic religion and cultures and chair of the department of Near Eastern languages and civilizations. He teaches Culture and Belief 12, “For the Love of God and His Prophet: Religion, Culture, and the Arts in Muslim Societies,” and Culture and Belief 19, “Understanding Islam and Contemporary Muslim Societies,” and is the author of Infidel of Love: Exploring Muslim Understandings of Islam (forthcoming from Harvard University Press).

Asserting Power over Technology in an Era of Leaky Bits

by HARRY R. LEWIS

LOOKING AT CYBERSPACE from 50,000 feet, we are going to be choosing between two alternative worldviews. In one view of the world, information ubiquity is the natural state; the bits will always leak. There are digital tools, such as encryption and anonymous routing, to make the flows of bits less dangerous to us and less conducive to surveillance and commercial exploitation. But fundamentally, in this worldview, people must be responsible for themselves. They need to learn homespun safety lessons: Don't give away data about yourself if you don't want it abused. Don't believe what you read on a Web site if it's anonymous and can't be traced. Don't believe that anyone, even the government, can collect vast amounts of information and keep it all secret forever.

In this worldview the most important thing society can do is to teach people how to take care of themselves, how not to overreact to misfortunes, how to capitalize on the potential of the revolution without assuming its risks.

In the alternative view, information, for all its usefulness, is a fundamentally dangerous substance. It must be bottled up, dammed, diverted, and origin labeled, or packaged and sold for money, even if it is a century old. This is the world of 1984, except that the information sources are in private hands, not just government hands, and the information users are commercial as well as governmental. This is the world in which the response to every problem is a regulation, or an agency, or perhaps a hardware feature. This is the world of Green Dam spyware and censorship software—China's modern *Index Librorum Prohibitorum*. It is also the world of central Internet monitoring in Australia (for obscenity) and France (for copyright infringement, in spite of the provision in Article 19 of the UN General Assembly's 1948 “Universal Declaration of Human Rights” to “receive and impart information and ideas through any media and regardless of frontiers”). It is the world in which the most open societies use the tools of the most repressive, and citizens of democracies are grateful for the safety and prosperity they are promised.



Commercial and governmental forces make it easy to forget how much power we have over how technologies will shape our future. All of us who live in free societies share that power, and especially the young, who can decide what kind of world they want to inhabit.

We can help make that choice through the political process, by watching what laws are enacted by state and national governments. We can help make it by our choices as consumers, by what we say about the features present in, and missing from, the devices and technologies we buy.

We can make it by what we have to say about the workings of the institutions and businesses of which we are a part. We can resist those expurgated dictionaries and those Web sites that want to know things you do not want to tell them. We can speak up. We can leave the box on the shelf. We can click “I don’t agree.”

Whatever we choose, we should not let one world or the other evolve because others—especially governments and corporations—have made the choice for us. The revolution has its delights, but we need to think beyond them—think how they work, who has the data, and what they can do with it. We need

We can resist those expurgated dictionaries and those Web sites that want to know things you do not want to tell them. We can speak up. We can click “I don’t agree.”

to use our rationality, our knowledge, and our education to shape the world in which we and our children and our children’s children will live.

From “*The Internet and Hieronymus Bosch: Fear, Protection, and Liberty in Cyberspace*,” by Harry R. Lewis, Gordon McKay professor of computer science, an adaptation of the final lecture in his course *Quantitative Reasoning 48, “Bits,”* subsequently offered as *Empirical and Mathematical Reasoning 12*, under the same title, and as *Computer Science E-2* in the Harvard Extension School.



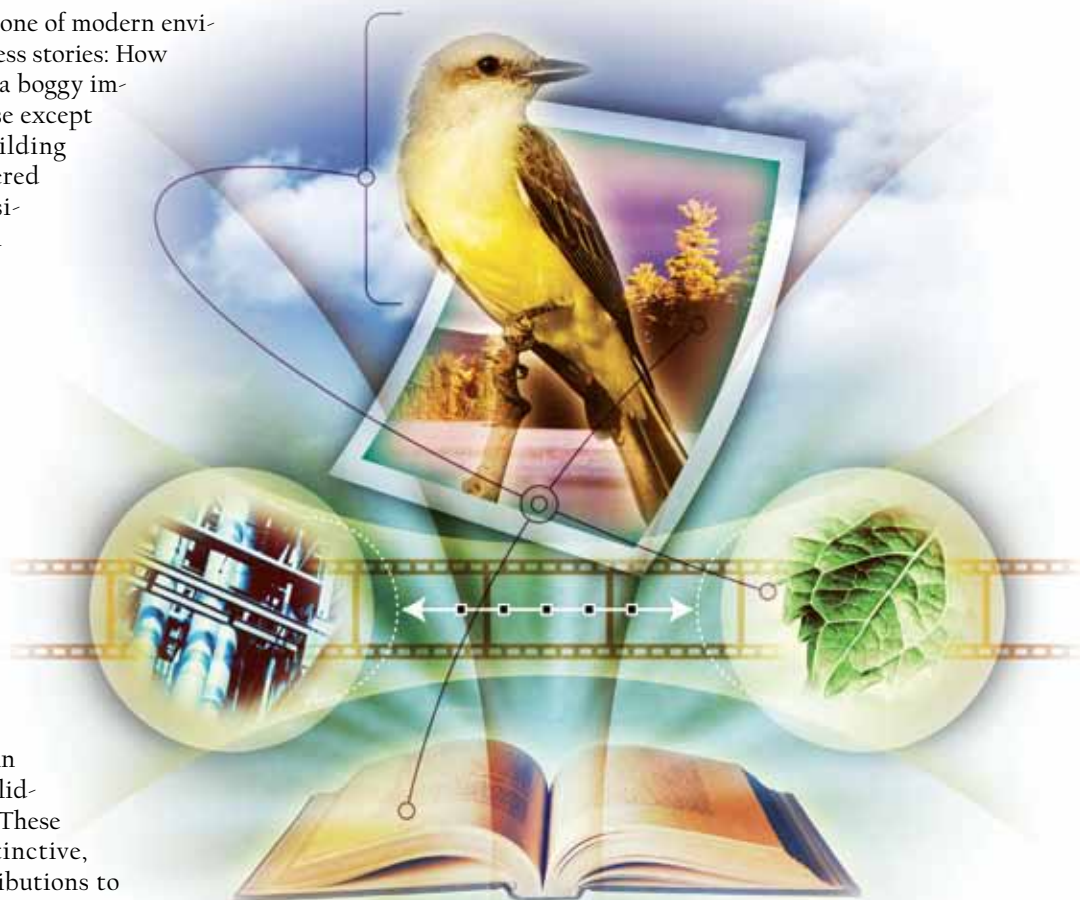
Literature and the Environment

by LAWRENCE BUELL

THE ARTS AND HUMANITIES have potentially crucial contributions to make toward full understanding of the multiple, accelerating environmental challenges facing the world today.

To take a simple example from one of modern environmentalism’s comparative success stories: How does one transform a “swamp”—a boggy impenetrable tract of no seeming use except when drained for tillage or building sites—into a “wetland” considered worthy of preservation, intrinsically valuable, and even beautiful in its own way? Obviously, such a shift, which has taken place only during the past half-century, requires a fundamental transformation of taste and values as well as scrupulous scientific research, protracted advocacy and litigation, careful legislation, and administrative implementation. A mere glance at guidebooks like the National Audubon Society’s *Wetlands* that line the shelves of the nature section of a typical American bookstore confirms the importance of narrative and image in helping to bring about and to solidify that transformation of values. These two approaches each have distinctive, though often overlapping, contributions to

make. Narrative can both define and underscore the gravity of actual or possible events by means of plotlines involving characters the reader or viewer is made to care about intensely. For example, the sport-hunting industry used to complain that the worst thing that ever happened to it was *Bambi*—an antiwar novel of the 1920s made into a more famous Disney film on the



verge of World War II in which many of the appealing forest creatures are killed by ruthless hunters. Freestanding images or sequences of images, often used in combination with narrative, can capture and preserve—in such a way as to make the viewer also want to preserve—endangered landscapes and regions. If restrictions on oil drilling in northern Alaska should continue, much of the credit will need to go to the power of film, photography, and TV nature specials to instill in the American public, few of whom will ever visit the region personally, indelible images of this region's importance as the last unspoiled national

wilderness. How a place gets imaged, what stories about it get told, how they are remembered—all this can clearly make a difference not just aesthetically but historically, for public values and behavior.

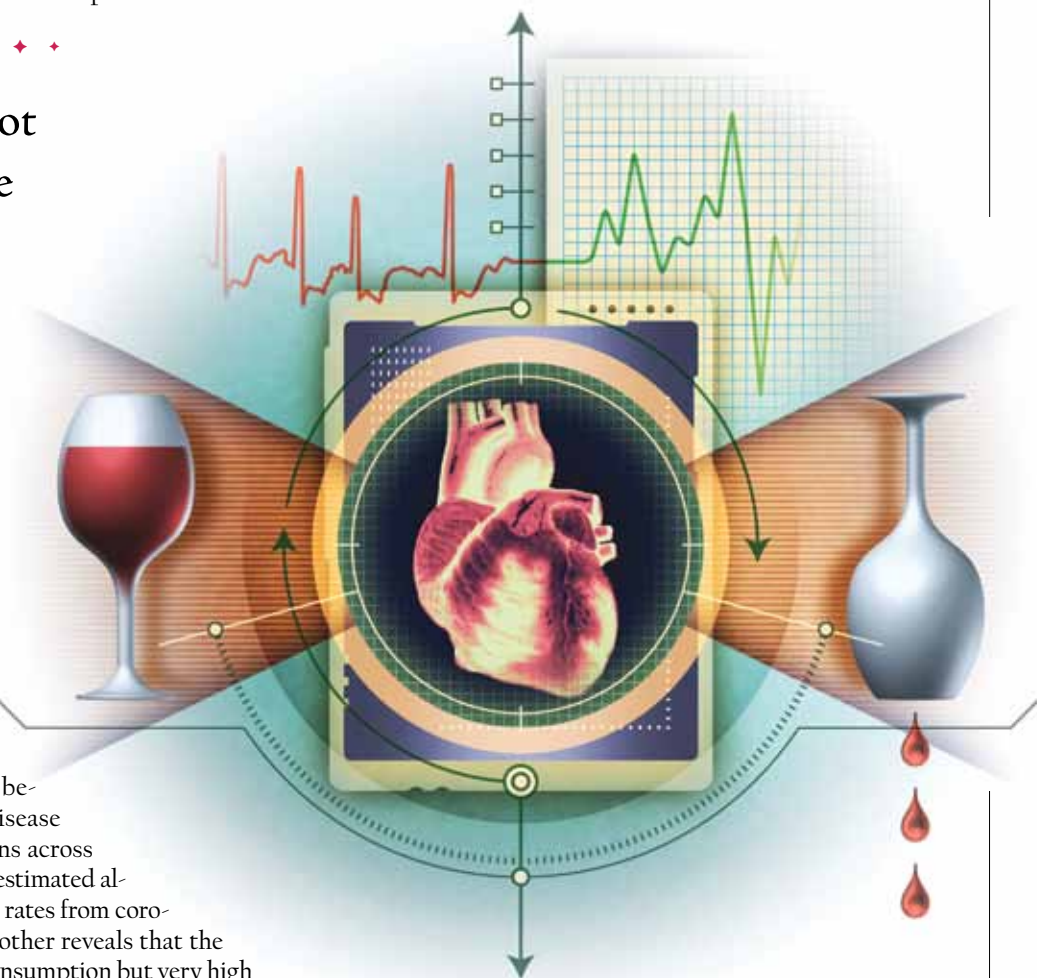
From "American Literature and the American Environment: There Never Was an 'Is' without a 'Where,'" by Lawrence Buell, Cabot research professor of American literature. For many years, he taught Literature and Arts A-64, later Aesthetic and Interpretive Understanding 22, "American Literature and the American Environment."

Why the Finns Do Not Drink but Die and the French Drink but Do Not Die

by KARIN B. MICHELS

A SUCCESSFUL public health prevention program requires knowledge of factors that may increase the likelihood of maintaining health or developing a disease. Several different study types can be employed to gain a better understanding of such risk factors. Which study type is most appropriate depends on the question at hand; each study type has its own set of strengths and weaknesses.

Initial explorations of the relation between a suspected risk factor and a disease may include examining their correlations across several countries. For example, plotting estimated alcohol consumption per capita and death rates from coronary heart disease (CHD) against each other reveals that the population of Finland has low alcohol consumption but very high mortality from CHD. Conversely, the French have a high consumption of alcoholic beverages but one of the lowest death rates from CHD. What can we learn from these observations? Such ecological studies suggest that alcohol consumption may reduce the risk of dying from heart disease. But this picture could be distorted by other lifestyle factors correlated with alcohol consumption and also with CHD mortality. The Finns have a high consumption of saturated fat, which is associated with a high risk of heart disease, and the French have a diet rich in vegetable oil and fresh fruits and vegetables, which are associated with a low risk of heart disease—although the French do like their butter, too. So are these other dietary factors, rather than alcohol consumption, truly responsible for the differences in heart disease mortality? If so, they would confound the association between alcohol and CHD mortality. And then there is Japan: the Japanese do not drink much alcohol and they do not die from CHD! This observa-



The Finns have a high consumption of saturated fat, and the French have a diet rich in vegetable oil and fresh fruits and vegetables—although the French do like their butter, too.

tion confirms that the story is not straightforward and that other factors may play important roles in influencing or confounding the association of interest. A confounder is a third variable that is associated with the risk factor or exposure of interest and is itself a risk factor for the disease. We can think of many factors

that fulfill these conditions and can therefore distort the association of interest. Our goal is, therefore, to exclude the influence of confounders. To do this we would need data on the individual level. And we need to be able to measure the potential confounders. We can then eliminate their influence statistically by holding their level constant in so-called regression models (which allow

for the simultaneous adjustment of many confounding variables).

From "Medical Detectives," by Karin B. Michels, associate professor of obstetrics, gynecology, and reproductive health, Harvard Medical School, and associate professor, department of epidemiology, Harvard School of Public Health, who teaches Empirical and Mathematical Reasoning 15 under the same title.



Accounting for a Good Life

by THOMAS M. SCANLON JR.

A PLAUSIBLE ACCOUNT of what makes someone's life better will be a "substantive good" account: a claim or set of claims about what things are good in themselves, not good because they are desired. Hedonism is one such an account; it is just an implausibly narrow one, a list that includes only one element.

Any account of what makes someone's life go better, especially one that rests on claims about what is substantively good, is bound to be controversial. So one might ask (as some student in my course always does), "Who's to decide what makes a life better?" It is important to see that this is a facile debating move, not a serious question. To say of some person that he is "the one to decide" whether A is the case or not suggests that this person has the authority to settle this question: that his deciding that A is the case would make it so. Sometimes, in some institutional settings, for example, there is authority of this kind. The Supreme Court, for example, has the authority to decide whether something is the law of the United States. But with respect to the questions we are considering there obviously is no authority of this kind. So the answer to the question "Who's to decide?" is "No one." That is to say, no one has the authority to settle the question.

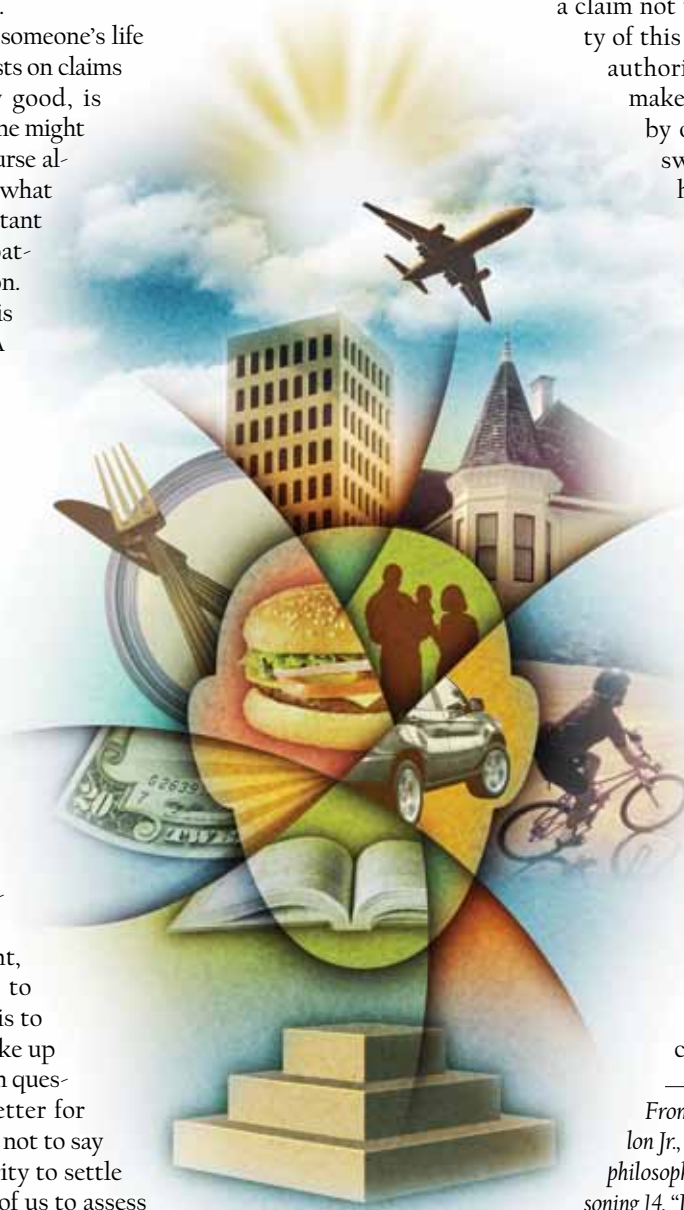
But in another, more relevant, sense the answer to "Who's to decide?" is "Each of us." That is to say, it is up to each of us to make up his or her own mind about such questions as what makes a life better for the person who lives it. This is not to say that each of us has any authority to settle this question. It is up to each of us to assess

the merits of competing answers and arrive at our own conclusion as to which one is correct. But whether this conclusion is correct depends on its merits, not on our decision.

It may seem that each person has special authority to settle the question of what life is the best life for him or her. This may be true in a sense, but not in the sense relevant to our present discussion. It is up to each person to decide how to live, and each person has authority over this question in the sense that (within limits, at least) his or her decision has a claim not to be interfered with. But authority of this kind should not be confused with authority to settle the question of what makes a life worth living—to determine, by one's decision, what the right answer to this question is. We do not have this authority. We can be mistaken about what life would be best for us, although it is also true in many cases that our choices about how to live, even if misguided, ought not to be interfered with.

There is now a growing body of empirical investigations, by psychologists and economists, of what makes people happy, and it might be thought that these findings could provide an answer to the question we are considering. At the most fundamental level, this is not so. Philosophical questions, such as whether the quality of a life for the person who lives it depends only on the person's experience, or only on what he or she desires, or also on something else, cannot be settled by taking a poll. The correctness of an answer depends on the merits of the argument supporting it, not on how many people believe it to be correct.

From "What Is Morality?" by Thomas M. Scanlon Jr., Alford professor of natural religion, moral philosophy, and civil polity. He teaches Ethical Reasoning 14, "Issues in Ethics."



Schooled in Life

ALUMNI ON UNDERGRADUATE EDUCATION, THEN AND NOW

AS THE COLLEGE CELEBRATES its 375th anniversary, we asked members of this year's twenty-fifth reunion class how their education shaped who they have become—and what Harvard could do to improve the education of undergraduates today and in the future.

~NELL PORTER BROWN

"Have Big Lives."

ONE of the more challenging aspects of being a Harvard student and graduate—especially for a woman—is grappling with questions of success and failure, Lisa Myers reports. Myers, the owner of Rosie's Yarn Cellar in Philadelphia and sole U.S. wholesale distributor of fair-trade Manos del Uruguay yarns, has felt the weight of expectations for alumni to "have big lives." "Even if you were going to go off and devote yourself to ending world hunger, there was a sense that you were going to be a famous leader," she says, "not someone nobody ever heard of, and certainly not someone feeding the hungry by cooking for the four people who live in your house every night." Undergraduates internalize the expectations as the tools and resources "to make an impact" are handed over, she says. "The sense that you're just settling down and doing nothing, which you could have done with a B.A. from anywhere, is not a good answer."

During their recent reunion, she and classmates discussed failure at length. "The consensus was that we wished Harvard had taught us more about it—encouraged it, even, since that's where so much growth and discovery begin," she says. "I felt that intellectual risk-taking was the only kind that had been encour-



aged; a classmate thought even that was hardly supported." For Myers, the answer came from the late Plummer professor and Pusey minister Peter J. Gomes, whom a friend quoted as saying, "Leadership is not service." "The Harvardian imperative to 'Give back' has somehow been conflated with what I'll call the 'expectation of leadership,'" Myers says. "The result is alumni who think their role is to organize a 501(c)(3) to support research into a particular cancer, when fundraising for the

American Cancer Society would be a much more efficient use of resources; and alumni who think that starting a business that employs 25 people—while paying the alumnus/a seven figures a year—constitutes 'giving back.'"

Myers would also like to see the College foster more growth in emotional intelligence and self-awareness, although she is not sure what form this would take. "I do recall the impression that the function of College advising was to get us back to paper-writing and exam-taking, not to help us consider the meaning of our lives," she observes. "The current wisdom about happiness—or satisfaction in life, if you prefer—is that it comes from our relationships with other people, not from what we do for a living or how much stuff we have. Could an undergraduate education be structured so as to acknowledge that?"

"Get Jobs! Learn How to Do Something."

THERE IS A NAÏVE BELIEF [upon graduating] that you can do anything, that the world is your oyster," says Yule Caise of Santa Monica, a writer-director and producer of films, new media, and television shows (perhaps best known for his work on NBC's *Heroes*). "That is a great thing about going to Harvard. But it is also a double-edged sword. I think it got some people in trouble because sometimes you can't do whatever it is without proper preparation. You may think you can, but it's often necessary to train"—or to endure the humbling experience of starting from the bottom in a professional field. "My friends who did not go to Harvard did not have this false sense of security and were out there hustling from the get-go."

The College could help current students more by infusing their educational experience with more practical realities, he says.

Workshops on how to turn a calling to the arts into a career would have helped him a lot, for example. "It would also be useful for students to have a roundtable course, with discussions, about entering life post-college, a 'finishing class,' so to speak, that is for seniors only," he adds. "It could be a half-course that is fun, deals with some practicalities I'm sure many students are lacking, and encourages students to think beyond 'getting a job' and lean toward personal satisfaction, which promotes happier and ultimately more successful people."

Students should also "get jobs!" during the year, or at least the



summers. “Learn how to do something. I don’t care if it’s bartending or cleaning,” he says. “There is a humility in learning the basics in life, and at some point you are going to have to do the small stuff. If you cannot bring yourself to do those things, it can be a roadblock you can’t get beyond.”

Caise is heartened to see that Harvard seems to take the arts more seriously than when he was a visual and environmental studies concentrator and had to fight to make a fiction film for his thesis. (In the end, he won a Hoopes Prize for exceptional

work.) When trying to find alumni contacts in the arts and entertainment world, he was on his own. He thinks perhaps even more could be done to integrate arts into undergraduate education: “I feel strongly that students should be highly encouraged to participate in some sort of artistic endeavor, much as one should be encouraged to participate in the sciences. The perspective gained from the arts is one of the many things that give Harvard students a leg up over other ‘book-smart’ undergraduates. Being well-rounded is invaluable in the new world.”



The “Classic Tough and Demanding Harvard Professor”

HARVARD WAS “a major step forward” for Paul B. O’Brien in learning critical listening, thinking, and communication skills. He learned well: as pastor of Saint Patrick Parish in the former industrial city of Lawrence, Massachusetts, he leads a congregation of many thousands and runs the Cor Unum Meal Center, which serves more than 200,000 meals annually. “A lot of what I do is try to help people with their day-to-day life issues—some people are very happy, but often their issues are big challenges,” he says. “I have to be the best listener I can be to try and understand someone’s perspective....You have to really hear their words and read a person’s feelings and try to understand where they are coming from. It takes logical thinking and real-life philosophical work. And then I try to communicate the revelations God has for this person’s life.”

Asked how the College can best prepare undergraduates today, O’Brien emphasizes rigorous academics coupled with close relationships with professors. He cites his sophomore government tutorial at Mather House as “an ideal academic experience”: the material was very difficult and the course required “constant writing on high-pressure deadlines.” His tutor, he adds, “was extraordinarily challenging and extraordinarily compassionate with people in the group, a perfect combination.”

Even more influential was the process of writing his senior thesis with Arthur Maass, then Thompson professor of government. “He rejected most of what I said and wrote, for months and months. Nothing was good enough: my thinking was inevitably foolishly limited and what I produced for him was surprisingly meager, and

he really drove me to work so much harder,” O’Brien recalls. “Then finally there came a point when I submitted a chapter of my thesis and he said, ‘This is very good.’ And we became the closest friends; he even spent holidays with my family, until he died. He was the classic tough and demanding Harvard professor. He was that way because he cared very much about how my life turned out.” O’Brien presumes such mentorships continue today and urges Harvard to protect and nurture them—and students to pursue them. “The criticism is and was that full professors are not actively engaged with students,” he says. “But my sense was that if I wanted to pursue a connection, that was welcomed.”

O’Brien also lauds Harvard’s encouragement of extracurricular activities, which freed him to explore front-line ministering (both with immigrants in an English as a Second Language program and at a homeless shelter in Harvard Square) before becoming a priest. “I am not sure that at every school I would have been able to spend those huge numbers of hours on those activities,” he says. “A lot of my classmates are very successful in fields tied to their undergraduate extracurricular interests; their academic studies are not directly connected to what they have done with their lives.”

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From Passive to “Immersive Learning”

“OUR STUDENTS are way ahead of us technologically,” says Susan D. Jones, an associate professor who teaches courses on the history of medicine, science, and technology at the University of Minnesota, in St. Paul. “The crucial thing is not just to apply technology on top of current teaching practices but to look carefully at curriculum and spend the resources—time and money—in helping faculty make the changeover” to more intensive, innovative teaching.

She would like to see holistic re-

form—not of “pieces of curriculum” but in the ways teaching is conducted daily—to help students move into the future. Research and experience show, she says, that students need to work on real-world problems, not just abstractions; generate their own ideas and conclusions from course content; and learn how to communicate these ideas to a relevant community. Today and in the future, communication requires a capacity for understanding differences among people and cultures, along with understanding the technological interfaces that involve virtual groups who are increasingly part of the conversation.

Jones points to the rise of immersive learning and online education, “in which students participate in problem-solving in multi-user vir-



tual environments,” forms consistent with the social-media outlets that are changing how and when students learn, with and through their peers. “Many faculty would be well served by a semester spent in intensive revamping of their standard courses,” she asserts. (She adds that “Harvard has the infrastructure, the Derek Bok Center for Teaching and Learning, on which it could build a faculty resource program.”) But the emphasis on virtual learning should not eliminate on-

the-ground experience. Harvard could also consider creating a formal “service-learning program,” Jones says, in which students’ participation would contribute to their final course grades. Although she laments there is little time built into faculty positions for this kind of teaching innovation, she says, “It will be crucial to move away from passive learning to this kind of group-oriented problem-solving as the basis for successful future pedagogy.”

“Pride Is Such a Useless Handicap.”

CHRISTINA (ERICKSON) PUTNEY urges Harvard undergraduates to take full advantage of the College’s intellectual offerings (she feels she did not) and find “the extraordinary teachers who engage and inspire their students.” “If Harvard is looking for a way to improve,” she says, “it could put more professors like Michael Sandel, E.O. Wilson, and Marjorie Garber into the mix.” Though she left it to “the pros” to devise ways to foster better pedagogical practices, she has found through experience that “the best teachers are those who have a passion about teaching that is equal to their passion for their subjects. They’re like tour guides through uncharted territory,” she explains. “They intuitively grasp what their students don’t yet know and start the journey there. They help you see and interpret things you would have missed and bring it all to life.”

Putney—a full-time mother who is married to a diplomat and serves as a part-time community liaison and office coordinator at the U.S. Embassy in Yerevan, Armenia—has thoroughly enjoyed the online version of Bass professor of government Michael J. Sandel’s

“Justice” course, distributed by the University. “Watching the podcasts, I notice that he keeps his students involved in his lectures. Active learning beats passive learning every time.”

To that end, she urges contemporary undergraduates not to shy away from asking questions and speaking up in class. “I wish I had checked my intellectual insecurity at the door. If I could go back to give my freshman self a pep talk, I’d remind her that you don’t take a course because you already know its content, but precisely because you don’t,” she notes. “So go ahead and ask questions. Pride is such a useless handicap, and it turns out that trying to hide your ignorance is one of the best ways of holding on to it.”



“Become Better ‘Citizens of the World.’”

STUDY ABROAD, now encouraged and integrated into the College experience, was largely absent in the late 1980s, recalls Jay Winthrop, principal of Douglass Winthrop Advisors LLC, a registered investment advisory firm in Greenwich, Connecticut. He urges Harvard to make international exposure a priority—and urges students to take advantage of any chances to travel abroad to learn a language, gain different perspectives on areas of study, and experience other economic, educational, and cultural systems. “The world looks far more global to me now than it did 25 years ago, meaning more is asked of young people entering the workforce,” he says. “As well, effective leadership in most professions demands an understanding of the complex forces and cultures buffeting our world.” Students also have other options to learn about cultural diversity: from their peers as well as from “visiting foreign heads of state, or government officials, business leaders, writers, and other leading figures from outside the United States” who often speak on campus. “The question is: how best do we encourage young people to become better ‘citizens of the world?’”

Leadership, although essential in most professions, is “under-taught,” Winthrop asserts. To foster leadership skills within the curriculum, he

favors an education with survey courses in multiple disciplines that preserves the freedom inherent in Harvard’s “liberal arts ecosystem.” Although Winthrop and his undergraduate peers were drawn to Brown’s less structured curriculum, “I have come to feel that quite the reverse is more useful,” he says. “I would encourage students to leave Harvard with a broad education, including the study of international economics, history, mastery of a foreign language, proficiency in writing and speaking, et cetera...and to resist the urge to dive too deeply into a single topic.” Such breadth breeds well-grounded leaders. “The world needs more Churchills and Mandelas,” he explains, “leaders with good judgment, an ability to listen, and to communicate a worthy shared purpose.”

Winthrop would also like to see students gain more “real world” professional experience before graduation. He envisions a program staffed by undergraduates and alumni that offers pro bono consulting services to organizations, giving students “the chance to explore a field of interest, to meet alumni with relevant experience, and to learn the demands and expectations of work in a professional setting,” while enabling alumni to fulfill “a desire for public service or to work on projects of personal interest.”





Beauty, Bounty, Brio, Buoyancy

SEAMUS HEANEY INTRODUCES AN ANNIVERSARY ALBUM



ALL PHOTOGRAPHS COURTESY OF HARVARD NEWS OFFICE. (OPPOSITE), JUSTIN IDE (THIS PAGE, TOP) STEPHANIE MITCHELL, (BOTTOM) JON CHASE.

IN 1986 SEAMUS HEANEY created a true legacy for Harvard's commemoration of its 350th birthday with his "Villanelle for an Anniversary" ("A spirit moves, John Harvard walks the yard/The books stand open and the gates unbarred."). Now, a quarter-century on—no longer lecturer, but Nobel laureate—Heaney may have turned the trick again. His lyrical prose preface to *Explore Harvard* (a lush photo album prepared by Harvard Public Affairs and Communications photographers and writers, published by Harvard University Press) homes in on three images to distill the essence of the place.

One, of Design School students planting the roof at Gund Hall, "united by a concatenation of ladders which comprise a kind of landlubber's rigging," strikes Heaney as a "single ascending up-reach whereby the whole thing becomes an image of aspiration, of individual endeavour gaining momentum and meaning from being part of a shared activity." Another is of a "down-to-earth spade and trowel job," an archaeological dig in Harvard Yard: "meticulous work, unspectacular but intensely focused, not unlike the workaday attention a student must pay to his or her academic assignments." The book's theme, he says, is in the middle course between sky and earth—a condition he calls "buoyancy," revealed especially in student life, and a characteristic, along with

the "collective brio" of the place, of which he was beneficiary as a faculty member from 1982 to 1996.

John Harvard's much-rubbed toecap completes Heaney's triangulation: it reminds him of the queries he undertook in 1986 to discover inspiration for his great villanelle-in-making, delving into the original benefactor's history and the College's origins "beside the cattle sheds"—familiar terrain for the poet. And so he is anchored in this "beautiful, bountiful cornucopia of images."

Beauty, bounty, brio, buoyancy: exactly the right terms for a great university—and for Heaney's creative celebration of this one. *Explore Harvard* indeed. ▢

Explore Harvard: The Yard and Beyond (\$39.95) is available from booksellers or online at www.hup.harvard.edu.





Building—and Buying—a Campus

THE RECENT BOOM—AND THE FUTURE IN ALLSTON

by Jonathan Shaw

“**I**S HARVARD RUNNING OUT OF SPACE?” ran a headline in this magazine in the spring of 1989. The answer, the accompanying article explained, was a resounding “Yes.” The Faculty of Arts and Sciences (FAS) was first to go public with its dilemma, which had become apparent as the result of a space analysis provided to Dean Michael Spence in 1988. FAS also faced significant deferred maintenance problems in the freshman dormitories within Harvard Yard, and in its buildings north of the Science Center. A renovation of the exterior of Memorial Hall, then used only occasionally for exams or special events, prompted thoughts about what to do with the grand but underutilized hall within. Planners proposed transforming it back into a dining facility for freshmen. The decision to do so eventually freed the Freshman Union to be remade as the Barker Center for the Humanities, providing much-needed offices and a central location for scholars in those fields.

But almost from the moment renovation and reallocation of

existing spaces were begun, it became clear those steps would not be enough. Leaders in the central administration charged with planning and real estate had been first to raise the alarm privately. The imminent space crunch was not confined to FAS. Data they had gathered on growth during the prior 40 years showed that Harvard had added more than a million square feet of space per decade.

“Considerations of flexibility for the long-term future of Harvard had not been an issue that was prominent on the radar screen for the Corporation, and no individual dean had much concern for the University’s overall space needs,” recalls Sally Zeckhauser, who had headed Harvard Real Estate Inc. since 1979, and subsequently served (from 1988 to 2009) as Harvard’s vice-president for administration. “But the message coming out of the data was clear. To meet Harvard’s mission in the coming decades would require considerable new physical space.”

Yet it is unlikely that even Zeckhauser could have anticipated

what followed, as Harvard filled out its existing campuses with more than 5.5 million square feet of net new space, most of it built in a boom during the last decade in which the campus grew at three times its historic rate. FAS and the Harvard School of Public Health each grew 30 percent, the Law School grew 21 percent, and the Medical School added 57 percent more space—almost a million new square feet for that one school alone. More than 3 million square feet were added to the Cambridge campus: a 25 percent expansion. Across the campuses in Cambridge, in the Medical Area, and in Allston (the Business School and athletic areas), the University grew from approximately 15.6 million square feet to more than 21 million square feet—nearly 35 percent. Capital spending (more than half of it devoted to new construction and acquisitions) rose from less than \$225 million annually in the decade and a half prior to 2000—jumping to more than \$600 million in 2001, and eventually peaking in 2009 at \$644 million (as the University quickly shifted gears to wind down such spending in the wake of the financial crisis).

Encountering Constraints in Cambridge

BUT AS HARVARD EXPANDED in ever greater concentric rings within Cambridge, Zeckhauser says, it began bumping up against “mature neighborhoods with sophisticated and politically active residents often seeking to preserve things just as they were.”

Academic growth spurts continued at first on the traditional pattern of building around an open green space. Hauser Hall (1994), the first new building at the Law School since 1970, rose to complete the Holmes Field quadrangle, in the same way the Taubman Building (1990) completed the Kennedy School's campus. But increasingly, it was tuck, wedge, and squeeze for new buildings in Cambridge, and renovation for older structures. Towering William James Hall, for example—enormously expensive to renovate—was spared destruction by Spence in the early 1990s mainly because the academic spaces the high-rise contained couldn't easily be replaced at the same density. At the same time, plans were laid to renovate long-mothballed Lowell Lecture Hall. On the site of a faux-Colonial gas station it had acquired in the 1980s, the University built the Inn at Harvard (1991), with the expectation that it would eventually become faculty offices. Maxwell Dworkin (1999), with the slimmest of presences on Oxford Street (it expands from a wedge at the sidewalk entrance into a substantial building), made new space for information sciences on part of the old Aiken Laboratory site.

With little room left on the shelves of campus libraries, books began to be shipped to a satellite repository in the suburbs, eventually enabling renovation of three major libraries, including Langdell at the Law School in beginning in 1996, Widener in 1999, and Baker at the Business School (HBS) in 2003. Near Quincy House, a parking lot on DeWolfe Street gave way to a substantial brick apartment building that opened to house students and junior faculty in 1991. More housing rose later on unbuilt parcels of land near Mather House and in Riverside (2005), along the Charles River near the intersection with Western Avenue.

Just by renovating and expanding older buildings, and shoe-horning new ones into an increasingly constrained Cambridge campus, FAS alone added a whopping 2 million square feet in the

15 years between 1994 and 2009, a rate that dwarfed the previous pace of growth of the *entire* University.

Elbow Room Elsewhere— and on to Allston

IN THE LONGWOOD MEDICAL AREA, a new research building (later named for the late Warren Alpert, M.B.A. '47) rose in the Quadrangle in 1992, the first of two (the latter still awaits a name) in the past quarter-century. Only at HBS—already in Allston—did growth proceed unconstrained, presaging the University's future even before its land purchases in Allston were made public in 1997.

Although President Neil L. Rudenstine emphasized interdisciplinary, collaborative academic planning beginning in the 1990s, most of the larger schools (with the exception of FAS) continued to make plans independently, with their own budgets. At HBS, for example, Dean John McArthur supported the University's Allston land purchases, but wanted no central involvement in his own campus, where Shad Hall, a cutting-edge gymnasium that also houses a research computing facility, opened in 1989. The stunning Class of 1959 Chapel (the patina of its green copper cladding assured thanks to weathering by goat urine) was built in 1992, and renovations to Morgan Hall, the principal home of faculty offices, were completed the same year. In 1999 McArthur Hall (a residential building for executive education) opened, followed in 2003 by Hawes Hall (a classroom building)—all rising within the school's existing footprint and prompting no objections.

But back in Cambridge, there was trouble with the neighbors, as Zeckhauser anticipated. The 259,000-square-foot Center for Government and International Studies, for which planning began in 1995, was not completed until 2005; it had to be completely redesigned more than once to appease community concerns, more than quadrupling its price to a reported \$140 million. A tunnel underneath Cambridge Street linking the two buildings was nixed, echoing earlier thwarted attempts to link the Fogg Art Museum to the Sackler Museum with an enclosed pedestrian overpass. Similarly, plans to build a museum of modern art along the Charles River near Western Avenue were resisted by vocal Riverside neighbors, some still embittered by the University's construction of Peabody Terrace decades earlier. A park and graduate student housing, mixed with some affordable housing, went up instead. North of Harvard Yard, long-running negotiations with neighbors did allow the construction of the 470,000-square-foot Northwest Science building (2008); its twisting layout mirrors the shape of the parcel on which it was built.

Community concerns thus loomed large in the planning of every new building in Cambridge, and space constraints made it clear as well that not many more could be built in any case. Zeckhauser had realized that Harvard would need a new campus, in a place with fewer obstacles to its growth, in the late 1980s. In 1987 or 1988, she put together a proposal and took it to the Harvard Corporation, urging consideration of the long-term physical needs of the University, pointing out the difficulty of meeting them in Cambridge, and identifying Allston as the most promising place for future expansion.



Visit harvardmag.com/campus-375 for a compendium of Harvard building projects from the pages of *Harvard Magazine* from 1996 forward.



“The Corporation, with Derek Bok as president, gave the proposal careful consideration,” Zeckhauser remembers. “Rod MacDougall, then Treasurer, was charged with determining how any land assembly in Allston might be undertaken appropriately, given the University’s responsibilities, and particularly to assure that Harvard secured properties at fair prices, properties that would not be used in the short- or even medium-term. He recommended, and the Corporation agreed, that the assembly should be done quietly, with Harvard purchasing on an anonymous basis. The purchases would be financed with central money, since no school would be an identified user of any particular parcel. The Corporation would approve individual acquisitions as they were made.” (In practice, many dozens of acquisitions were made, but the Corporation deliberated only over those that were substantial.) The first acquisition, of a Sears warehouse site, was completed in 1989. Harvard’s Allston holdings grew from 140 acres in 1994 to 354 today, even as the University’s total holdings in Cambridge, Allston, and the Medical Area grew from 380 acres in 1986 to more than 586 acres today, a 54 percent increase.

A Matter of Style

ABIAS FOR BRICK as the material of choice for new Harvard construction continued throughout the mid 1990s, and on the question of style, the 1930s-era neo-Georgian look of the River Houses was still favored in many quarters. But Allston changed

the nature of the dialogue about questions of style and materials. When Harvard—then in a public bidding process for 91 acres of Allston land owned by the Massachusetts Turnpike—decided in 1997 that it was necessary to disclose its aspirations across the river, that step brought questions of architecture and “brand” to the forefront “in a way that individual projects by individual schools never really did,” says Kathy Spiegelman, whose 26-year career at Harvard included a long stint as director of Harvard Planning and Real Estate.

HBS’s Spangler Center (2001), a building that was designed by Robert A.M. Stern, became a touchstone for such discussion when the architect declared that his neo-Georgian brick structure, the first to face Harvard’s presumed future in Allston, set up the University to “go forward with the brand.” (The building was both reviled and praised at the time.)

But the prospect of neo-Georgian brick stretching as far as one could imagine into Harvard’s future in Allston was not widely embraced. As Peter Rowe, then dean of the Graduate School of Design, pointed out in 2001, “We are in the twenty-first century. Why should we build in the style of the eighteenth?” Furthermore, he pointed out, the University’s expansion would not be just the construction of a campus, but a city-building project. Larger questions of urban development were more important than questions of style, he said. “A lot of the discussion gets caught on specific buildings and



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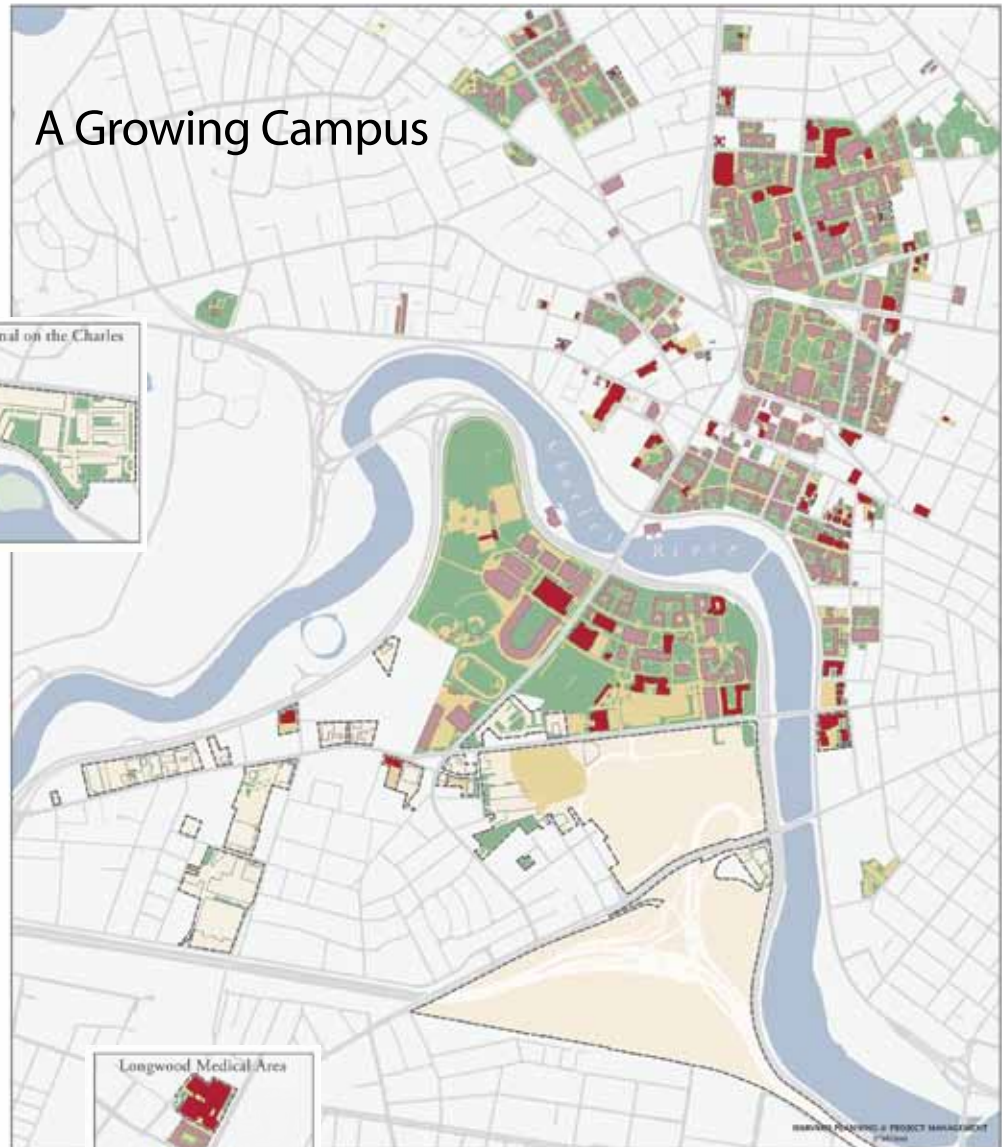
doesn't speak to the more general surroundings that they find themselves in: roads, streets, trees, landscapes."

The modern student-housing high-rise at One Western Avenue (2003), another controversial building, designed by Machado and Silvetti Associates, was in part a statement, says Spiegelman, that the University was *not* going to build in a single idiom. The previous year, she and her colleagues had published *Harvard Patterns*, a report that documented and analyzed the various patterns that make up the University's existing fabric. And for Harvard, she summarizes, "That means swimming in trees, because environmentally that is what our campus is about, as well as transparent activity and porosity to pedestrians on the first floor of buildings around sequences of open space." A succession of modern architects (Rem Koolhaas, Frank Gehry) and consultants were hired to help with the planning process for Allston. Each brought a different perspective to what the future campus should look like: first it was more urban; then more campus-like and filled with Harvard brick; and then, recalls Spiegelman, "Renzo Piano came and said, 'Wait a minute. Universities are no longer about setting themselves apart from the world to pursue knowledge and stay focused on intellectual activity. We need to be open and engaged with the world around us.'"

Looking ahead, Spiegelman predicts that sustainability principles will play an increasingly important role in the look of the Allston campus, as they did in the design of the unbuilt science center begun there. In choosing materials, technology, and the way landscape is handled, she says, "You cannot ignore what the planet needs. What our students—the world's next leaders—demand from Harvard...has to be reflected in the physical nature of this place."

In a still broader sense, Allston has clearly had a shaping influence on the University's development in all quarters. "The goal of the Allston acquisition," says Zeckhauser, "was to provide a resource to free the academic decisionmakers in the University to think creatively about exciting and important teaching and research opportunities, knowing that they would have the space to implement them. The potential availability of Allston caused the University to think more broadly about its options, and to have a greater focus on long-term issues. It has also led to more collaborative thinking—across schools and departments—about what facilities and programs might be developed were the constraints of current location to be loosened. Despite a severe financial crisis, Allston has already encouraged the University to think in more visionary terms." That

A Growing Campus



ability, adds the woman who bought Harvard a future, "will be reinforced as the Allston campus becomes more of a reality."

TWENTY-FIVE YEARS AGO, Prince Charles, a speaker at the University's 350th celebration, noted in a symposium on urbanization that American universities had been very successful in contributing to the health of their host cities, something he hoped might be transplanted to England. Now, with plenty of space to expand and new plans for business *and* academic development in Allston (see page 96), Harvard can hope that the prince's observations about American universities will come true on its own patch of real estate, across the river. ▢

Jonathan Shaw '89 is managing editor of this magazine.

The Progress of the Disciplines

LEADING PROFESSORS ON THE FUTURE OF THEIR FIELDS

Portraits by Jim Harrison

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Biology in This Century

An ancient science becomes the new technology.

by PAMELA A. SILVER

BIOLOGY WILL BE THE TECHNOLOGY of this young century. During the past 50 years, biology has developed from a soft science that described macroscopic phenomena into a reductionistic discipline that aims to explain life in terms of chemistry and physics. The emergence of molecular biology in the 1950s and recombinant DNA technology in the 1970s have led to an outpouring of information about how life works. The net result is that biology is where chemistry was 30 years ago—sufficiently understood that many basic processes are known in some detail, and with vast potential to create wide-ranging benefits for humanity.

Harvard has been central in this evolution. When I arrived as a postdoc, the recombinant DNA era was in full swing. Many early applications of molecular biology were initiated here and the first generation of biotechnology companies, including several Harvard spin-offs, had just formed. Recombinant DNA was revolutionizing our understanding of basic biochemical and cell biological processes. During those years, the way we study fundamental biological processes underwent a major shift that has now culminated in sequenced human genomes, knowledge of

many cellular processes, and a clear path to unraveling roles for individual molecules.

Of course, many details of molecular-biological processes remain to be worked out—these will be important in understanding growth and development, pathogenesis, disease, and many other aspects of basic and applied biology. But adding more details is not likely to change the way we think about biology. Indeed, the mass of detail already available is so overwhelming that one might feel much of the mystery of life is gone.

What we are left with are the mysteries that cannot be answered with detail alone. Several years ago, I was fortunate to be involved in the founding of the new department of systems biology at Harvard Medical School and the systems biology graduate program. Harvard was, again, ahead of the curve in founding these programs, which are aimed at the next level of understanding in biology. This new discipline seeks to create a picture of biological function and behavior that spans the size scale from atomic to macroscopic. What are the key events at the molecular level that drive change at the evolutionary and ecological levels? How do genetic differences between individuals combine to determine responses to environment and sensitivity to disease? A major focus of the field is quantitative measurement of the dynamic behavior of individual components of the system, and modeling to integrate the behavior of many components to explain system behavior.

An important area of application is drug development. The great drive of molecular biology and genomics has been to identify what goes wrong in disease: what are the molecular differences between a sick organism and a healthy one? Increasingly, we realize that for many diseases there is no simple answer. Even when a single mutation is dominant in predisposing an organism to disease, it is often far from clear how to use this information to create a cure. We envision a new approach to pharmacology that, instead of considering individual targets, asks how a drug or combination of drugs affects entire pathways. The goal is to help increase the predictability of drug efficacy and drug toxic-



Pamela A. Silver

ity, and our ability to identify which subsets of patients would benefit from the drug. Our current ability to predict the action of a given drug is so poor that even a small step forward would be a large contribution to reducing human suffering from disease.

Following naturally from the ability to predict the behavior of biological systems is the ability to design *new* biological systems. Synthetic biology, an even newer discipline that grows naturally from systems biology, seeks to engineer whole organisms to perform useful tasks. Considered as technology, biological systems are extraordinarily powerful: they can use air and water to produce building materials, perform chemical syntheses that are the envy of human chemists, and precisely pattern atoms to form nanoscale structures. Can we use this technology to solve real-world problems? To do this, we need to be able to engineer complex new biological systems and know how they are going to behave. This can be done only with a heavy dose of math—quantitation and computation—and hence needs to draw on many of the tools of systems biology. We imagine a time when the engineering of a biological system is analogous to that of designing a computer chip. We are a long way from this goal, but one must start somewhere.

With biological carbon as the “silicon” of this century, the possibilities are infinite. Take energy, for example. Solar energy is our greatest natural resource and we currently use only a fraction of it. Increasing the efficiency of photosynthesis—a revolution in “green manufacturing”—might offer a biological solution to many of the current problems facing Earth and our dependency on fossil fuels. DARPA (the Defense Advanced Research Projects Agency), the supporter of the development of the Internet,

has declared the rapid engineering of biology one of the highest national priorities, but achieving that goal will require a different mind-set as we move from a discovery-based to an application-based biology.

But there are still many large unanswered questions awaiting basic biological researchers. I see a major area of growth in the integration of biology with psychology, sociology, and economics. One of the most exciting challenges involves the question of how

There are still many large unanswered questions.

I see a major area of growth in the integration of biology with psychology, sociology, and economics.

the brain works and where consciousness comes from. Molecular biology was pioneered by physicists at a time when biology was truly a distinct discipline. Today, there are no clear dividing lines among physics, chemistry, and biology, and there is general agreement about how the physical world works. There is no similar agreement about how our minds work: the economist assumes that rational behavior is dominant, for example, while a psychologist questions what fraction of human behavior is rational, and a biologist may ask whether rationality is even a useful concept, or merely an evolved illusion. How our genetic make-up, our past experiences, and our environments affect our group behaviors remains one of the major mysteries. We are now poised to tackle these problems, and many more. This century will be an exciting time to be a biologist!

Pamela A. Silver is professor of systems biology at Harvard Medical School and the Daniels Fellow at the Radcliffe Institute for Advanced Study.



Educating Business Leaders for a Global Century

Preparation for international practice

by NITIN NOHRIA

WHEN I ARRIVED at Harvard Business School (HBS) in 1988, it was a thoroughly American institution. Perhaps 10 percent of the case studies analyzed during M.B.A. students' two-year course utilized overseas business problems. The primary focus was on teaching future business leaders how to succeed in an American context.

While it may sound parochial today, it wasn't then. It was the right approach for the time. In the 1980s, the best companies, the best management practices, and the best jobs were in America. People like me who were born in places like India and came here to study didn't plan to go home—we intended to build careers here. I assume the same was true at Harvard's other professional schools: while they admitted overseas students, most of those matriculants came here to succeed in America, and that's what the schools aimed to teach them.

At HBS, that's already changed a great deal—and between

now and the University's 400th birthday, it will change even more profoundly.

In 1941 Henry Luce famously described the 1900s as the American Century. Just a decade into the 2000s, it's clear we are now living in a Global Century. There are plenty of economic data to support that contention, but it's not just an economic phenomenon. Look at Sotheby's and Christie's, where India and China are increasingly important sources of contemporary art. Look at the winners of the Man Booker Prize, which is being awarded to an increasingly international array of writers.

The same is true in management. Today our alumni in banking are looking to invest all over the world. Alumni at multinationals are seeing the percentage of revenue coming from international operations increase. Most alumni will spend significant time abroad during their careers. Unlike in 1988, today HBS would be derelict in its mission if it wasn't preparing the leaders it educates to succeed in a global context.

Some of this preparation takes place before students arrive at HBS. Today, three-quarters of our incoming students have spent at least a few months, if not longer, living, studying, and working abroad. Once they arrive, we seek to expose them to global business problems every day. Thirty percent of the case studies we teach to M.B.A. students focus on overseas business issues, and



the percentage of our faculty members doing global research is rising steadily. To support these efforts, HBS now maintains research centers in Japan, China (in Shanghai and Hong Kong), India, Europe, and Latin America.

This strategy of chasing knowledge around the world and bringing it back to our classrooms in the form of cases and other research has served us well and will remain the foundation of our global efforts. This year, in addition, we will introduce changes into our M.B.A. curriculum, building on the spirit of innovation that has been a hallmark of HBS since its founding: witness the adoption of the case method in 1922. We are launching a new first-year course, Field Immersion Experiences for Leadership Development (FIELD),

Medical students undergo much more training in translating learning into practice. It's much more challenging to inject business students into managerial situations.

that will engage students in team exercises outside the classroom throughout the year, honing their leadership and entrepreneurial skills and their understanding of leading in a global context.

A key module of FIELD, the global experience, has its roots in trips our students used to organize during the winter break. Primarily career-focused, groups would travel to places like Silicon Valley or Frankfurt and meet with local businesses and entrepreneurs. Three years ago, we organized these trips into faculty-led immersions that incorporated a clear learning agenda. This past year, more than 400 students participated. In January 2012, we're sending the entire first-year class of 900 M.B.A. students abroad. Working in teams of roughly six, they'll be assigned a faculty advisor and a multinational or local company. Before the trip, each team will analyze a new product or service the company might introduce in the

country the students are visiting. Students will do research, build a market profile, and come up with preliminary plans. Then they will travel to their designated region for roughly a week to test their ideas. They might interview customers, meet people in the supply chain, and visit competitors. They'll realize that what they've conceived during late-night brainstorming in Allston will likely face unanticipated obstacles in Istanbul or Cape Town or one of the 12 other cities groups will visit. A short visit to another country won't make any student an expert. But part of what we hope they'll learn is contextual awareness, and even contextual humility.

FIELD is just one piece of a larger goal for the M.B.A. program: to try to narrow what some call the "knowing-doing gap." Consider how our teaching compares with the professional preparation delivered at a medical school. We both teach theory, but medical students undergo much more field training in translating that learning into real practice; every

hospital has a constant influx of patients to whom they can expose students. It's much more challenging to inject business students into real-world managerial situations.

HBS pioneered the use of case studies to project students into the role of managers solving business problems—and by analyzing 400 cases in two years, students get a lot of practice at this. But they're still imagining what they would do. FIELD, and other field-based courses more than a dozen faculty will offer as electives in the second year, aim to give our students meaningful and numerous opportunities to actually translate their ideas into practice. Our goal is not only to enhance our students' experience, but to improve how management is taught. This is what

HBS originally did with the case-study method, which today is used universally. Now it's time to do the same thing with managerial field training. How do you structure the experience?

What kinds of interventions do

you need from faculty? What company support do you need? Our commitment is to develop a new method for doing this that will complement and enhance the case method. Our aspiration is for this field method, too, to become a standard that other institutions embrace.

We don't have all the answers—and to a certain extent, we'll be learning as we go, just as we expect of our students. But that's true of all innovation. And for this Global Century, we're pleased to be taking a step to ensure that today's HBS graduates leave campus with at least one new stamp in their passports—a blot of ink that we hope will be just one element in a transformative experience.

Nitin Nohria is the George F. Baker professor of business administration and dean of Harvard Business School.

Reading Is Elemental

How to preserve the humanities

by HELEN VENDLER

IN MY DENTIST'S OFFICE, when I was a child, was a sign that ran:
Without teeth there can be no chewing.
Without chewing there can be no nourishment.
Without nourishment there can be no health.
Without health, what is life?

Its rhetoric of concatenation struck me even then as irrefutable. I'd propose a different concatenation for the humanities: without reading, there can be no learning; without learning, there can be no sense of a larger world; without the sense of a larger world, there can be no ardor to find it; without ardor, where is joy?

Without reading, there can be no learning. The humanities are essentially a reading practice. It is no accident that we say we "read" music, or that we "read" visual import. The arts (music, art, literature, theater), because they offer themselves to be "read," generate many of the humanities—musicology, art history, literary commentary, dramatic interpretation. Through language, spoken or written, we investigate, describe, and interpret the world. The arts are, in their own realm, silent with respect to language; amply showing forth their being, they are nonetheless not self-descriptive or self-interpreting. There can be no future for the humanities—and I include philosophy and history—if there are no human beings acquainted with reading in its emotionally deepest and intellectually most extensive forms. And learning depends on reading as a practice of immersion in thought and feeling. We know that our elementary-school students cannot read with ease and enjoyment, and the same defect unsurprisingly manifests itself at every level, even in college. Without a base in alert, intense, pleasurable reading, intellectual yearning flags.

In a utopian world, I would propose, for the ultimate maintenance of the humanities and all other higher learning, an elementary-school curriculum that would make every ordinary child a proficient reader by the end of the fourth grade—not to pass a test, but rather to ensure progressive expansion of awareness. Other than mathematics, the curriculum of my ideal elementary school would be wholly occupied, all day, every day, with "reading" in its very fullest sense. Let us imagine the day divided into short 20-minute "periods." Here are 14 daily such periods of "reading," each divisible into two 10-minute periods, or extended to a half-hour, as seems most practical to teachers in different grades. Many such periods can be spent outside, to break up the

tedium of long sitting for young children. The pupils would:

1. engage in choral singing of traditional melodic song (folk songs, country songs, rounds);
2. be read to from poems and stories beyond their own current ability to read;
3. mount short plays—learning roles, rehearsing, and eventually performing;
4. march or dance to counting rhymes, poems, or music, "reading" rhythms and sentences with their bodies;
5. read aloud, chorally, to the teacher;
6. read aloud singly to the teacher, and recite memorized poems either chorally or singly;
7. notice, and describe aloud, the reproduced images of powerful works of art, with the accompanying story told by the teacher (Orpheus, the three kings at Bethlehem, etc.);
8. read silently, and retell in their own words, for discussion, the story they have read;
9. expand their vocabulary to specialized registers through walks where they would learn the names of trees, plants, flowers, and fruits;
10. visit museums of art and natural history to learn to name exotic or extinct things, or visit an orchestra to discover the names and sounds of orchestral instruments;
11. learn conjoined prefixes, suffixes, and roots as they learn new words;
12. tell stories of their own devising;
13. compose words to be sung to tunes they already know; and
14. if they are studying a foreign language, carry out these practices for it as well.

The only homework, in addition to mathematics, would be additional reading practices over the weekends (to be checked by a brief Monday discussion by students). If such a curriculum were carried out—with additional classroom support and needed modification for English-language learners or pupils in special

Helen Vender



education—I believe that by the end of the fourth grade, the majority of the class would enjoy, and do well in, reading. Then, in middle school and high school, armed with the power of easy and pleasurable reading, students could be launched not only into appropriate world literature, but also into reading age-appropriate books of history or geography or civics or science—with much better results than at present. If reading—by extensive exposure and intensive interaction—cannot be made enjoyable and easy, there is no hope for students in their later education.

And since the best way to create good writing is by a child's unconscious retention of complex sentence-patterns and vivid diction from reading, the act of writing—when it is introduced in the classroom—is not a matter of filling in blanks in workbooks, but rather a joyful form of expression for the child. After all, in the past, people always learned to write from reading books. Breaking writing down to “skills” subverts the very process of absorbing the written language unconsciously as one reads, an indispensable inner resource when one turns to writing.

But now, when the school day is fragmented into many different subjects that do not implement intensive skill in “reading” (as broadly defined above), the result is the current lamentable lack of competence and swiftness in the encounter with the written page. And since all subsequent intellectual progress is dependent on successful reading, without that base, all is lost.

The humanities are intrinsically verbal subjects, and depend on a student's ability to take delight in complex reading. In my Utopia, the students, after having been read to 180 times in each school year for four years, will have absorbed basic narratives intrinsic to the comprehension of literature, from the Greek myths to the ordeal of the Ancient Mariner, to the “Midnight Ride of Paul Revere,” to the narratives of the Hebrew Bible and Christian literature (and will, from their concurrent exposure to art, have images in their minds attached to those narratives). The aesthetic dimension will appeal without being formally identified as such, especially if paintings (e.g., of Pandora and her box) accompany the myth or story being read to the children.

Later in my ideal schooling, a familiarity with authors would arise as three successive cycles of literary acquaintance would take place. In the fourth, fifth, and sixth grades, the students would read short excerpts in chronological order from major authors A, B, C...Z. In the seventh, eighth, and ninth grades the very same authors would appear, but in longer or more complex excerpts. And finally, in the tenth, eleventh, and twelfth grades the same authors would again recur, but now in larger wholes. With Shakespeare for instance, the

first time through, the child perhaps sings two songs by Shakespeare; the second time, the child reads some sonnets or a soliloquy; the third time, the student reads a play. By the third time through, the students have garnered an idea of “Shakespeare.” And the same could be said of the other authors encountered, from Homer to Dickinson.

As it is, far too much “learning” is purveyed in elementary and middle schools by worksheets and exercises. These are not natural ways into reading. The natural ways into reading are reading aloud, listening, singing, dancing, reciting, memorizing, performing, retelling what one has read, conversing with others about what has been read, and reading silently. As it is, our students now read effortfully and slowly, and with only imperfect comprehension of what they have seen. They limp into the texts of the humanities (as well as the texts of other realms of learning). I dream of children who have become true readers, who like to sing together, to act together, to read aloud together, and to be read to. After that mastery of reading, the encounter with science textbooks and lab manuals will not daunt them. In college, the history of science will seem a natural bridge to the humanities,

What is in place has failed notoriously to make
our students eager to read and drawn to learning.

and vice versa. Students who read well will look forward to discussing a problem in philosophy or writing a paper in art history. They will be the next humanists—but only if we make them so. And I see no way to do that aside from devoting the first four years of their education, all day, every day (except for a period of mathematics) to reading in all its forms

Much stands in the way of my Utopia: established curricula, textbook publishers, current teacher-training, teacher salaries, dependence on video and workbooks, and governmental requirements for several different subjects in each grade. But since what is in place has failed notoriously to make our younger students eager to read, proficient in reading, and drawn to the conceptual world of learning, it is time, it seems to me, to try to generate a reading practice that will lead to a future for the humanities and all other advanced reading. I have never taught elementary school and grant that I wouldn't know how to do it. I only see the results downstream, and wish that reading at the earliest levels provided better preparation for the higher-level intensity of the humanities.

Porter University Professor Helen Vendler is the author most recently of Last Looks, Last Books: Stevens, Plath, Lowell, Bishop, Merrill and Dickinson: Selected Poems and Commentaries.



Engineering in the Twenty-First Century

A question of convergence

by CHERRY A. MURRAY

I'M A SCIENCE-FICTION FAN. One of my favorite authors, China Miéville, says, “Part of the appeal of the fantastic is taking ridicu-

lous ideas very seriously and pretending they're not absurd.” (I think that's equally good advice for producing innovative research.) Miéville has a wild imagination and proclivity for making up new worlds and languages; one of his most thought-provoking inventions is the idea of “remaking” humans as a form of legal punishment or personal augmentation. “Remades” are bioengineered from a mix of organic and mechanical parts: legs become working steam engines, arms become nasty tentacles, divers become amphibious.

In contrast, Andrew Niccol's movie *Gattaca* depicts another

frightening bioengineered society, dominated by eugenics and populated with beautifully perfect citizens. In this world, experience and action mean nothing; genetics determine destiny.

Miéville and Niccol aren't predicting our future but exploring possibilities, engineering their brave new worlds using current societal and technological trends. Did you know that you can plug your DNA sequence into an Android app and find out whether you have the genetic predisposition for Alzheimer's? Your future, delivered. Is it accurate? Who knows? But soon it will be. We are *living science fiction*.

This is where we come in. Engineers invent the future in fits and starts. They dream, tinker, design, build, test—and learn from their failures. Engineering, an incredibly creative process both practical and visionary, makes use of both science and art. Engineers play with potentials and solve problems.

In the early days of Facebook, Mark Zuckerberg has said, he was doing it just for the challenge. Even the most successful engineers must admit that happy accidents are what led to the next big thing. Think of nuclear magnetic resonance, the serendipitous Harvard discovery that led to an unexpected revolution in medical imaging, or more recently, the accidental creation at the School of Engineering and Applied Sciences (SEAS) of black silicon, useful for enhancing light-sensing devices.

So, as an engineering dean, how do I plan around the unplannable? Even with the best artificial intelligence, we cannot predict the future, but we can ensure that Harvard will be part of its construction. I can stack the odds by hiring faculty members who, as laser pioneer and SEAS professor Federico Capasso puts it, “thrive on not knowing what will happen next.” I can invest my time and energy in making it easy for students and faculty to collaborate on research, break down boundaries, make happy “mistakes,” learn from them, think big, and invent new things (including companies).

Even though engineering has led to our current techno-society, I don't think the twenty-first century will be the “century of engineering”—or of computing, biology, neuroscience, social science, or the humanities, for that matter. Rather, this century will call on all fields to address the most compelling issues on the planet—call this “convergence”—and engineering will underpin them all. (N.B. to all Harvard students and faculty: You should learn a bit of engineering!) The engineers of the future will likely be “T-shaped thinkers,” deep in one field but able to work across all fields and communicate well.

If we can predict anything, it is that SEAS (and Harvard) will be wrestling with multifaceted global problems for decades to come. In fact, the main reason I came to Harvard was that this

comprehensive research university, based in a core of liberal arts, is exactly the kind of place that can tackle the big problems.

- How do we maintain data privacy and security in our networked world?

As details of our everyday lives are increasingly absorbed by the “cloud,” privacy may seem a thing of the past—for good or ill. In April I co-hosted a symposium on genetics and privacy in the digital age. With DNA sequencing data now just one more digitized piece of personal information, some people strive to keep their genomic information private; others are eager to “donate” theirs to an open-source project and potentially help cure Parkinson's disease or cancer. Both approaches carry risks. The symposium indicated that we will have to realign our expectations of privacy continuously as technology and social tolerances change. That will take cryptographers, programmers, engineers, ethicists, and, no doubt, lots of lawyers.

- How do we improve existing technologies and avoid further draining of natural resources?

Until someone finds a new miracle energy source, our electrical



Cherry A. Murray

engineers are working to design computer chips that use energy far more efficiently and fuel cells that work at lower temperatures. Others are collaborating with bioengineers to create microbial fuel cells that generate enough power from dirt to charge a cell phone or to light a lamp. Materials scientists are creating nanostructured substances with novel electrical properties, pushing the development of more practical solar cells. Meanwhile, our environmental scientists are monitoring the global atmosphere to analyze the health of our planet and understand our impact on it.

Management of water will likely be the key to our future on this planet. Our environmental engineers are working with political leaders worldwide to create better systems for conserving, sanitizing, and delivering water. Other researchers are inventing sophisticated yet affordable ways to filter and carry water on a small scale, thereby empowering rural communities. In the urban

environment, too, ecology, ethics, and aesthetics must coexist if our growing population is to survive. I hope a nascent collaboration between SEAS and the Graduate School of Design blossoms, creating healthier, more sustainable cities

- How can we improve technology to tackle challenging medical conditions?

When we discuss human health, living *longer* may be the mantra—but I think the real goal is living *better*. Bioengineering is ultimately about this quest. Consider the SEAS bioengineers who recently used artificial arteries and brain cells to explain how exposure to a blast wave from an improvised explosive device can cause traumatic brain injury at the cellular level. With help from the Wyss Institute, computer scientists are designing adaptive leg orthotics that could normalize the gait in children with cerebral palsy. As we gain understanding of the body as a system, we can more readily engineer solutions to keep it in shape.

- How can we contribute to the future of networks and computing?

New tools and software can help us build, manipulate, and model just about anything under the sun. Right now a team of

I can invest in making it easy for students and faculty to make happy “mistakes” and learn from them.

interdisciplinary researchers is working to create a swarm of “intelligent” robotic bees that may one day pollinate flowers and engage in search-and-rescue missions. With advances in nanophotonics, silicon electronic ‘bits’ may be replaced by “qubits,” allowing us to compute using the interaction of light and matter. And in the next decades, computing will become more powerful, going to the exascale—ultrafast processing—and be truly ubiquitous, enabling us to model not only the mysteries of the brain but also the birth of galaxies, or global climate—and even making it easier to navigate our city streets, or work and shop online.

I am convinced that we in SEAS, with help from collaborators across Harvard and around the globe, will be tackling questions like these for years to come. I think that is very fantastic indeed.

Cherry A. Murray, dean of the School of Engineering and Applied Sciences, is Armstrong professor of engineering and applied sciences and professor of physics.



Sciences Still Young

Better data, the rise of real experiments, and interdisciplinary advances in the social sciences

by EDWARD L. GLAESER

SOCIAL SCIENTISTS seeking an ancient intellectual lineage can find antecedents for economics, sociology, and political science in the work of Plato and Aristotle, but truthfully, the social sciences are parvenu fields. The widespread application of scientific methods to the study of human society—rigorous formal theories, serious empirical testing—occurred only during the twentieth century, mostly since World War II. The youth of the social sciences is exciting: progress is still being made at a ferocious pace, and the contours of these fields are rapidly evolving.

Without data, even the boldest theory is only an untested hypothesis, and in 1900, social scientists had very little real data. Economists lacked basic figures on national earnings. Political scientists knew little about individual voting. Ethnographic research was in its infancy. Only a few pioneering sociologists, like Émile Durkheim and W.E.B. Du Bois, were writing heavily statistical treatises on topics like suicide and African-American life in Philadelphia.

During the twentieth century, great measurers transformed social science. Some, like the economist Simon Kuznets, created usable data series by gathering information from disparate sources. Others, like the sociologist Samuel Stouffer, pioneered the design of large-scale surveys, taking advantage of the opportunities created by mass mobilization during World War II. Anthropologists like Franz Boas and Margaret Mead, and the Chicago sociological school, acquired evidence by close observation of a community. Psychologists began studying human behavior in their laboratories.

Yet these pioneering steps seem slow relative to the current onrush of new data that is now transforming the social sciences. Kuznets's heirs are doing amazing things by using vast amounts of official data. Harvard's Raj Chetty and Berkeley's Emmanuel Saez, for example, have been granted access to Internal Revenue Service data that have produced findings as disparate as documenting the evolution of income inequality across the last century and showing that better kindergarten teachers significantly increase their pupils' adult earnings.

During the 1990s, Harvard's John Kain labored long to acquire access to the Texas school system's database on students, teachers, classes, and test scores. A flood of administrative data followed that has produced scores of pathbreaking papers on the determinants of student achievement. These papers have transformed public-policy debates about schooling.

Technological change has also made life easier to examine. More than a decade ago, Robert Sampson, then at the University of Chicago and now at Harvard, along with several co-authors, studied Chicago neighborhoods by combining census and survey data with visual information gleaned by vehicle-mounted movie cameras. Searchable text databases have helped measure media bias. Researchers using fMRI machines can observe the neural activity associated with ethical or economic activity. The research possibilities created by Google's database are enormous.

As data quality has improved, social scientists have moved beyond facts and correlations to the deeper quest for causality. Children who grow up in poor neighborhoods typically have worse economic and education outcomes, but does this mean their neighborhoods cause these outcomes? Moving from measurement to experiments is the second great social-science trend.

Good social-science experimental research first proliferated in psychology labs. Economists followed the psychologists by creat-

ing labs that tested (and often rejected) the predictions that game theory made concerning behavior in markets and auctions. But there is only so much that laboratory experiments can teach us about the long-term impact of having good neighbors or the functioning of a large, real market.

To analyze these phenomena, social scientists had to take experimental methods to the real world. Many early approaches relied on “natural” experiments, which occur when some external event, like a public policy, more or less randomly affects some individuals and not others. For example, my Harvard colleagues Guido Imbens and Don Rubin, and Bruce Sacerdote of Dartmouth, looked at people who won the Massachusetts lottery to examine the impact of extra earnings on spending and savings. The seemingly random timing of abortion legalization across states enabled John Donahue and Steven Levitt to test whether more abortions meant less crime.

But “natural” experiments are often imperfect, because policy changes are rarely truly random and may not answer the most pressing research questions. So social scientists increasingly have tried to turn public or nonprofit programs into true experiments. In the 1990s, the Department of Housing and Ur-

As data have improved, social scientists have moved to the deeper quest for causality. Moving from measurement to experiments is the second great social-science trend.

ban Development allowed part of its housing voucher program to become the Moving-to-Opportunity (MTO) Experiment. MTO randomly allocated housing vouchers across a pool of applicants from high-poverty neighborhoods, which enabled Harvard’s Lawrence Katz and Jeffrey Liebman and their co-author, Jeffrey Kling, to test whether children’s outcomes improved when parents were allocated vouchers that enabled them to move to better areas. Parents who got the vouchers did choose to have less-poor neighbors, but many of their children’s outcomes didn’t improve. Academically, girls did better but boys did worse.

The pressing problems of the developing world, and the lower cost of running experiments there, have led to an explosion of experiments in low-income countries. My colleague Michael Kremer helped pioneer such work when he helped set up and analyzed an experiment where de-worming drugs were distributed in some Kenyan schools and not others. School attendance increased substantially in the treated schools. Karthik

Edward L. Glaeser



Muralidharan and Venkatesh Sundararaman helped design an experiment in which teachers in some Indian schools but not in others got extra pay for improving test scores. When they compared the results across schools, they found that scores increased significantly in those randomly chosen schools whose teachers received incentive pay.

The adoption of experimental methods and improved data quality have, in turn, helped generate the third major social-science trend—the increasing irrelevance of traditional field boundaries. Empirical approaches are far more likely than theoretical edifices to be common across fields.

Moreover, the topic-based “silos” that once defined fields are far less binding, because we better understand the profound connections among economics, politics, and sociology. Economic outcomes often reflect sociological forces, and sociological outcomes respond to earnings. It is impossible to understand the wealth of nations without also knowing something about their politics, and Marx was at least right that economics has plenty of influence on politics as well. The connection between health and other outcomes means that the physical sciences are also being drawn in (as the work on de-worming suggests).

Social science is changing rapidly, as better data and real experiments replace the worldly philosophy of the past. Yet that change means that nineteenth-century field definitions feel increasingly obsolete. I hope that Harvard is at the vanguard in rethinking the shape of social science, just as it has been at the vanguard of working on better measurement and causal inference.

Edward L. Glaeser is Glimp professor of economics and director of the Harvard Kennedy School’s Taubman Center for State and Local Government.

Harvard at 400

VISIONS OF THE UNIVERSITY IN 2036

IMAGINING THE FUTURE—however risky it is to make predictions—can be a comforting activity, even a productive one. And although psychologist Daniel Gilbert's 2006 book *Stumbling on Happiness* makes a strong case that humans aren't very good at forecasting what will make them happy even a few days hence (much less in 25 years!), it seems that human nature also compels us to build some castles in the air—and maybe even try to move in.

Building that castle, like all human achievements, starts with an idea. Every creation springs from a vision of something that does not exist, but might. Such first stirrings, neither plans nor blueprints, are closer to desires. And desire, as the prime motive

force, is essential. Holding in mind a detailed image of a wished-for outcome can be a powerful step in creating that very result.

We asked a baker's dozen plus one of diverse Harvardians to share their images of what the University ought to be a mere quarter-century from now. Not to predict what it will become, just to lay out what each contributor would *like* to see in a four-centuries-old academy. Taken together, the varied visions don't so much compete with as complement each other: these small discourses resemble less a chessboard than a bouquet to alma mater. With gratitude to all participants, we invite you to draw near, look, and inhale.

—CRAIG LAMBERT



A Yardstick of Service

by BILL GATES

WHEN I SPOKE at Harvard's commencement a few years back, I admitted to just how limited my worldview was when I studied there, and how little I knew about the terrible problems and inequities facing the world's poor.

At its 375th anniversary, Harvard is a much different place than it was in the early 1970s: more diverse, less isolated, more focused on the wider world beyond the confines of Cambridge. More faculty members are concentrating on research and projects that directly help the poor, and more students are pursuing experiences and careers in community and public service.

For example, Paul Farmer's work in community health and human rights, and the inexpensive "lab-on-a-chip" medical diagnostic devices of George Whitesides, are leading to breakthroughs in healthcare in the developing world. Nearly 20 percent of graduating seniors applied for Teach for America last year, and Harvard applications to that program have increased by more than 50 percent in the past two years.

In her 2010 Commencement address, President Drew Faust articulated two fundamental purposes of higher education: to equip students "with the capacity to lead fulfilled, meaningful, and successful lives," and "the development of talent in service of a better world."

As the University contemplates what kind of institution it wants to be a quarter-century from now, it's my hope that this embrace of a broader worldview grows exponentially, stimulated by strong institutional leadership and exemplary action by students and faculty alike.

I remain, at my core, a technologist and an optimist. I see in my work every day the remarkable impact that innova-

tion can have in education, development, global health, and energy. Those breakthroughs are born of basic science and creative collaboration among the best and brightest.

Harvard is a unique institution whose position and talent represent a tremendous resource for the world. With such immense advantages come real responsibilities.

Harvard started its life dedicated to service, and I can't think of a better way to chart a future course than to clearly articulate a mission for the University that calls on students, faculty, staff, and alumni to dedicate at least part of their lives to helping solve the world's biggest problems in whatever way they can. I would challenge Harvard to judge itself over the next 25 years by the same yardstick I proposed to the class of 2007—namely, that it not only had improved the lives of its students, but the lives of the world. As I said then:

I hope you will reflect on what you've done with your talent and energy. I hope you will judge yourselves not on your professional accomplishments alone, but also on how well you work to address the world's deepest inequities, on how well you treat people a world away who have nothing in common with you but their humanity.

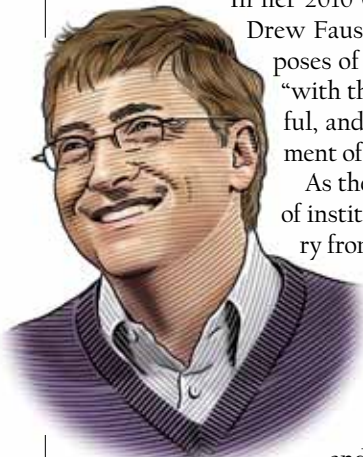
This would be a legacy worth cheering about.

Bill Gates '77, LL.D. '07, is the founder and co-chair of the Bill & Melinda Gates Foundation and chairman of Microsoft.

e-Harvard.400

by ELI M. NOAM and NADINE STROSSEN

HARVARD STARTED as a small local seminary. Students and faculty got there by foot, boat, or horseback. Information arrived the same way. But in the nineteenth century, transportation and communications improved rapidly and Harvard became a university to the nation. With the arrival of the jet plane, it reached the world. How should the new, powerful means of electronic communication shape Harvard's scope?



Bill Gates



Eli M. Noam and Nadine Strossen

They have already enabled new forms of online and distance education. For-profit and public universities and second-tier private universities have used these enthusiastically—though not always successfully—to expand their reach and serve nontraditional student pools. But should an elite university such as Harvard extend exclusive Ivy League education beyond campus?

Inevitably, it will, driven by competition with other institutions and economic pressures to spread high costs across a larger student base. Doing so can also further Harvard's core mission of offering the best education to the best minds around the world. Expanding access to Harvard's courses via communications media would help erode barriers to the free flow of ideas and information, and democratize learning.

But e-Harvard must honor certain principles.

First, the value of a Harvard degree cannot be diluted. Admission standards for e-students must be at least as rigorous as for Cambridge-based students.

Second, any outreach must go both ways. As knowledge grows, it becomes impossible for the University to support specialists in all subjects. A course on, say, medieval Persian poetry might have to be imported online to the handful of interested students, and Harvard would similarly transmit some of its courses to Iran. The University's role becomes one of quality control and the creation of global consortium relationships with other leading educational institutions.

Third, any online education must involve more interaction, not less. Education is more than knowledge transfer. It is also a process of socialization and empowerment through mentoring, "peering," hands-on experience, and freewheeling exchanges that push intellectual boundaries. In this respect, online education now seems a lesser version of the real thing. But in time the tables will be turned; e-Harvard will need to include well-crafted 3-D lectures by star professors, "virtual worlds" and simulations for skills training, interactive Socratic programs for thinking on one's feet, and social networking for peer exchanges.

Fourth, online and campus-based education must be blended in a "click-and-brick" experience. Online students would have to spend time in Cambridge, even as campus-based students spend significant time elsewhere while still taking Harvard courses online.

Fifth, online activity must be justified on educational, not financial, grounds. A quality online curriculum actually costs more than the traditional blackboard-and-chalk method. Furthermore, any expansion to poor countries will have to be affordable there. Together with high selectivity, these factors will check the profitability of most programs.

Sixth, a Harvard education should not end at graduation. E-Harvard should add a "lifetime maintenance and upgrade contract" for knowledge and skills. This will lead to diminished distinctions among students, alumni, and instructors.

In the past, students came to Harvard. In the future, Harvard will come to the students, wherever they are.

Eli M. Noam '70, Ph.D.-J.D. '75, is professor of economics and finance at Columbia's Graduate School of Business and director of the Columbia Institute for Tele-Information. Nadine Strossen '72, J.D. '75, professor of law at New York Law School, served as the national president of the American Civil Liberties Union from 1991 until 2008, and now serves on the ACLU's National Advisory Council.

Farm the Yard

by BILL MCKIBBEN

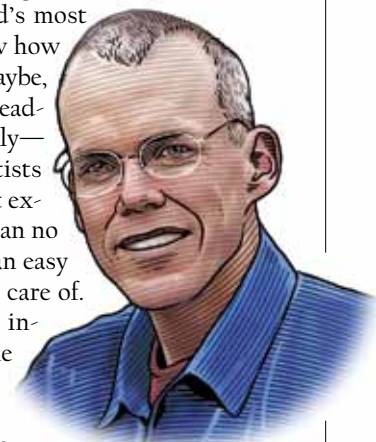
WHEN HARVARD WAS FOUNDED, most of its students arrived rich in practical experience, and in need of some *abstraction*: colonists knew how to plow, how to build, how to work the physical world. Higher education was for adding a layer of mediation: some Latin, some classics, some theology.

Today, 375 years later, students arrive fully mediated: they've spent endless hours in front of a screen and, chances are, very few in contact with the natural world. They can't, most of them, do very much that *isn't* abstract. They've changed, 180 degrees, and so that which higher education provides should change as well. If college is about supplying what's missing, then it's time to dig up a good chunk of the Yard and plant a garden.

Does that seem absurd? Haven't we gone well beyond the moment when graduates of the world's most prestigious university need to know how to do something with their *hands*? Maybe, but maybe not. On a planet that's headed into a very stormy future (literally—thanks to a warmer climate, scientists are now observing some of the most extreme weather ever recorded), we can no longer blithely dismiss farming as an easy task someone else will always take care of. (Calories per capita are no longer increasing on this planet.) The same applies to providing the energy we need, and performing all the other physical tasks that for a couple of centuries have seemed less important to those at the top of the heap. We may need to actually do something *real* again—not just for our security, but for our over-abstracted souls.

Indeed, the U.S. Department of Agriculture reported last year that the number of farms in America is increasing for the first time in 150 years, and increasingly it is well-educated young people who are doing the growing. I know recent Harvard graduates who are running exemplary small farms—and making more high-stakes decisions in a day than their classmates who took the obvious route to Goldman Sachs.

So I hope that by 2036 the College is teaching classes in agri-



Bill McKibben

culture, and helping us to understand that it's a culture as important, and classy, as all the other cultures studied within the gates. Over-mediated young people, even if they're not going to grow their own food, or install their own solar panels, need a field trip away from the abstract. The polish higher education should be adding now looks more like grit.

Bill McKibben '82 is Schumann Distinguished Scholar at Middlebury College and founder this year of the global climate campaign 350.org (<http://350.org>). He was elected to the American Academy of Arts and Sciences in April.

Harvard in a Multipolar World

by MA YING-JEOU

TRY TO IMAGINE what the world might be like 25 years from now. It seems quite likely that mainland China will have already overtaken the United States 10 years hence as the biggest economy in the world, and the galloping pace of economic growth in Asia will have established the region as the world's center of economic gravity. By that time, a multipolar global power structure will have emerged. The United States will continue to be a major power, to be sure, but its unchallenged supremacy over the rest of the world will be a thing of the past.

Even so, the United States has some big advantages, such as its use of English (the international language) and its issuance of the U.S. dollar (the international currency), which will not disappear by 2036. To the contrary, these factors assure the continued strength of the United States, which also enjoys the advantage of being able to attract outstanding talent from all over the globe. The United States has led the world in recent years in the number of universities in the global top 50, and in the number of Nobel Prize winners. Even in the face of mainland China's rapid rise, the United States will retain these advantages for decades to come. It will still be a center for the cultivation and development of the best talent in the world. Harvard University stands at the apex of the U.S. academic world, and it is quite clear that Harvard's influence in the United States and around the world will remain undiminished.

But the University should not stake its reputation on academic clout alone. Harvard needs to go a step further and influence how the human race reflects upon itself, and how it orders its thoughts. Over the past century, capitalism and democracy have expanded rapidly across the globe and become the shared pursuit of all mankind. But human beings today face many challenges, including global warming, population pressures, shortages of energy resources and water, the clash of civilizations, and terrorism. It would seem that the objects of our shared pursuit are no longer a sufficient response to these problems.

As the world seeks to address the many nettlesome issues facing it, we urgently call upon Harvard University to point the way forward during the coming 25 years, both in the world of thought

and in the realm of concrete action. We would hope that the Harvard of 25 years from now, beyond being the leader of the academic world, is nothing less than the hope of mankind.

Ma Ying-jeou, S.J.D. '81, is president of the Republic of China.

Beyond "Highbrow Amateurism"

by JOHN ADAMS

WHEN I'M ASKED as a composer to make a prediction of what music will be like in 50 or a hundred years, I respond by saying I can no more imagine what that music will sound like than Brahms could have predicted the electric guitar. But the allure of peering into the future is always hard to resist.

I have two images of what Harvard might be like in 2036, one utopian and the other dystopian. My dystopian anxiety is simply that Harvard, despite its best efforts, will be forced to mirror our current national slouching toward total plutocracy, toward a new Gilded Age of unimaginable disparities between a small privileged power elite and an unhappy majority—the poorly educated, the underpaid, and the easily manipulated—people whose lives will grow increasingly colorless and drab, designed and dictated as they are by inviolable corporate interests.

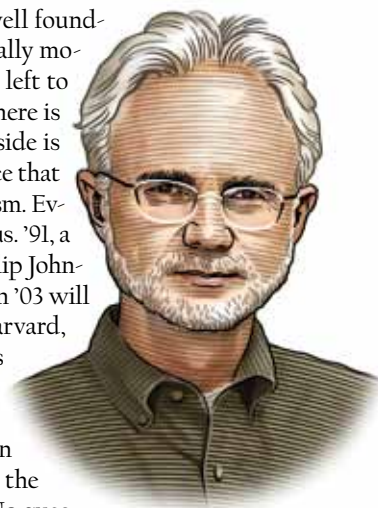
What 18-year-old student in the year 2036 will be able to graduate from a public high school (if such an institution even exists) with enough preparation to survive the competition of classmates whose wealth, upbringing, educational privilege, and social self-esteem would positively crush him or her? Will Harvard, simply to survive, join in this hectic embrace of social Darwinism that the country seems locked into?

In my utopian version I see a university whose demographics reflect the rich variety of American society, one that would never make financial circumstances an issue in choosing its students—in other words, one that could identify a teenage Barack Obama and make it possible for him to attend and flourish. I also imagine a Harvard that treats the arts with the same sense of importance that it accords its schools of law, medicine, science, and business.

For too long Harvard has viewed the arts as an ancillary activity, as extracurricular, something its students do on the side. It is a time-honored attitude and in part well founded: Harvard students, being exceptionally motivated and endlessly creative, are best left to initiate their own artistic endeavors. There is value to this philosophy, but its downside is that Harvard remains, artistically, a place that celebrates a kind of highbrow amateurism. Every once in a while a Yo-Yo Ma '76, D.Mus. '91, a Leonard Bernstein '39, D.Mus. '67, a Philip Johnson '27, B.Arch. '43, or a Natalie Portman '03 will emerge to prove that you can go to Harvard, be brainy, and still emerge with serious professional chops. And having a future Fortune 500 executive acting in an Adams House *Oedipus* or playing oboe in the Bach Society Orchestra is good for the future of charitable giving to the arts. No question about it.



Ma Ying-jeou



John Adams

But the arts at Harvard ought to be world-class, a place where great art is not merely studied and analyzed while students are left to their own devices when it comes to making it. So on my good days I imagine the Harvard of 2036 a beehive of creative activity, a place where painters and dancers and cellists and poets and filmmakers learn their craft from the great masters in their fields and where stimulation and invention (and, well, yes, odd behavior) are the norm. Is there any reason not to think Harvard capable of that?

Composer, conductor, and author John Adams '69, A.M.'72, won the 2003 Pulitzer Prize in Music for his On the Transmigration of Souls, commissioned by the New York Philharmonic, and earlier this year conducted his opera Nixon in China at the Metropolitan Opera.

Tutors: Good, and Cheap

by JOHN NEWMAYER

PLEASE, Harvard, no more billion-dollar buildings in Allston! Instead, in our sixteenth quarter-century, let's spend a small fraction of that amount improving the places where so much *real* learning happens: the 12 undergraduate Houses.

By far the finest and most memorable part of my academic life at Harvard was my three years as a resident tutor. There were a couple dozen of us and if the pay for our work was *cheap*—room and board and a little cash—for the most part the work itself was *good*, from such as Barney Frank '61, J.D. '77, no less brilliant holding court at a Winthrop House dining table than he was to become in the greater House. We tutors taught as if in seminar: perhaps eight sophomores at a time, a focused reading list, weekly short essays but no exams, ample back-and-forth discussion as we eased the youngsters into their chosen concentration. This back-and-forth continued in the dining hall, in animated conversations both within and outside of our chosen fields of study. These intimate connections created a far better learning environment than did huge lecture halls (to say nothing of “online courses”). Best of all, we encountered, among undergraduates and each other, and absorbed a *love of learning for its own sake*.

We enabled Harvard to benefit from the “junior-faculty bargain”—our work was far cheaper than that of tenured faculty. My hope is that Harvard will find ways to enhance House culture both to reward this good work and to insure that it, indeed, remains good. So here's my prescription for the next 25 years:

To begin, each House master should recruit and interview carefully—seeking those few who can explain material clearly and concisely, who can impart an enthusiasm for learning, who can be patient guides to the growth of younger minds, and who have ample energy to devote to all that—then offer chosen candidates a probation year as a nonresident tutor. After that, let the *tutees* decide!—by secret ballot, at the end of each academic year. Tutors whose work is acclaimed would benefit by promotion from nonresident to resident, by the renewal

of their residencies, or by transfer to choicer quarters.

Bright undergraduates and inspiring tutors: that's plenty of fuel for intellectual ferment. Harvard, let's invest in *more commodious common spaces* to encourage these residents to spend more time engaging with one another, in lively talk and long postprandial lingering in dining halls and common rooms. The larger Harvard community can help make these improvements toward tasty and healthful cuisine (thanks a bunch, organic-farming alumni), excellent wine cellars (*merci beaucoup*, alumni vintners), much improved lighting and furnishings (*Danke sehr*, School of Design), and better art on the walls (*mille grazie*, Fogg Museum).

An attractive House environment would compensate tutors for their junior-grade pay. They might also savor spending their Cambridge years in a fine House suite in the Center of Things rather than in some faraway apartment.

I hope to hear something of this sort at Commencement 2036 from graduating seniors: “My House was a true academic community, not a mere dormitory. Half of what I learned at Harvard, I learned there!”

After a long career as an epidemiologist, John Newmeyer, Ph.D. '70, now practices the art of the dinner party at his Victorian in San Francisco and at Heron Lake Winery in the hills of Napa.

Nontraditional Students Surge

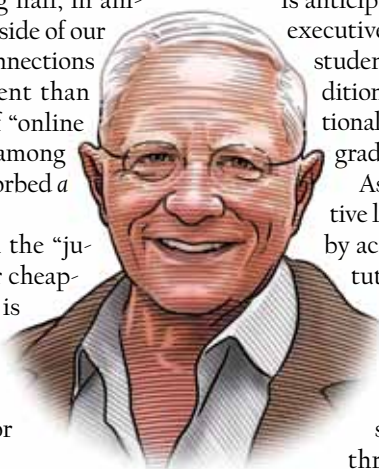
by MICHAEL SHINAGEL

AS TIMES CHANGE, so does traditional Harvard: the small, parochial school for ministers transformed over time into an international university. According to the Center for Education Statistics, more than two-fifths of students in higher education today are nontraditional, part-time adult students. Great growth is anticipated by all the Harvard schools among continuing and executive nontraditional students, and in 2036, the majority of students enrolled at the University will most likely be nontraditional, constituting five or more times the number of traditional residential students in the College and the professional graduate schools.

As our society ages and people live longer and more active lives in retirement, Harvard will respond to these trends by accommodating its graduates in programs like the Institute for Learning in Retirement, whereby seniors return to the academy after pursuing their careers to engage in peer teaching and learning.

Faculty members over time will erode the artificial boundaries of departments and divisions and schools in evidence today and create greater synergies through interdepartmental and interfaculty collaboration in research and teaching, at both the undergraduate and graduate levels. For example, since the spring of 2008, professor of the practice of molecular and cellular biology Robert Lue and professor of medicine Thomas Michel have co-taught simultaneously, from their respective classrooms in Cambridge and Boston, the first cross-faculty course offered both in class and online, “Cellular Metabolism and Human Disease,” a precedent that will engender many more such collaborations.

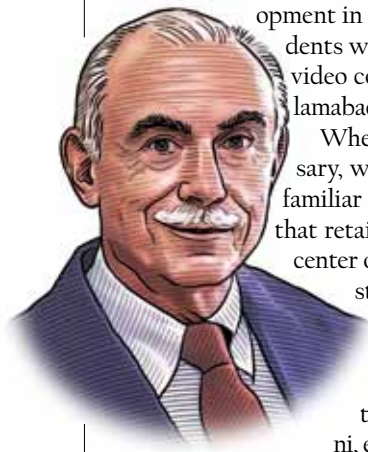
There will be a major shift in instruction from the classic large-



John Newmeyer

lecture format to an asynchronous electronic format that can be accessed by students on their computers on campus and globally through online distance education. The shift will be to more electronic and modular instruction in many fields, as faculty members exploit new education technologies. Harvard Summer School, for example, just went global with a distance course, “Social Development in Pakistan,” that linked local summer students with Pakistani students through real-time video conferencing between Cambridge and Islamabad.

When we view Harvard at its 400th anniversary, we will witness a vastly changed but still familiar institution, an international multiversity that retains its reputation as the world’s premier center of teaching and learning for its many constituents. Hundreds of thousands of students from around the world who attend Harvard, both on campus and online, will regard themselves as part of the University’s extended family of alumni, enhancing Harvard’s global leadership role significantly.



Michael Shinagel

Michael Shinagel, Ph.D. '64, is dean of Continuing Education and University Extension and a senior lecturer on English.

“Wonder in the Bewilderness”

by AMORY B. LOVINS

THE WORLD’S BIG PROBLEMS are often caused by narrow, reductionist solutions. Yet the whole, said Aristotle, is different from the sum of its parts. We need people with vision that crosses boundaries, harnessing hidden connections to solve or avoid not just one problem but many, without making more. Problems created by blinders require “un-disciplined” people educated in the disciplined practice of linking supposedly disparate learnings. Yet holism is scarce. Universities discourage it due to academic tribalism, a fear that a broad education can’t be deep, and a solicitous urge to shield students from exuberantly trans-disciplinary impulses.

My two years at Harvard included taking a freshman seminar with Edward Purcell open to all freshmen named Lovins, hanging out with great mentors like John Finley and Leonard Nash and William Lipscomb and Willard van Orman Quine (and, off-campus, Edwin Land), taking the senior physical-science research courses in year one and the graduate research courses in year two, and exploring geology and law, linguistics and Social Relations. (In high school I’d dived in music, classics, and college math.)

Yet this wonderful intellectual playground had ogres. The College’s administration plugged loopholes not just behind but ahead of me, blocking access to the education I sought. Continuing to study widely without a specific concentration, they warned, was too risky. I asked, Isn’t this a great *university*? Yes, they said, but for your own good we require focus. Can’t I choose how to spend my own time and money? No.

They weren’t customer-friendly, so halfway through, I migrated

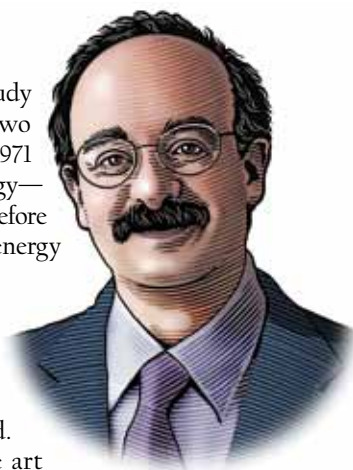
to Oxford as a graduate student to study whatever I wanted, becoming a don two years later. (That worked well until 1971 when I wanted to do a doctorate in energy—not yet an academic subject two years before the oil embargo—so I resigned to do energy anyway. Now energy has professors.)

I subversively advise students that if their studies are so disparate their advisers can’t discern a pattern, they’re probably on the right track. Wonder in the bewilderment. Go wild. Mix thermodynamics with Chinese art history with cultural anthropology with naval architecture and you’ll learn how to learn.

I tell students a smart, motivated person can learn as much about almost any discipline in six months as most (not all!) practitioners know. I encourage them to roam uninhibited across the entire range of learning, leaping the fences and walking on the grass. I mention that at nine universities, I’ve taught only subjects I’ve never formally studied, and that my line of work requires picking up a couple of new disciplines a year, so that after several decades, everything reminds you of something.

I therefore hope for a Harvard that reunites dis-integrated learning and takes E.O. Wilson’s *Consilience* seriously; where the fences fall into disrepair; where a rich mycelium organizes around grand challenges (as current White House science adviser and Heinz professor of environmental policy John Holdren’s still-unique Energy and Resources Group so splendidly did at Berkeley); where dropouts, if any, are asked why they left; where responsible students in any year, anywhere in the University, can freely choose all their studies; and where integration is prized above reductionism. That is what the world needs.

Recovering physicist Amory B. Lovins '68, the co-founder, chairman, and chief scientist of Rocky Mountain Institute (www.rmi.org), advises business and government leaders on energy efficiency and strategy and their links to security, economy, the environment, and development.



Amory B. Lovins

Tackle the Big Issues

by FRANKLIN W. HOBBS

SINCE IT APPEARS we are in a period of seismic change, Harvard should take a hard look at its mission, its structure, and its financial underpinnings. Harvard’s greatest opportunity over the next quarter-century will be to bring together its separate areas of expertise to focus on a select group of “big” issues. It has an opportunity to use its resources and intellectual capital to analyze global issues broadly, across the whole University—and I believe it will need to do so, in order to maintain its leading position.

Harvard needs a new mission statement. It is one of the few educational institutions with the breadth of learning and inquiry and the financial resources needed to help solve the complex issues the world faces. The University should set for itself even higher aspirations. It has the resources to analyze, process, and recommend solutions to the increasingly multilateral, multicul-

tural world of the twenty-first century. For instance, shouldn't we be setting an agenda to be the leading center of knowledge about and scholarship on global health, food and nutrition, K-12 education in the United States, the biological and technological revolutions, and the global economic and political order?

To tackle such issues, Harvard will need to wrestle with its structure. The University is singularly blessed with broad excellence across many disciplines, but its 10 faculties have operated primarily as separate entities—each focused on its own agenda. There are many examples of cross-fertilization in the system because of personal relationships, intellectual curiosity, or competitive necessity, but nowhere near the extent necessary for new initiatives such as those cited. It will require a far more interactive, cross-functional mandate to integrate the competencies of the whole and bring the relevant expertise to bear.

This will probably require the allocation of more financial resources to the University's center to ensure proper support for the broader mission. An expanded program of joint appointments and student cross-registration will also be essential.

Finally, the events of the past several years have shown that the financial model Harvard has been built on might not be reliable in the future. The assumption that alumni and alumnae support will continue at a level sufficient to permit fulfillment of Harvard's mission, or that the government will continue to support its scientific efforts as in the past, is no longer secure. The new world will require both new funding sources and a fundamental review of University operations.

Global initiatives will open many new possibilities for funding. Harvard will also need to challenge and experiment with some time-honored postulates of higher education.

To begin, we need to do a better job with fewer resources. We need to review the problem of educational productivity and the opportunities for technology to fundamentally change how we teach and learn. We need to consider how to better utilize our facilities year-round and, by doing so, how to handle more students effectively. We need to have a candid review of tenure and what the requirements of tenure need to be for Harvard to remain competitive.

The agenda is daunting, but Harvard should not be afraid to take advantage of its special place in the world, and its "brand name," to embark on fundamentally new missions while making its structure flexible enough to deliver the best the University has to offer. Sounds like a good 25-year assignment.

Franklin W. (Fritz) Hobbs '69, M.B.A. '72, a member of the Board of Overseers from 2000 to 2006, is currently chairman of Ally Financial Inc.

The Venture-Capital University

by CAROLINE HOXBY

RESEARCH UNIVERSITIES are the world's great venture capitalists for investments in human capital—that is, knowledge.

Harvard enrolls thousands of students, each of whom is a "project." Students acquire human capital, an asset that they turn to account as scientists, composers, financiers, politicians. Harvard also supports thousands of studies, each of which is also a "project"—an analysis of Bach's compositions, an investigation of poor families' expenditures, the mapping of the human genome. Like venture capitalists, research universities have the expertise to recognize projects with huge potential—the ablest students, the best experiments. Like venture capitalists, they not only fund projects but guide them and match them with specialized resources. Like venture capitalists, they retain an "equity share" in their projects—though they do this in a special way.

My analogy may sound crass, but Harvard is invaluable in its venture-capitalist role. Governments will never be as farsighted or enterprising when funding research or education. Banks lack the expertise to select great students and researchers and won't invest in knowledge that benefits the world at large.

Moreover, since universities do not actually retain equity shares in their alumni or most fruits of their research, they must raise students and develop friends who *want* to give back. Universities can do this only by inspiring a deep sense of common purpose, working for the public good, and committing themselves to a selfless quest for truth for its own sake.

What does this tell us about Harvard in 2036?

Harvard must husband the key source of its advantage—the expertise within its community. So that its great minds can devote their scarce time to solving problems, exchanging ideas, and interacting deeply with students, the University must—by 2036—become an efficient manager that streamlines all except these crucial tasks. It should harness technology to eliminate the grunt work in scholarship.

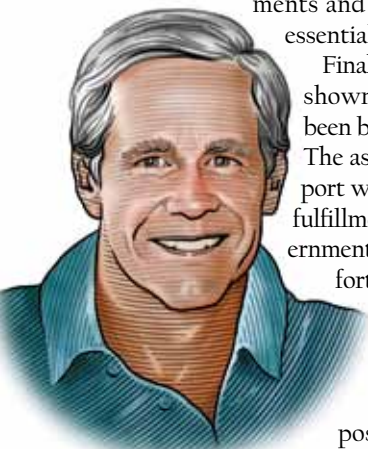
Harvard's expertise and resources will be useless without great students and researchers in whom to invest. To recruit the world's best, it must offer a superb curriculum and environment for scholarly interaction—these must remain the core function of the University. The quest for the best projects will take the Harvard of 2036 across international and disciplinary boundaries—no longer as a conscious gesture of openness but simply because it will be most productive.

Harvard's investment strategy should align with its special role. Its risk-taking should consider that the University could lose expertise in a downturn and never get it back. Yet Harvard must also make the most audacious human-capital investments, those that require its distinctive expertise and long horizon. It should partner with the private sector and government but focus its role on crucial elements—for instance, basic science—that others won't support.

Finally, Harvard must remember that it pulls off the marvelous feat of persuading donors to support investments from which they gain no direct benefit because it is *truly* devoted to knowledge, the nurturing of reflective human beings and public leaders (not just future donors), and solving society's problems. Because



Caroline Hoxby



Franklin W. Hobbs

this feat depends on community and shared values, the University should be, above all, a locus of meaningful interactions. A visitor in 2036 should still find students meeting with professors, debating ideas in seminars, huddling with great texts, and planning the future of the world over dinner.

Caroline Hoxby '88, RI '97, is the Bommer professor in economics at Stanford. Formerly Freed professor of economics at Harvard, she studies the economics and history of higher education; her forthcoming Clarendon Lectures in Economics lay out a model of research universities' role in the world.

The Arts: More Than Diversion

by MIA RIVERTON

A FORMER HARVARD PRESIDENT once told me, “The arts may be a nice diversion, but they’re just not that important at Harvard.” Despite this anecdotal opinion, with which I naturally take issue, numerous alumni have risen to prominence in the arts, media, and in entertainment. It is axiomatic that many Harvard graduates are destined for greatness in their chosen paths, whether because of, or in spite of, what the University offers them as students; those of us who believe in the transformative potential of the Harvard experience certainly hope for the former.

Graduating students are often blessed with an abundance of career opportunities in their respective fields, thanks partly to University resources dedicated to helping them move from academic study to professional endeavors. But it is widely acknowledged within the alumni community that students seeking to realize their arts-related ambitions receive less attention and fewer resources than those in more traditional areas such as law, medicine, or—my personal *bête noire*—investment banking.

When President Drew Faust commissioned a special task force to explore the role of the arts at Harvard, my fellow graduates in creative fields responded with enthusiasm. Perhaps this signaled a sea change, a shakeup in the status quo—maybe Harvard finally cared! Though the recommendations of the task force were comprehensive and commendable, the timing of its report, released in late 2008, could not have been worse. As the world economy crumbled, it became apparent that many of the hoped-for changes would be long delayed at best, or—more likely—ignored or forgotten amid the financial turmoil.

But I remain hopeful. I believe that Harvard will continue to expand curricular programs in the arts and media, and that it will ultimately rise to the challenge of elevating and integrating this important domain with other academic priorities. In doing so, Harvard should not lose sight of the infrastructure that already exists to foster the development of gifted student artists (as well as future arts patrons).

The freedom and richness of student art-making, powered by the Office for the Arts, allow for the kind of exploration and risk-taking that beget meaningful work and enable personal growth.

Art is not a diversion, but rather an essential expression of the human condi-

tion, and its significance will only grow as our world becomes increasingly interconnected and rich in media. To remain part of the global conversation, Harvard needs to ensure that its facilities, curriculum, extracurricular activities, and career services in the arts meet the high standards set by 375 years of excellence. My hope for the next 25 years is that Harvard will find a way to commit the necessary energy, effort, and resources to support this core part of the University experience.

Mia Riverton '99 is an actor, writer, producer, and musician based in Los Angeles. She is a founder and president of the University-recognized Shared Interest Group Harvardwood, a nonprofit organization for Harvardians in the arts, media, and entertainment, as well as a founding member of the Harvard Arts Resource Council.

“Even Higher” Education

by ROSABETH MOSS KANTER

BETWEEN 2011 AND 2036, Harvard’s river-spanning campus in Cambridge and Allston became a magnet for mature professionals. It offered a unique advantage not available online: access to idea exchange and connections across the whole University, including multigenerational dialogue and interdisciplinary, problem-solving education. Harvard was known as a pioneer in later-stage education.

On a typical day in 2036, undergraduates mingled with former CEOs, financiers, military generals, attorneys general, medical leaders, and all the others enrolled as fellows in the Advanced Leadership Institute. Prior to this innovation, lifelong learning had been much discussed but rarely implemented at Harvard. There were mid-career programs; short executive-education programs at many schools; and ad hoc opportunities for a few late-learners to enroll in degree programs. Most of these efforts were extensions of professional education. For people finishing their careers, Harvard offered some informal peer-learning activities with no particular focus. But no program offered access to the entire Harvard course catalog, or prepared those later in life to take their experience to a new realm and tackle the problems of society. The Advanced Leadership Initiative, which had started with its first cohort in 2009, was an effort to fill the void by drawing on collaborations among faculty from all of Harvard’s schools.

The fellows came to campus to create projects to ensure public goods such as sufficient global supplies of high-quality education, healthcare access, and economic opportunity. The undergraduates brought fresh ideas that combined with their elders’ wisdom-from-experience, with help from faculty experts.

Gaining credentials in advanced leadership had become an increasing obligation for those who reached the pinnacle of their professions. Starting in 2005, Harvard faculty across the professional schools had promoted the idea that accomplished leaders would define their legacies by the difference they made in the world *after completing* their main careers, through a bold project, in collaboration with faculty and students (some of whom might be their own grandchildren)—making the transition from good leader to advanced leader through one or two years of study. The fellows would come to Harvard as learners and mentors, ready to absorb and use the latest knowledge, sometimes returning



Mia Riverton

The Perils of Prediction

PEERING INTO THE FUTURE—IN PRINT

Illustration by Mark Steele

ON THE OCCASION of Harvard's 350th anniversary, this magazine asked diverse alumni to pose a question to themselves, and answer it. Some of the resulting soliloquies, published in the September-October 1986 issue, were personal in nature (how to live a good life, how to rear children); tactfully, we have not inquired into how matters turned out. But other respondents raised external issues and hazarded guesses about the world to come. Appraising their predictions seems fair game, as does testing other forecasts—to ward off hubris, or at least induce healthy skepticism about any crystal-ball-gazing appearing in this 375th anniversary edition.

- **Armageddon.** With the Cold War still very much a war, and the Soviet Union mired in Afghanistan, long-time *New Republic* columnist Richard L. Strout '19, professor emeritus David Riesman, and John G. Dow '27, of *Americans Against Nuclear War*, all worried deeply about what Strout called “nuclear meltdown” (of the belligerent kind) and Riesman “nuclear winter.” He lamented Harvardians’ “lack of reaction” to the threat. Today, the heated U.S.-U.S.S.R nuclear competition has cooled considerably. And the Harvard Kennedy School’s Belfer Center and Dillon professor of government Graham T. Allison Jr. have long provided leadership on disarmament, control of nuclear materials, and counterterrorism measures. But as Riesman soberly noted, the “creation of nuclear arsenals in Israel and Pakistan” (and India and perhaps elsewhere) poses a continuing, deadly threat.

- **Terrorism.** Appraising a rash of bombings and other incidents, *New York Times* columnist Anthony Lewis '48 wrote: “Terrorism has us in its psychological grip” as, around the world, “millions have turned from politics to religious visions that we consider fanatic.” Attorney Bartle Bull '60, LL.B. '64, decried a lack of historical understanding: “Americans read the sports pages with more pleasure and intelligence because we know the details of our teams’ histories, but we follow international terrorism without understanding its sources.” They seem sadly prescient about the terrorist attack of 9/11—and about some of the reactions to it, in the United States and worldwide, during the past decade.

- **The U.S. economy.** In the wake of Ronald Reagan’s reelection, lawyer, activist, and author Phyllis Schlafly, A.M. '45, noted approvingly, “We have lost faith in the ability of government to solve our problems. We have developed a new appreciation of how a free, private-enterprise economy (with lower taxes and less regulation) can accomplish more than can be achieved by expert planners.” Score that a tie, perhaps: after the 2008 financial crash and Great Recession, the country seems evenly split, in the summer of 2011, between voters who loathe their government and those who mistrust the financiers and business managers piloting jobless recovery.

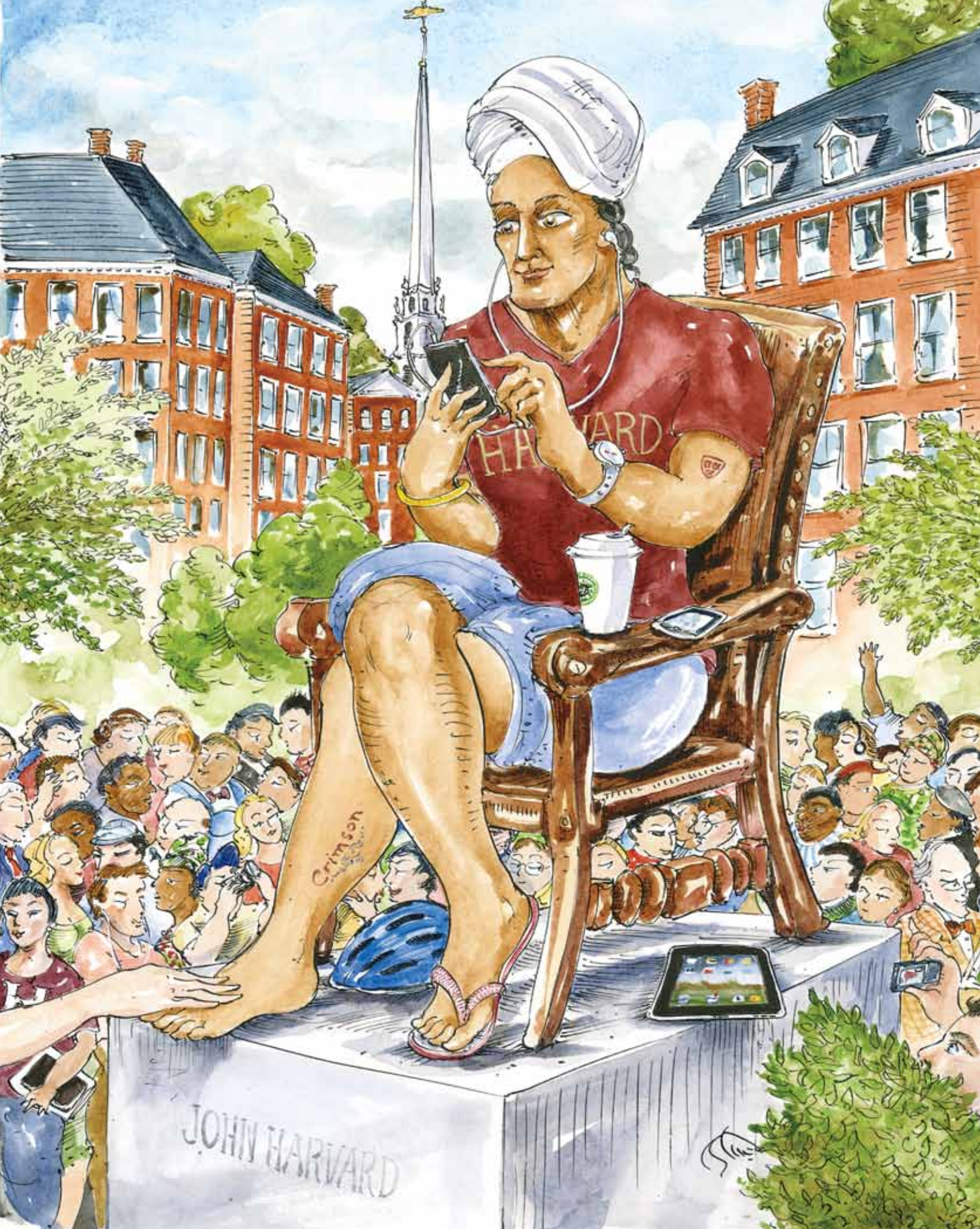
- **The world political economy.** Robert Coles, the professor and child psychiatrist, imagined that “Western capitalism and the state socialism of the East will have, by then, moved toward one another in certain ways: more entrepreneurial spirit in Moscow as well as Peking, and more concern for the trials and burdens of the poor, the vulnerable, in the noncommunist world.” It’s more like robber-baron spirit in Moscow now, a melding of Ayn Rand with party control in the rocketing People’s Republic, and ambivalence toward the costs of social welfare in the West. (As for other convergences, John King Fairbank, dean of the China hands, wisely warned, “[H]uman rights may be a universal aspiration but in different cultures they may be institutionalized in different forms.”) As events in Somalia prove, Coles’s hope for an end to famine remains desperately unfulfilled.

- **The environment.** Erich Segal '58 (of *Love Story* fame) thought “our generation will be weighed in the scales and found wanting” for polluting Earth. He cited nuclear waste and toxic chemicals, but wrote nary a word about global warming.

- **Oversights.** At the dawn of the digital era, no one mentioned the Internet. Medical issues arose in passing (an essay on AIDS, another touching on aging and the increasing use of equipment in care), but the life-sciences revolution went unremarked. No one foretold the dissolution of the Soviet Union (quite the contrary), nor the gathering economic momentum that might well lead China to surpass the United States, well before 2036.

- **The University.** In a separate extended essay, subtitled “Does Harvard have a future?” historian Oscar Handlin, then Loeb University Professor, mourned the passing of the pure (gentleman) scholar of yore. At its 300th anniversary, he wrote, Harvard’s president was assisted by “a handful of administrators,” sufficient to the task. By late in the century, he saw an institution whose scholars had grown farther apart, more specialized, more distant from scholarship for its own sake, in a larger, more layered enterprise that, “like other colleges and universities which had to appeal for public support, advanced the idea of utility”—through training citizens or creating products that “added to the nation’s health, wealth, and beauty.” Nothing in the quarter-century since has bent the trajectory of higher education that Handlin outlined.

- **Harvard Magazine.** For that 1986 anniversary issue, photographers prowled campus, their cameras “loaded with Kodachrome 64.” Processing ceased this past January. And, understandably giddy when they sent their record 256-page edition to the printers, the editors conjured up successors who might “put out an even fatter issue at the 400th anniversary in 2036.” Perhaps. Or maybe it will be beamed wirelessly to readers’ inner eyelids: may we patent “Blink to Link” publishing? ~ John S. Rosenberg





Rosabeth Moss Kanter

to earlier interests they had abandoned while pursuing a professional degree and a tidy income. They would launch projects, sometimes through Harvard's new Innovation Lab, and remain connected to a network that would multiply the projects' impact.

This new stage of "even higher" education responded to a demographic revolution begun in the twentieth century, when life expectancy doubled. Harvard, among the institutions that helped create that revolution through science that improved health, was certainly the first to seize the

opportunity created by longevity to invent a new kind of higher education and a new area of professional practice.

In fact, the numerous conferences and think tanks focused on applying leadership to world problems helped save the campus concept in the early years of the global information age, when the demand for higher education grew throughout the developing world, and the virtual university threatened to overtake the physical variety. By 2036, due to Harvard's plunge into a new stage and new forms of higher education, the University had overtaken such 2011 mainstays as Davos and Aspen as a site for convening its own dispersed multigenerational learners and the world's best thinkers and doers. Cambridge and Boston were like the mothership—a staging area for work around the world, a place to integrate diverse strands of knowledge from active projects. They were also the site of learning laboratories such as model pre-school through secondary schools and incubators for business and social ventures that spanned the globe.

From its 375th to its 400th anniversary, Harvard continued to attract the best scholars and researchers because its educational programs were directed at the biggest, most significant problems, tapped the creativity of every generation, and spanned the life cycle: liberal-arts education, professional preparation, mid-career refreshers, and the innovative plunge into late-stage transitioning to advanced leadership.

Rosabeth Moss Kanter is Arbuckle professor at Harvard Business School and chair and director of the Harvard University Advanced Leadership Initiative.

An Engine of Class Mobility

by JAMES FALLOWS

MY WISHES for Harvard may sound strangely unambitious or askew from the University's main ambitions, perhaps because I am loading onto the institution many of the concerns and hopes I have for the United States as a whole. This, in turn, is because I've spent so much time outside the country looking at the role played by U.S. universities in general—and Harvard is by far the best known of them—in developing America's strengths, appeal, and prospects. So I hope that in 25 years' time:

1) Harvard will become even more clearly "the Harvard" of the entire world. Across the globe, the University's name is already the one-word shorthand for top-end education. This has its bad

aspects, notably as a sign of the brand-name mania, most intense in Asia, that makes families obsessed with getting their children into Harvard or "another Ivy" and often blinds them to the thousands of institutions that collectively are America's educational strength-in-depth.

But given the increasing interconnection of the world's educational institutions and the rising share of ambitious students who are capable in English, with each passing year more students will shop for institutions on a worldwide basis, and vice versa. Harvard has important responsibilities within the United States (see point 2), and it has serious limits of scale. But I hope that on the University's 400th anniversary, a connected world sees Harvard as the high ground of scholarly ambition, academic integrity, and open opportunity for people around the world. (And that it's seen as the leader of a U.S. higher-ed establishment that is still very strong overall.)

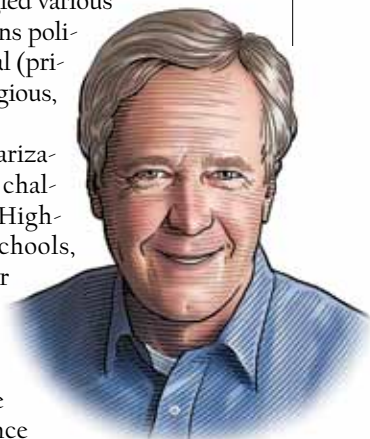
2) Harvard will be seen as a symbol of, and a vehicle for, interclass mobility and opportunity in America. The University's undergraduate population can grow only so large, and thus cannot alone constitute an avenue of opportunity on the scale of the GI Bill. But Harvard could try harder to make a difference. For at least the past century, Harvard has juggled various definitions of "fairness" in its admissions policy—addressing regional and educational (private versus public) differences, and religious, ethnic, racial, and gender barriers.

For me, the increasing economic polarization in America suggests the fairness challenge of the next quarter-century. Higher education, especially at private schools, increasingly reinforces privilege rather than offsetting it. At its 400th anniversary, Harvard should be able to celebrate its success in bucking that trend. (My father, from a non-college family, had two years of rushed science education at Ursinus College and then was sent by the Navy's V-12 program to Harvard Medical School. Deserving as he was, this couldn't have happened without Harvard's openness to wartime scholarship programs, or their graduates.)

3) Harvard will be seen as a leading institution in scientific research, and the interpretation of the impact of science and technology on society. The integration of scientific and technical knowledge into political and cultural life only gets harder. I would like this to be one of Harvard's strengths.

I'm not even bothering with the care-and-handling part of undergraduate education (which I assume will always take second place at Harvard), excellence in the humanities (which I am taking for granted), and the intense first-rate non-classroom commitments that for many students are the real payoff of immersion at the College. If Harvard is seen as the leading world university; if it is an engine of fairness and mobility; and if it connects science with society, there will be all the more reason to celebrate in 2036.

James Fallows '70 is national correspondent for the Atlantic and a regular commentator on National Public Radio. His tenth book, on China, will appear next year.



James Fallows

J O H N H A R V A R D ' S

JOURNAL

Using scale models of the galleries in the Harvard Art Museums' new building, curators are already choosing the objects for permanent installation.

New Settings for Fine Art

LIKE GULLIVER among the Lilliputians, the hands of curators have been busy with in this scale model of the renewed Harvard Art Museums. Working with tiny magnetized replicas of the more than 150,000 paintings, sculptures, urns, and other objects in the museums' collections (now located off site at the museums' storage facility in Somerville), curators must identify by September the artworks that will be on permanent display in the new space now being constructed at 32 Quincy Street, formerly known as the Fogg Museum, in which the University's three distinct museums—the Busch-Reisinger, the Sackler, and the Fogg—will be united under one roof, while maintaining their separate identities. Although the building itself, which will reopen as the Harvard Art Museums, is not scheduled to be completed until 2013, the object lists that tell what goes in each gallery must be completed now so the art can be readied for exhibition, and conserved as necessary.

Harvard is fortunate to have, in the Straus Center for Conservation and Technical Studies, one of the best such facilities in the world. The center's staff is already at work on the Wertheim collection of Impressionist and postimpressionist paintings, drawings, and sculpture, which has been on permanent display for 40 years. Those works were removed from the public galleries on the fourth floor of the Sackler Museum in June as the first step in an

elaborate set of moves designed in part to prepare faculty members for their expanded role in the new museum.

After a special exhibition this fall—*Prints and the Pursuit of Knowledge in Early Modern Europe*—that fourth-floor Sackler space will be refilled with a combination of objects from the permanent collection, special exhibitions, and galleries specially set up for curricular use, the latter intended to ramp up faculty involvement with the installation of artworks connected to classes they teach. Previously the Sackler had

only a few hundred square feet of such faculty-programmable space, enough for two to three rotating installations per semester. But by year's end, there will be 1,000 square feet—and the new museum will devote three times that space to teaching galleries.

Cabot director of the Harvard Art Museums Thomas W. Lentz says these “curricular galleries” are designed to encourage “the kind of active dialogue with a work of art that ultimately can't take place in a traditional classroom. But we have noticed that they are also of great interest to the public.” Visitors not only perceive a different kind of look and feel to the works of art, “but also appreciate seeing different adjacencies and juxtapositions that they normally wouldn't see.”

The layout and features of the new building, previously estimated to cost \$350 million, were completed after a two-year process of design, observation, and approval. They are intended to enhance the museums' role within the University's pedagogical mission, as much as to address the deficiencies of the 1927 Fogg Museum building, where the problems included leaks, poor climate control, inadequate security, and a lack of storage space. (A renovation was originally called for in the so-called Brown Report of 1956.) The new design, by architect Renzo Piano, will make the building not only more open and transparent, but also more integrated. The museum shop, for example, which stood at the back of the former courtyard, blocking passage to the rest of the museum, has been moved off the courtyard to the left, while a new café will mirror it to the right.

“People will recognize the old façade and the entrance and the courtyard,” says Lentz, “but essentially it is a brand new building.” The outer walls of the original structure are being buttressed, waterproofed, and enormously strengthened with structural steel. Except for two New Deal-era frescoes too massive to move, everything else that was within those walls



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has been relocated, leaving behind an enormous hole.

Eventually, once the historic entrance and central courtyard have been restored on the first floor, it will be possible to gaze through them to a second entrance on Prescott Street, and to pass under the travertine arches surrounding the courtyard directly into the galleries.

The redesign of that landmark courtyard involved numerous consultations with the Massachusetts Historical Commission. On the topmost level, there were no arches, as on the first two levels, just an encircling blank wall punctuated by windows with shutters and topped with the suggestion of a red tile roof. Above that, the original ceiling was a laylight (a glazed panel flush with the surrounding ceiling). Renzo Piano felt the third level, a last-minute addition to the 1927 design, suffered from problems of proportion, and so eventually secured permission to redesign it. Deciding where to put the new ceiling, and what materials

(Counterclockwise from upper left) The original Calderwood Courtyard, a national landmark designed by Coolidge, Shepley, Bulfinch & Abbott, with its travertine marble arcades, will be restored to its place at the heart of the museum. A cutaway model of the courtyard opens up to the glass lantern high above. A rendering shows how the courtyard opens up to the glass lantern high above. A model of the new museum building as seen from Broadway.



to use, took longer; eventually, Lentz and Piano's workshop decided on no ceiling at all—opting instead for a direct line of sight from the first floor up to the glass lantern above the fifth floor, which will flood the space with natural light.

Larger galleries will occupy most of the second floor; the third floor will include some galleries, but will also unite the Fogg, Sackler, and Busch-Reisinger curatorial staffs for the first time. "One of our goals," says Lentz, "is to get these collections talking to each other. The visual, historical, and intellectual linkages we want to make among them simply weren't happening, and some of that was due to the fact that the curatorial staffs were siloed off." The museums' 10 curatorial departments have also been reorganized into three divisions: Asian and Mediterranean; European and American; and Modern and Contemporary. (Although there is no curator of Africana, still poorly represented in the museums' collections, thought

has been given to representing these cultures in the new building.)

The fourth floor will house three study centers, two seminar rooms, and an analytical lab (part of the Straus Center). This level will be primarily for the use of students and researchers, but it will also be open to the public, so there will be a reception desk at the top of the stairs. The Straus Center will occupy the fifth, uppermost floor with labs for the conservation and study of objects, paper, and paintings.

The much-expanded lower level of the building—now a deep pit filled with construction machinery—will include a 300-seat auditorium, a 100-seat classroom, and a smaller, 30-seat classroom, allowing the museum to host a mix of public lectures, events, and art projects for schoolchildren. (Visitors will be able to enter the public areas of the lower level at night, when the rest of the museum is closed.) And there will be 8,000 square feet of storage space for the artworks kept on hand for close examination in the study centers upstairs.

Lentz says the old Fogg building had begun to adversely affect, in "serious, fundamental ways, our ability to function as an effective art museum." His plans for the new building go far beyond that goal. He sees it functioning as "a facilitator for collaborative thinking and working across disciplines. Our hope is...people will understand it as a much larger, more accessible, and sophisticated platform for one of the great collections of art in the United States."



As of early July, construction of the new Harvard Art Museums building remained in the excavation phase.



The View from Mass. Hall

IN LATE JULY, at the beginning of Drew Faust's fifth year as president, *Harvard Magazine* met with her at her office in Massachusetts Hall to discuss the University's aims in the context of its 375th anniversary. Excerpts from the conversation follow.

On Harvard's international presence: The increase in our international engagement in recent years is dramatic. Increasing numbers of College students spend time abroad, with encouragement of that, with financial support from the David Rockefeller gift, the Paul Weissman gift, and others. There is the increasingly global nature of the curriculum—the way [undergraduates'] General Education is structured, the way faculty are teaching and how many students they bring along with them. A lot of what our students do abroad is taking off by themselves, but they're also taking off in conjunction with a January pro-

gram that's studying water use in Brazil or a summertime film and literature program in Venice, or connecting to brain research in Tokyo—whatever the academic connections the faculty have made to benefit both research and instruction.

It's also [true of] many other parts of the University: the new [global] immersion dimension of the M.B.A. that Dean Nitin Nohria has [initiated; see page 73], the global-health activities of the School of Public Health and the Medical School—where many students take five years now, and use one of those years to do something international, because they see the practice of medicine taking place in a global context. The Law School, perhaps seen as the school most resolutely tied to American structures, recognizes that every major law firm is international in scope and that students need to be engaged in that from their very first year, when they take the required course in international law that's been introduced into the curriculum.

Party Like It's the CCCLXXVth—and Many *Lustra* More

IN THE November-December 1986 *Harvard Magazine*, devoted to coverage of the University's gala 350th anniversary celebration that September, the editors noted, "Back in 1978 we consulted a classicist—Mason Hammond '25, caller of academic processions at both the 1936 and 1986 observances—as to how to refer in Latin to a 350th anniversary. Professor Hammond advised against it, but allowed that the ancients might have sanctioned a sesquipedalian term that literally means 'the seventh half-century anniversary.' It appears on the spine of this issue," as indeed it did: SOLLEMNIA SEMISAECULARIA SEPTIMA.

How much greater the challenge, 25 years further removed from the classical era, to come up with a suitable phrase for the 375th. The magazine polled a committee consisting of Richard J. Tarrant, Pope professor of the Latin language and literature (the chair Hammond held); Richard F. Thomas, Lane professor of the classics; and Jan Ziolkowski, Porter professor of Medieval Latin.

Ziolkowski, e-mailing from Washington, where he is also director of Harvard's Dumbarton Oaks Research Library and Collection, conceded first. He admitted, "I have proven unable thus far to come up with anything that would not make sesquipedalian look brachylogical." Thomas could find nothing that wouldn't be "extremely cumbersome."

That left Tarrant to the rescue, with this formulation: "I agree that Latin doesn't easily render '375th' as an ordinal. A Latin time measurement that might be somewhat useful here is the *lustrum*, denoting a five-year period: 375 years equals 75 *lustra*, so a Latin translation for (a university) 'founded 375 years ago' might be *abhinc quinque et septuaginta lustris condita*. That doesn't answer the question of how to say 'Happy 375th!' but it may be a start."

Whatever your preferred language, the University is welcoming the extended Harvard community to a 375th anniversary celebration on Friday, October 14 (<http://375.harvard.edu>).

So we have great momentum, and one of the questions that I've asked in the past year is, what does all this mean in terms of a coherent international strategy for Harvard? Nitin has been leading a group of faculty in a discussion of that and we're digesting some of the findings. I discussed them with the council of deans last week, with the Corporation this past weekend, and we'll be discussing them with the Overseers in the fall.

What I hope to see come out of this is a statement from me about the affirmative agenda of Harvard. One of the committee's emphases is that we need to ask what are our *ends*, not what are our *means*. What do we want this institution to be and represent in the world—and then what are the means to get there? Global campuses or partnerships or whatever we might undertake are a means to a larger set of purposes that must inform what we do.

I will be working on articulating those purposes that, in a nutshell, will revolve around having students who become global citizens as a result of their presence here—who have maximum access to global opportunities in their fields of study, who will be able to understand the international dimensions of whatever problem they seek to focus on in their lives. Similarly, we want to have a faculty that has those kinds of opportunities.

Harvard has a very large global presence. When I travel abroad, it's like I'm a head of state in the way people respond to me. That opens a lot of opportunities to our students and faculty and it enables us to do work that has a very significant and positive impact around the globe. So one of the ways in which we best sustain and extend that global identity into the rest of this century is making sure that Harvard keeps that identity.

For many of our peer institutions, bricks and mortar have seemed the avenue to establishing and extending an identity. We are not at all convinced that that is the best path for us to the ends we want to achieve. Bricks and mortar are necessarily in one place, and so they limit flexibility. We have such broad and deep programs of scholarship here, in such a wide range of areas that offer our faculty and students extraordinary choices. Do they want to become Sinologists? Do they want to study Western Europe? Or maybe do they want to do both and compare some particular prob-

lem: what is higher education like in Europe and China, and how is it changing? To choose one or two locations for deep, institutional, physical investment, would seem to me a distraction from the better means for us to advance our purposes. For the time being, the [research-support] offices and the Shanghai center that have enabled us to have a maximum intellectual footprint with minimal physical footprint seem to me the right way to achieve the ends that I've described, and hope to describe in more detail in the months to come.

On academic and curricular engagement with the arts, in the wake of her task force on the arts (which issued its report in 2008, early in the financial crisis): I feel very good about the number of art-making opportunities that have been introduced into the undergraduate curriculum, both through General Education courses and through freshman seminars and other electives.

I was struck by the reception for the task force—that Harvard had in practice and understanding moved very far toward recognizing what the report articulated so eloquently. A decade or a generation ago, there would have been much more resistance to the idea of art-making as a cognitive exercise and essential part of an education for undergraduates at Harvard.

Instead, people have really welcomed the chance to enable students to think differently, to think about design, to think about the relationship between textual learning and visual learning.

There's a lot we need to do to further support the arts. I'm going to have lunch tomorrow with Diana Sorensen [dean of arts and humanities], to talk about ways we might fold some of the Faculty of Arts and Sciences' [FAS] priorities into the capital campaign.

We've also brought art-makers into the curriculum and into the University, both temporarily and more long-term. Krzysztof Wodiczko [professor in residence of art, design, and the public domain] in the Graduate School of Design is one—and the engagement of the design school with FAS has been very much encouraged by the arts task force; they have proposed an undergraduate concentration [in architecture studies]. And there have been the Wynton Marsalis appearances on campus. He wanted to do this in response to learning about the foregrounding of the arts at Harvard. We have to keep finding opportunities to emphasize that.

On Harvard aspirations in science and applied science, and the scope of science at the University overall: We've seen breakthroughs in com-

putation and in the life sciences, with the genomic revolution—integrating the physical and life sciences in unprecedented ways and making possible advances in fields like stem cells and genetics and bioengineering that would have been unimaginable a generation ago. [Professor of systems biology] Eric Lander's research platforms—a product of the changed nature of computation and other tools of scientific inquiry—have enabled the Broad Institute to focus on a series of really intractable problems in mental health and diseases like malaria that seem to be so much more [subject] to basic science research than previously. That's part of the sense of growth and urgency.

Our undergraduates certainly show that kind of interest, and interest related to our growth in engineering—making things, innovating, inventing devices that can have a huge impact. So we've seen this large growth in concentrators in engineering in recent years.

We've also spent a lot of time learning how to teach science better. [School of Engineering and Applied Sciences dean] Cherry Murray's commitment is that everybody should have the encouragement and opportunity to learn science [see page 76]. Computer Science 50 is a perfect example: hundreds of undergraduate students, many of whom are going to concentrate in completely different fields, and yet they want to have that capacity to understand computation and to be innovators in areas of computer science that will enrich their own lives.*

We've also found demand for math, and [dean for science] Jeremy Bloxham and Cherry and others have been working on this. Cherry's got a new graduate certificate that responds to this, and we're working on undergraduate versions as well. There are so many fields that require advanced, sophisticated knowledge of math—in the social sciences and business and law—so how do we provide for that across the University?

On enhancing pedagogy, assessing what students learn, and improving the classroom experience across the University: If we think about Harvard at its 400th anniversary, one of the

*See Harvard Portrait, July-August 2009, page 51, on instructor David Malan, and Sarah Zhang, "The Frisson of Friction," March-April, page 49, on the course.

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areas that I think will be most significantly transformed is how we teach. We will make innovative teaching a high-priority theme in the upcoming campaign. [The subject encompasses] what we now know, through cognitive science, about how people learn and how we can adjust our teaching more effectively to that knowledge. It involves the opportunities that technology presents to do things digitally and release human time for the dimensions of teaching that benefit most from face-to-face interaction. It involves bringing the visual more fully into the classroom. It involves making the classroom more international through technological opportunities—like [Bass professor of government] Michael Sandel's class for Japanese, Chinese, and U.S. students to discuss the March tsunami, all at the same time. It involves thinking about assessment in different ways—how we evaluate students, faculty, methods, and courses and programs. In all those realms, we have a responsibility to provide the means and the encouragement to faculty to teach in new and exciting ways, and to teach students who learn differently and interact with the world in ways that are quite different from the ways you and I expected to interact with the world when we were in school.

On interdisciplinary discovery and learning: Students and faculty today have such a powerful sense of the way knowledge can have an impact on the world that it leads many of them to focus on applied research. In the professional schools in particular, they see the balance of theory and practice as including a considerable dimension of engagement beyond the academy, to make a direct impact on the world. This asks us to draw on a series of fields as they are relevant to the particular problem a student or faculty member is interested in addressing.

Global health seems to me a shining example of this. We need to draw on medicine, certainly, but [also] on epidemiology and the social sciences that provide the context within which healthcare is delivered. We need to understand cultures and languages and their shaping of people's re-



Drew Faust

action to medical care. We need to understand humanities to understand the very important dimensions of empathy that are a critical part of interacting with those who are suffering. This really requires the whole University to step up and provide intellectual resources.

I could make the same case for energy and the environment. Engineering can provide technological advances, but Harvard also has the capacity to consider how those changes can have an impact through public policy; how they get embedded in corporate decisionmaking; and what legal and regulatory structures establish a context within which those kinds of changes can be made. And there are all the health components of energy and environmental change as well.

On the future of the humanities at Harvard, in light of Faust's service on the national Commission on the Humanities and Social Sciences, and heightened concern about the condition and role of these disciplines: One of the things I've been struck by as I travel internationally is the admiration I find for our liberal-arts model of education. Leaders of higher education in China are concerned that their students are not challenged enough to be critical thinkers, to bring perspectives from history and literature to their scientific enterprise. As I hear this, I am struck at the way, in the United States now, we're talking overwhelmingly about education as an engine of social mobility—about economic ben-

efit to individuals and benefit for broader economic growth. Of course that's important, as students wonder what job are they going to get, as families worry whether education is worth the investment. But we're about a context that will educate students not just for their first job, but for the job they may need to hold 20 years from now—when their ability to continue to be learners throughout their lives will be so critical in their success and the success of the society which they serve.

That seems to me the extraordinary contribution of the liberal arts and of the humanities, along with the sciences and social sciences.

How do we ask the big questions? Not simply, how do we get to where we want to go, but where do we want to go in the first place—and how do we continue to challenge ourselves in a world in which change is only going to get faster and more dramatic? And how do we also understand not simply that the world is flat—as it increasingly is in the way we can travel and communicate—but that the world *isn't* flat, given the variety of perspectives and heritages and understandings that different cultures bring to their interactions with us. If we don't have the capacity, through the study of history and language, to understand that, we are going to be crippled in our ability to be the global institution and the global society that we want to be.

On the continuing viability of research universities' three-part model of support from tuition, publicly funded research grants, and philanthropy: We're watching events in Washington very closely. We are certainly concerned and have expressed our concern with our representatives. We're looking closely at our costs and how we adapt—what's essential, what we will try to do more efficiently, and the variety of ways in which we can accomplish that. We are planning a capital campaign, and that will be an important initiative in endeavoring to enhance our philanthropic giving. We're very optimistic about the messages it will enable us to send and the resources it will generate. ♡



From a vantage point south of Western Avenue in Allston, looking northeast toward Harvard Square, the unfinished science complex dominates the foreground. Beyond it lie athletic fields that may yield to expansion by the School of Public Health, the Graduate School of Education, or other academic enterprises. A business “enterprise research campus” is envisioned south of Western Avenue, across from the high-rise graduate-student housing at One Western Avenue.

Rethinking Allston

HARVARD IN LATE JUNE announced a major new set of recommendations for developing its landholdings in Allston. Besides constructing a health- and life-sciences center on the existing unfinished foundation there, the plan envisions partnering with third-party developers to construct new housing, retail establishments, and a business “enterprise research campus,” as well as a hotel and conference center in a kind of spine along Western Avenue. Land in the triangle between Western Avenue and North Harvard Street—south of Harvard Business School—will be reserved for future academic use.

The new vision represents, at least for now, a realistic phasing in and paring down of the 10-million-square-foot academic campus proposed in Harvard’s 2007 Allston campus 50-year master plan—before the economic crisis—which contemplated new homes for some of the graduate and professional schools, vast research facilities, a possible museum and performing-arts center, relocated and renewed athletic facilities, and new undergraduate Houses. The new plan, created during the past two years, provides a path toward resuming some academic development in the area while allowing time for further planning as the University moves toward a large capital campaign.

The Allston Work Team, co-chaired by Bill Purcell, special adviser on Allston, Peter Tufano, Coleman professor of financial management at Harvard Business School,

and Alex Krieger, professor of practice in urban design at the Graduate School of Design, and made up of deans from the Faculty of Arts and Sciences, the Kennedy School, the schools of medicine, public health, education, and of engineering and applied sciences, as well as three alumni with relevant business experience, makes five specific recommendations:

- Resumption of planning and development for a new building on the foundation of what was intended initially as a massive, \$1.4-billion science complex on Western Avenue. (Construction was halted in December 2009, after the financial crisis shrank the endowment and forced the University to increase its indebtedness.)

Now planned is a similarly sized but redesigned 500,000- to 700,000-square-foot facility that will afford more dedicated space to accommodate the growth of Harvard’s health- and life-sciences efforts. In addition, Krieger explained that, after consulting within the Harvard community, the work team identified the building’s windowless, vibration-free basement, once slated for parking, as an ideal location for imaging services that will be used by the affiliated hospitals and other University groups.

The University’s burgeoning global health initiative and part of the Harvard School of Public Health are potential tenants of the upper floors, which could also accommodate future expansion of the Harvard Stem Cell Institute. A planned capital

campaign has been identified as a source of financial support; new plans and permits will also be required. (The newly envisioned facility is likely to differ significantly from the four-building design unveiled in 2006—and to be less expensive to construct and operate; the privately funded hotel and conference center called for in the Allston Work Team recommendation may provide the parking areas and conference and meeting facilities incorporated in that plan.)

- Creation of a privately developed “enterprise research campus” on a 36-acre parcel near Genzyme, south of Western Avenue near the Charles River (east of the science complex), in order to “open a gateway to a collaborative community for business, investment capital, research and science development”—in other words, a commercial facility similar to Research Triangle Park, situated near three universities in North Carolina. This potential major technology hub between MIT and Harvard is ready for development now, and is larger even than Cambridge Center, the technology center near MIT, notes Katherine N. Lapp, the executive vice president who supervised the work team. She said expert consultants believe that the land—which Harvard would lease out—could accommodate 1.5 million to 2.5 million square feet of development. Tufano described it as a potential link between Harvard and the outside world, noting that interest is “already there. It is practical, feasible, and viable.”

- Construction of housing for Harvard faculty and graduate students near Barry’s Corner, at the intersection of Western Avenue and North Harvard Street. Although this element of Allston planning is not new, noted Krieger, the approach is: engaging several large, third-party developers to build the housing in an area where Harvard once hoped to construct a museum of modern art and other cultural and performance facilities. The University would likely enter into multidecade

lease arrangements with these developers, retaining ownership of the land. The new housing is expected to provide swing space for graduate students displaced by the impending undergraduate House renovations (another campaign priority). Stores and other amenities such as daycare facilities would be part of a development expected to bring large numbers of Harvard affiliates into the Allston community.

- Placement of a hold on the land in the triangular parcel south of the business school and bounded by Western Avenue and North Harvard Street, banking it for future academic uses yet to be determined, but previously identified as a possible home for the schools of public health and education. Krieger noted that “prior proposed uses,” such as cultural centers, are not precluded, but the report “recognizes that those uses may change given current economic conditions and University needs.” Harvard plans to use the two-year interval, during which new apartments to replace the existing affordable-housing Charlesview units are constructed on a separate Allston site, to advance planning for institutional use of the site.

- Construction of a 30,000-square-foot conference center in conjunction with a 180-bed hotel built and operated by a third party. Research indicates that demand for such a facility already exists.

THESE FIVE RECOMMENDATIONS are “related to each other but are not dependent on each other,” noted Lapp. They were presented at two Allston community meetings in June—at which some residents expressed their continued displeasure that Harvard generated a new plan without involving them. The report will also form the basis of continued academic planning discussions throughout the University; gone is the one-time recommendation to construct new undergraduate Houses on the Allston side of the river.

The new Allston recommendations also involve more contingency, unlike the ambitious institutional master plan presented in 2007. Among those contingencies is competition within the commercial real-estate market: further construction is already authorized in Kendall Square, the life-sciences hub near MIT (where Biogen Idec is consolidating its operations); on the South Boston waterfront (which was just chosen as a new headquarters

HARVARD PORTRAIT



Sally Donahue

In a job where the workload is steadily expanding—a record 35,000 individuals applied to Harvard College last year—Sally Donahue, director of financial aid at the College and senior admissions officer, replenishes her energy by *expending* it—in sports. Each week, she swims two or three times, runs five miles, and on three mornings rises at 4:15 to drive from Duxbury to row at Union Boat Club, on the Charles. “I love rowing,” she says. “It’s like being a kid again.” In fact, one of her own kids, daughter Mairead Wilson ’99, got her into the sport: “I had so much fun watching her row for Radcliffe crews that I took it up myself.” Last summer Donahue won a gold medal in the mixed quad at the World Rowing Masters regatta in Canada, making her a bona fide world champion. Sally Clark Donahue grew up in Duxbury, where her parents still live; Mairead and son John Patrick Donahue ’01 live nearby with their families. Donahue’s own significant other, Jim Miller, is dean of admission at Brown. She attended Milton Academy and Cornell, graduating in 1975 in English, and soon married Brad Donahue, a pilot and fish spotter who died in a plane crash in 1987. She found her own career early, getting hired by Cornell’s financial-aid office. In 1981 she joined Harvard’s admissions office, then worked in financial aid and career services at the Law School from 1987 until 2000, when she took her present job. “It’s such a compelling mission we have,” she says. “Who wouldn’t love to go out and find the most talented students worldwide, admit them, and then fund them to come to Harvard? We’re blessed with a wonderful ability to fundamentally change people’s lives.”

and laboratory site by Vertex); and in the less-expensive suburbs. The Harvard site is highly visible, but will require expensive infrastructure investments in parking, transportation, water and sewer connections, power, and so forth to accommodate redevelopment. The financial condition of life-sciences and other prospective tenants will shape demand to lease any new facilities. The location of the conference center remains undecided, said Mahmood Malihi of Leggat McCall, a company hired to assist with developing the property.

If the University attracts developers for the housing, hotel, and commercial developments, that could create new revenue from land leases that would help defray the costs of servicing prior Allston expenses—useful during a period of continued financial constraint. Whether such an income stream might relieve the need for strategic infrastructure fund assessments against the schools' endowments—the mechanism by which Allston land acquisi-

tions and debt service have been funded—and whether any thought has been given to divesting or monetizing any other of the University's assets, remain unknown.

The former master plan ran afoul of the economy; the financial crisis changed everything from the plans themselves to the underlying process. "When I was hired by Drew Faust in October of '09," recalled Lapp, "she laid out clear steps of what she wanted us to do." That involved not only good property stewardship and leasing in Allston and support for the work-team process, but implementation of "a multi-year capital-planning process with rigorous guidelines and oversight...for large building projects. In addition we did for the first time a five-year financial-planning process. We've brought all of that discipline to the University and are developing a five-year capital plan that also informs the whole campaign. As those plans solidify, it allows us to look at what we need to build, how are we going to build it, and

what are our targets in terms of fundraising. Allston has been knitted into the fabric of all of that," rather than being managed separately.

Cambridge, Allston, and the Longwood Medical Area, she said, "should all speak to each other and play off each other in this integrated process we have rolled out over the last year."

The new financial circumstances and better financial controls Lapp detailed have led to more realistic assessments of what is possible. Tufano described a more humble Harvard: "I think we have all learned that things work best when we balance our aspirations with the realities of, for example, our ability to finance them....We have high aspirations as a university, but at the same time they have to be practical ones....For example, we now acknowledge that it might be possible—in fact, even desirable—to work with other parties. Exactly how? We are going to have to learn about that."

And Then There Were 10

ON JULY 5, the Corporation's Web page—itsself a relative novelty for Harvard's venerable senior governing board—displayed a startling transformation: after 361 years, with the listing of three new members, the ranks of the Fellows expanded from seven to 10. That shift marked the most tangible evidence of the changes in governance announced late last year ("The Corporation's 360-Year Tune-Up," January-February, page 43), and of progress toward an ultimate enlargement to 13 Fellows, including the president and treasurer.

One rationale for that growth was to bring to the board diverse kinds of expertise, so the first appointees, named just before Commencement ("Fellows Three," July-August, page 55), have been scrutinized accordingly: Lawrence S. Bacow, M.P.P.-J.D. '76, Ph.D. '78, past president of Tufts and former chancellor of MIT; Susan L. Graham '64, Chen Distinguished Professor emerita of electrical engineering and computer science at Berkeley; and Joseph J. O'Donnell '67, M.B.A. '71, a Boston business executive. Bacow and O'Donnell live locally, as does William F. Lee, who joined the board last year ("The Corporation's Crimson Newcomer," July-August 2010,

page 58)—making for ready engagement with the campus and the Boston and Massachusetts communities. Graham and O'Donnell have extensive experience with both the Board of Overseers, the junior governing board, and the Harvard Alumni Association (HAA), at a time when the Corporation seeks to become more involved in alumni affairs and development. Graham, as a faculty member and engineering scientist, and Bacow, as a high-ranking educational leader, complement and strengthen those perspectives on the Corporation.

The trio, who assumed their new roles on July 1, made time for separate summer conversations about how their experiences might bear on their new service, and their outlook on Harvard.

IN A MEETING at the Graduate School of Education, where he taught in summer executive programs for new senior college and university administrators, Bacow



emphasized that he hopes to "contribute to a great institution" of first importance for "all of higher education and the nation." His direct ties to the University, he noted, dated back to his graduate work; since then, he said, he had been "two stops away from Harvard on the Red Line for 34 years—two stops north [Tufts] and two stops south [MIT]."

Apart from the caveat that he has much to do to get up to speed on the University now, Bacow joins the Corporation as a seasoned academic leader, like fellow Nannerl O. Keohane, president emerita of Duke and Wellesley. Reflecting on his

Yesterday's News

From the pages of the *Harvard Alumni Bulletin* and *Harvard Magazine*

1911 Freshman Lionel de Jersey Harvard becomes the first relative of John Harvard to register in the College.

1926 A \$10,000 grant from the Studebaker Corporation establishes the Albert Russell Erskine Bureau for Street Traffic Research, headquartered on the top floor of Widener Library.

* * *

Certain law students receive a letter of reprimand from Dean Roscoe Pound, reading in part, "You have been reported to me as one of the one hundred or more first-year men who saw fit to drop their work last Saturday by staying away from one of the most difficult courses in the School. You are now listed as *prima facie* an undesirable student, and from now on your work will be observed." The delinquents had gone to the Brown game.

1936 Harvard concludes its Tercenary celebration with a week of festivities; highlights include an address by President Franklin D. Roosevelt '04. In the midst of the Depression, enrollment in the economics

department has increased substantially. A political poll reveals student support for Republican presidential candidate Alfred P. Landon exceeding support for Roosevelt by a slim margin.

1941 A poll of undergraduates conducted by the *Bulletin* finds that 56 percent feel they should be exempted from military service until graduation.

1951 The Administrative Board refuses to permit women to stay in the Houses until 11 P.M., even though Yale has already extended its curfew to that hour.

1956 UNIVAC, with 7,000 tubes and 500 miles of wiring, comes to Harvard as a gift from Sperry Rand. Among other tasks, the new computer is expected to help translate Russian into English, analyze music, and study production and consumption in the U.S. economy.

1961 The Harvard-Radcliffe Program in Business Administration plans to offer a special program on the "Under-



standing of Management," designed to make wives of business executives more aware of the managerial process and give them orientation to some functions of a business organization.

1966 Secretary of Defense Robert S. McNamara, M.B.A. '39, the first honorary associate of the Kennedy Institute of Politics, is trapped briefly outside Quincy House by antiwar demonstrators seeking a public debate.

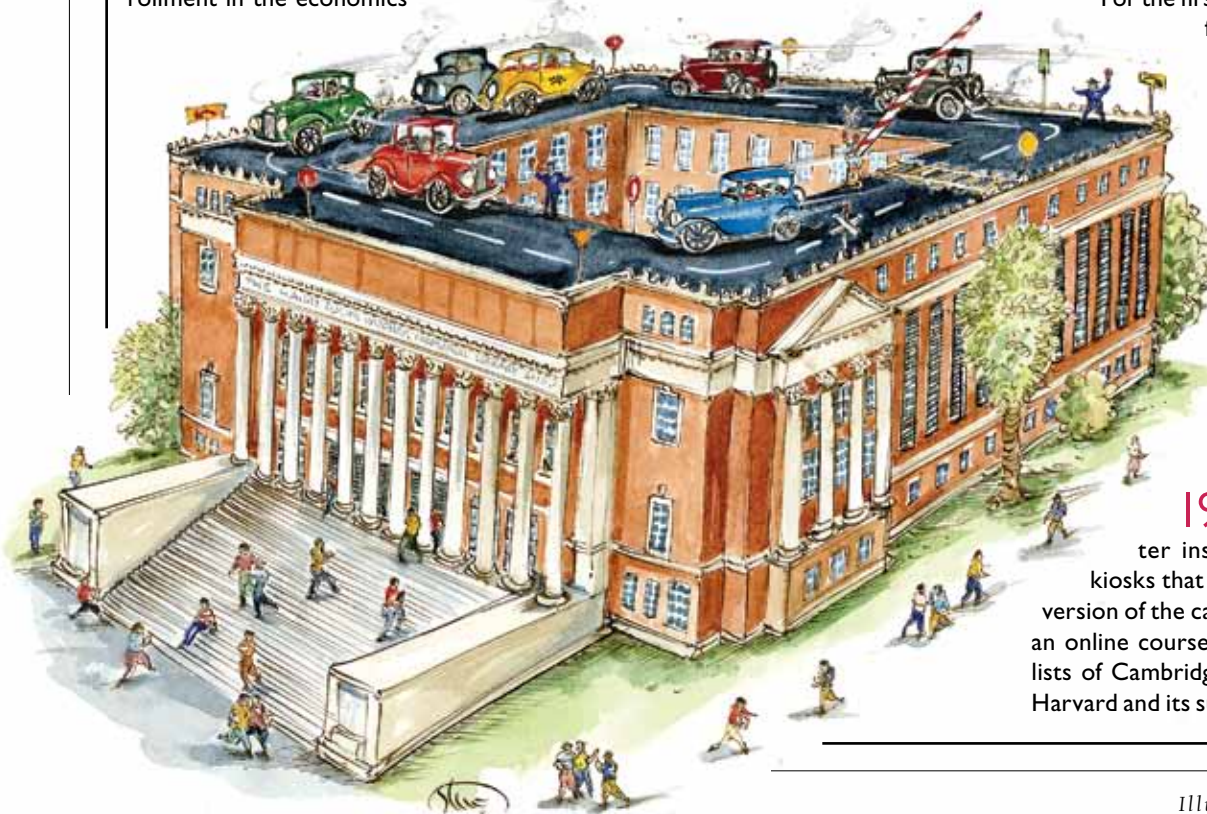
1971 The *Bulletin* reports that the class of 1946, in its reunion survey, has named pollution the most serious problem facing the country.

* * *

For the first time, the mothers and fathers of Harvard and Radcliffe students gather jointly for Freshman Parents' Weekend.

1981 *Four-Piece Reclining Figure*, by Henry Moore, a major donation to Harvard's art collection and outdoor landscape from Sandra and David Bakalar '46, is unveiled near Lamont Library.

1991 The Science Center installs Harvard College kiosks that offer freshmen a digital version of the calendar of opening days, an online course catalog called FAScat, lists of Cambridge banks, and a map of Harvard and its surrounding "hot spots."



work with the much larger trustee groups at Tufts and MIT (“There’s no one right way of doing things”), he said that at both institutions, at least one current or past university president was always a member, and that he had found that “enormously useful.” Any such governing group that is working well, he said, “should be helping the president to advance the institution.”

In that context, he outlined the concerns facing research-university leaders today. All, he said, are “worried about how federal support for research will fare, given the kinds of pressures the federal budget is under. We are all concerned about access to higher education,” because of limits on institutional aid funds as well as public-financing programs. In the wider view, “We are all looking at a

Bacow welcomed the expansion of the Corporation and its efforts to work more closely with the Overseers. Without knowing yet what committees (in formation) he might want to join—“All of what the Corporation does interests me”—he did signal certain immediately relevant tasks. “I suspect I will be involved in issues of facilities and capital planning,” he said, noting his academic interest and experience in the field, including major projects for Tufts’ Boston-based medical and dental centers. And having planned and completed a \$1.2-billion capital campaign for Tufts, he emphasized the importance for any university of having people “thinking seriously about how to *move*, how to *advance* the institution”—through fundraising, of course, but more broadly

through “engagements with multiple constituencies.... This is a job for the Corporation,” he continued, “and I’m pleased to see the Corporation taking it on” at the launch of Harvard’s planned campaign.

When he moved from MIT to Tufts, Bacow said, “I thought I had landed on another planet. Now I look forward to exploring another body in the same solar system.” Citing Harvard’s “global reputation,” he said, “I’m looking forward to helping an institution that made an enormous difference in my life.”

SUSAN GRAHAM, reached by phone in California (where she pursued advanced studies at Stanford prior to her academic career at Berkeley), readily admitted she had had little involvement with her alma mater after graduating from Radcliffe—until her twenty-fifth reunion. That rekindled her engagement and led to her surprise election as a director of the HAA, and subsequently to her election as an Overseer.

At least three experiences directly pertinent to her new role followed from Graham’s Overseer service. First, as chair of the visiting committee to the Radcliffe Institute, she became acquainted with its founding dean, Drew Faust. Second,

drawing on her academic expertise, Graham chaired the visiting committee for engineering and applied sciences—and so was involved both in the elevation of that Faculty of Arts and Sciences division into a full-fledged school, in the fall of 2007, and in the joint Overseer-Corporation deliberations that preceded that change. At the celebration of the school’s birth, she stressed the importance of “intellectual linkages” between the engineering faculty and “virtually every other part of the campus.”

Third, as president of the Overseers, Graham became fully involved in the search that led to Faust’s selection as the University’s twenty-eighth leader. On that occasion, she said that Faust, as a historian, looks to the past, but “as a leader, she looks to the future.” At Radcliffe, she said, Faust had brought people together intellectually to pursue interdisciplinary work; she had been especially impressed by Faust’s role in building up science there.

Graham thus joined the Corporation already acquainted with most of her colleagues, familiar with the Overseers’ operation and the evolving closer collaboration between the two boards, and committed to the interdisciplinary collaborations she believes can and ought to take root at Harvard. Although she professed to having to “catch up” this summer, around a trip to Vietnam, she does so from a broad base of knowledge.

The expanded Corporation can appoint members more expert in particular fields than the generalists who have typically served, but Graham said of herself, Bacow, and O’Donnell, “I don’t feel that any of the three of us are any more specialized than the rest of them.” She acknowledged that “having someone who has worked in science and engineering is important, particularly at this stage of Harvard’s growth, and I think I can contribute there.” But she also noted that her board-level involvement with Berkeley’s acclaimed Cal Performances (a “spectacular” program through which she has met and been inspired by many artists) and her recent invitation to join the board of overseers of the Curtis Institute of Music suggest her interests across the spectrum of creative arts, a rising priority for the University. Said Graham, “I hope I can use those interests on behalf of Harvard,” too. As to committee assign-



Susan L. Graham

world in which there is far greater competition in the higher-education marketplace,” as developing nations invest to create institutions equal in quality to American ones. There is a continuous need to determine how to use technology in teaching and research “in ways that both enhance the educational experience of our students and, ideally, reduce costs and don’t add to them” (a subject he is exploring with William G. Bowen, president emeritus of the Mellon Foundation and of Princeton, and others). Finally, Bacow said, university leaders are striving to assure that their institutions reflect the heterogeneity of the modern world, both in their domestic populations and globally. Articulating those priorities may, in itself, be a useful part of what he brings to interactions with the other Fellows and President Drew Faust.

Marc Hauser Resigns

Professor of psychology Marc Hauser, who was found “solely responsible” for eight counts of scientific misconduct last year, resigned effective August 1, following a year on leave. As previously reported (“Marc Hauser’s Return,” July-August, page 58), he had been denied permission to teach during the new academic year. The case remains under federal investigation.

75, in the 375th

Harvard Kennedy School celebrates its seventy-fifth anniversary during the University’s 375th-anniversary year. Commemorative events were scheduled to begin in late August, as students arrived, with a day of service; to include events on October 14, coinciding with Harvard’s community festivities; and to feature a series of addresses by alumni who are now heads of state. Details are available at <http://hks.harvard.edu/75>.

Maternal Health Checklist

The Bill & Melinda Gates Foundation awarded a \$14.1-million grant to Harvard School of Public Health to test the effectiveness of a World Health Organization checklist-based system for reducing deaths related to childbirth and improving the health of mothers and infants. The four-year BetterBirth trial is scheduled for 120 hospitals in Uttar Pradesh, India. It will be led by Atul Gawande, associate professor in health policy and management and a surgeon at Brigham and Women’s Hospital, who has written widely on the subject, including a book titled *The Checklist Manifesto*, and Jonathan Spector, a research associate at the school and a neonatologist at Massachusetts General Hospital. (Gawande was profiled in “The Unlikely Writer,” this magazine’s September-October 2009 cover story, page 30).

Brevia



IN MID SUMMER, as construction concluded on the Law School’s massive Northwest Corner building (combining new classrooms, student organization and social space, and offices for myriad clinical programs), its Indiana limestone façade along Massachusetts Avenue was lushly greened with plantings of honeylocust and ginkgo trees; lacecap hydrangeas, pieris, enkianthus, daphne, and other shrubs; and bedded perennials including coreopsis, sedum, daylilies, anemones, and more: an invitation to passersby and scholars alike to come and admire the flowers, especially after the building’s dedication, scheduled for next April.

Endowment Preview

Harvard Management Company won’t report fiscal year 2011 (ended June 30) results until September—but they should be positive, perhaps strongly so, since they preceded the August crash. Through May 31, the smaller but sophisticated University of Virginia Investment Management Company reported returns of 21.4 percent. Cornell projected a 17.2 percent rate of return. And two state pen-

sion funds, Massachusetts and the huge California Public Employees’ Retirement System, reported preliminary 22.3 percent and 20.7 percent annual returns, respectively, bolstered by strong stock markets and better results for private-

equity, real-estate, and some natural-resources assets—all important categories for Harvard’s portfolio managers.

At Other Schools

The “Yale Tomorrow” campaign concluded on June 30, having raised \$3.88 billion—above both the initial \$3-billion goal and a revised \$3.5 billion target. Separately, Henry A. Kissinger ’50, Ph.D. ’54—the former U.S. secretary of state and winner of the Nobel Peace Prize, who served on the Harvard faculty from 1954 to 1971—donated his pa-

pers to Yale; the announcement noted that he has taught there, and that both his children attended Yale College.... Duke and Stanford are both pursuing major investments in the humanities. The former received a \$6-million grant from the Andrew W. Mellon Foundation for “Humanities Writ Large,” a program involving undergraduate research, interdisciplinary study, humanities “labs,” and new faculty appointments. Stanford is committing \$4 million to scholarships for outstanding humanities doctoral candidates. Stanford has also created a “Faculty College” to develop innovative undergraduate courses, with an emphasis on creative pedagogy. It continues to pursue its application to build a science and technology campus in New York City, which has pledged prime public land and \$100 million for infrastructure for the winning applicant.

Nota Bene

A PARK FOR READING. Patrons of the Allston-Honan branch of the Boston

Public Library have a new place to read and relax. The 1.7-acre Library Park, part of Harvard's package of investments in neighborhood amenities in an area where it hopes to develop new campus facilities (see page 96), was dedicated in early July, greening a former industrial site.

PHARMACEUTICAL PARTNERSHIPS. Pfizer Inc. has established a Center for Therapeutic Innovation in Boston (complementing earlier centers established in San Francisco and New York), intending to invest \$100 million during the next five years to pursue "translational" research with partners who may include scientists at the Medical School, the Harvard-affiliated Beth Israel Deaconess Medical Center, Children's Hospital, and Partners HealthCare, among other institutions. Future projects, overseen by a board of Pfizer and research-institution appointees, aim to put company and academic-medical scientists side-by-side to accelerate translation of basic science into possible therapies; Pfizer will have the first chance to license any discoveries.

MISCELLANY. Gene Corbin, executive director of Phillips Brooks House Association for the past eight years, relinquished that position in August to become assistant dean of student life for public service, a new position responsible for all



Gene Corbin

JUSTIN IDE/HARVARD NEWS OFFICE

public-service initiatives in the College.... The Kennedy School's George Borjas, Scrivener professor of economics and public policy, and George Washington University economist Barry R. Chiswick have won the 2011 Institute for the Study of Labor's €50,000 prize in labor economics for 2011, for their study of migration and its impact on labor markets and social security systems.... The College has announced that it will switch to Google's

Gmail as the engine for undergraduate e-mail accounts; the schools of design, divinity, and education already use the Gmail service.... Rabbi Jonah C. Steinberg has been appointed executive director of Harvard Hillel, succeeding Bernard Steinberg (no relation).... David Jones '92, M.D. '97, Ph.D. '01—who has been, simultaneously, assistant professor at MIT, a psychiatrist at Cambridge Hospital, and a lecturer in social medicine at Harvard—has been appointed Ackerman professor of the culture of medicine, a new joint chair in the department of the history of science and the Medical School's department of global health and social medicine. The position expands research in the cultural, social, and ethical aspects of medicine.... A hybrid birch tree planted between Thayer Hall and Memorial Church by the Dalai Lama



JON CHASE/HARVARD NEWS OFFICE

PROMISING PIPES. Installation of Fisk Opus 139, the new organ for Memorial Church, began with the first delivery of components in late June. Although assembly will be completed by autumn, the "voicing" (tuning) of 3,000-plus pipes is expected to take several months. The new instrument is scheduled to debut on Easter Sunday. For more details, see harvardmag.com/fisk-opus.

and President Drew Faust during the former's visit to the University on April 30, 2009, did not survive last year's severe New England winter; the Arnold Arboretum, which bred the Asian-North American hybrid, has been asked to supply a replacement.... The School of Engineering and Applied Sciences has created a secondary field (a minor, in effect) in computational science and engineering for its graduate students, in response to rising demand to apply advanced computational methods across many disciplines.... Seeking to rein in technology spending, the Faculty of Arts and Sciences announced in late June that neither University nor faculty funds could be used to purchase tablets and associated data plans for staff use; faculty purchases remain eligible for funding.... Tiziana D'Angelo, a doctoral student in classical archaeology, has been awarded Phi Beta Kappa's 2011 Sibley Fellowship in Greek studies, which carries a \$20,000 stipend. She has participated in the excavation at Sardis, in Turkey, and is writing a dissertation on polychrome funerary wall paintings.



JUST AFTER COMMENCEMENT, the Radcliffe Institute began renovating Fay House, its administrative offices. (Staff have decamped to a cluster of Institute-owned offices up Concord Avenue for the duration.) When the work is done, Radcliffe will have modernized Schlesinger Library, the former gym (now a conference center), and Byerly Hall—where the Fellows have offices and shared meeting spaces. Agassiz Theatre updates remain on tap.

ments, Graham, like Bacow, found that “everything is interesting.”

Harvard, she said, “is a fascinating and wonderful institution, in an interesting period of change.” Beyond the personal appeal of being involved, joining the Corporation provides the opportunity to “pay back for the education that was the seed for the skills that enable me to play this role now.”

JOSEPH O'DONNELL'S offices at the eastern edge of Cambridge afford a sweeping view across the Charles River, from the Museum of Science to Massachusetts General Hospital and the financial offices in Back Bay. The panorama neatly represents his career in business, as a significant supporter of biomedical science and research, and as a leading figure in Boston—who remains deeply grounded in his roots across the Mystic River and the Charles.

O'Donnell grew up in Everett—his mother still lives there—but “Harvard has been my new neighborhood since I was 19 years old.” When he was admitted to the College on scholarship, his father, “a cop,” told him, “Remember what kind of an opportunity going to a place like Harvard is—remember that *daily*.” Evidently he has. As a student, he said, he benefited from earlier supporters who endowed buildings and scholarships; as an athlete, he “met a lot of *really* good people, and even then thought that if I ever had the opportunity, I wanted to pay back.”

A consummate people person, O'Donnell describes Harvard—where he coached and worked at the Business School before pursuing his own business career—in those terms: “The great thing that differentiates great institutions is their *people* and the *continuity* of those people, who *get it*”—people like Jack Rardon (who directed financial aid when O'Donnell was an undergraduate, and now is executive director of the HAA), and his own classmate Bill Fitzsimmons (the College's long-time dean of admissions and financial aid). “The institution,” he said, “has been almost paternal to me.”

“I worry about the future of the place,” O'Donnell said. “It would be pretty easy for it to become like any other place.” To help forestall that, he has—as an Overseer, HAA director, fundraising volunteer and donor, and business school adviser—paid particular attention to alumni affairs and

development, a realm in which the Corporation will now establish a joint committee with the Overseers. During Neil L. Rudenstine's presidency, O'Donnell reported, he helped Harvard build bridges to local and state government leaders “across the board.” Under President Lawrence H. Summers, he was engaged in Allston planning.

That effort—derailed by the financial crisis in 2008—proceeded perhaps better on the permitting and regulatory front, he said, than in terms of Harvard's internal decisionmaking. As one of three alumni involved in the Allston Work Team and its new approach (see page 96), he described it as “the best committee I ever served on,” as deans jointly aired issues and resolved them together in a school and University context. As a side benefit, of course, he got to know most of the current deans.

In his new capacity, O'Donnell expects



Joseph J. O'Donnell

to be involved in financial matters, drawing on his business experience, and alumni and community affairs (“I’ve been doing that *ex officio* anyway”). “And for certain I’ll be involved” in capital-campaign planning—all with the “goal of making Harvard one university” that is more capable than ever. Locally and in many realms of human progress, he said, “Harvard is the linchpin, in the middle of it. Maybe we should be less shy about the contributions we make to this community and to the world.”

THE UNDERGRADUATE

Aulus and Me

by MADELEINE SCHWARTZ '12

AS A HUMANITIES concentrator, I'm often asked if “students still read.” I work as an assistant for the head of the Harvard libraries, so I've served on a few panels for librarians and alumni anxious to know what the reading climate at Harvard is like. Do students buy books printed on paper anymore? Do they go to the library at all? It's true that we don't read exactly the way our parents do: I do a lot of research through online journals, I read blogs, I have a Twitter account. But it's been my experience that reading at Harvard is much too nuanced a phenomenon to be summarized by a mere change of format. It has less to

do with e-readers and e-ink than with the fact that people build their identities around the culture they consume.

I've been thinking over these questions this summer while researching my senior thesis. I plan to look at Aulus Gellius, a gentleman-scholar in Rome (A.D. c. 123–c. 165) who kept careful notes of his reading habits in a three-volume miscellany that survives almost entirely intact. Reading, for Gellius, was a social activity, so much so that the desire to be seen as well-read set the tone for almost all the interactions he had with his peers. Not only did he go scroll-shopping with friends along the Tiber and compare notes about new

works, he and his companions stopped at nothing to appear educated. His notes make dinner parties seem like literary death matches: When a group walks home from a gathering, they compete to see who can quote the most from this work and that; at a luxurious villa, all the guests begin to sweat and blush when a young man stumbles during a public declamation. A few misspoken phrases and suddenly a haze of collective embarrassment clouds the room—as if the teenager had committed an unforgivable faux pas by thus shaming himself in public.

Twice a week, I take the subway to the local university library to try to figure out

THE FRIENDLY BUZZ of libraries is an aspect of student life at Harvard that I cherish. Certain chats happen in libraries that I've rarely had anywhere else at school: friends encountered there discuss literary matters more readily. Maybe it's the hushed atmosphere—a sense of excitement often permeates the brief encounters between acquaintances in reading rooms.

Reading at Harvard is social, too, as it was for Gellius. Many of the meaningful conversations I've had in college have been about books that I've read, or should have read, or should never read. The closest friendships I've developed during my three years in Cambridge overlap in large part

ONE OF THE most interesting things I've found in my research on Gellius is that a certain posturing surrounds all literary interactions. Not only are he and his contemporaries eager to find the right words and quotations, they also look for the right shoes, the right cloak. Pupils are frequently chastised about their appearance. The most cogent advice for literary success in that period came from the contemporary satirist Lucian: "Your sandals should be those of an Attic woman—you know, with lots of sections on them—or else boots from Sicyon, conspicuous with white felt." Lucian may have meant to poke fun, but his advice wasn't far off. According to the

historian Philostratus, one successful orator of the time, Alexander, was "always arranging his hair, cleaning his teeth, and polishing his nails, and always smell[ed] of myrrh." Another, Favorinus, took the idea of self-presentation even further. Said to have been born a eunuch, he was so skilled at self-presentation that his high voice, unusual effeminacy, and self-confidence earned him a place among the most well-respected orators of his time. There's even the suggestion that he may have used his skills for seduction—he was charged with an adulterous affair with a well-known noblewoman. Self-presentation was as important as, or even more important than, the substance of one's work.

How different is that from Harvard? The small group of pretentious but well-meaning literati (I count myself among them) who congregate at the offices of the *Advocate*, our literary magazine, proudly sport horn-rimmed glasses and sweaters reminiscent of early Woody Allen movies. A few years ago, everyone got their cardigans monogrammed with the magazine's seal. It's not unusual to hear Foucault and Bolaño referenced along with Lady Gaga and Beyoncé at parties.

This posturing is not confined to would-be editors. It permeates discussions throughout the campus. How often have I seen a fellow student improve a comment in seminar with perfect pauses

what it would have been like to live in a world where social standing depended on such an exacting display of knowledge. The library is fresh off a bedbug scare and fairly empty. Working there can be a little bit lonely. There's no one to take breaks with—and though I'm sure the neighboring scholar would be fascinated to know that Aulus Gellius inspired a whole generation of ferocious note-takers in the Renaissance, he might be put off were I to lean over and tell him.

with those people with whom I've shared important intellectual experiences—be it discoveries of a certain author or shared coursework. From classrooms come long discussions comparing ancient treatises with modern songs; from books, lists of recommendations exchanged throughout the summer; from the libraries, lunchtime conversations about the oddest objects owned by Harvard (so far: a book bound in human skin, and Walt Whitman's death mask, which still has some hair stuck to it).



Scroll, book, Kindle...or whatever comes next, there will forever be social display around reading.

and well-placed hand gestures? Together, they can make even a vague statement like “I agree with Tim’s point” sound a little smarter. A determined facial expression makes one seem focused; uneasy hesitation suggests one is trying to downgrade the magnitude of one’s own thoughts.

Some may pass this off as laziness. Sometimes it is. It’s happened that everyone in a class section admits beforehand to reading the same version of *The Symposium*—the Wikipedia one—but each person has picked out a choice quotation that implies they’ve studied the text carefully. Presentation often covers up, or at the very least adds some polish to, hasty preparation.

Yet I don’t think this posturing is only a shortcut. It’s part of how we’ve been taught to deal with texts. At an elite university like Harvard, we are meant to learn not just the skills that will help us succeed in careers but those that will help us shine in the accompanying cocktail parties. Learning to act well-read is something that

the College, with its emphasis on overwork and competition among peers, teaches students to do. There’s never enough time to read everything required, but there are endless examples of how to promote one’s education. From the first moment that we learn to say “I go to school in Boston” as code for “I’m smart and I know it,” we learn how to use reading as a way to make ourselves more attractive.

So when people ask me what reading at Harvard is like, I can’t help but think: Be it scroll, book, Kindle...or whatever comes next, there will forever be social display around reading among the well-educated. Students will always make friendships around the works they read or see. And the flip side is that reading carries with it its own codes that are learned along with the text. Learning to read means learning not only to follow the words on the page, but how to use them in outside contexts, and how to let others read you.

A FEW NIGHTS before I left Cambridge for the summer, I went to the *Advocate* to

hang out with some friends. The evening started out as it usually does—the quiet movement of furniture being dragged across the floor, talk of who was done with exams and what was left to study. After a few hours had passed, a small group gathered, and two of the boys decided to recite some poetry.

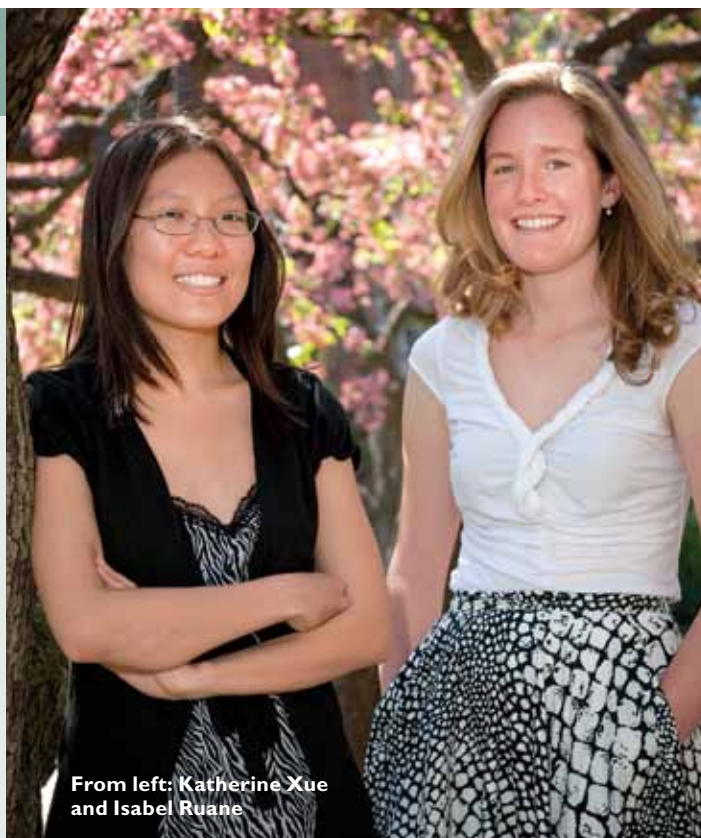
Back and forth they went: Coleridge, Whitman, Carson. Ten, 15 poems swung by. Each boy paused to rearrange his glasses. The rest of us sat quietly, taking a sip from a cold drink, or shifting cautiously in the Advocate chairs. When the two had exhausted their memories with an incomplete attempt at “The Love Song of J. Alfred Prufrock,” someone turned on the stereo and the evening slipped back into its regular course.

Sincere or pretentious? Posturing or a display of knowledge lovingly culled? I can’t answer everyone’s questions, but I can say this. When I went to sleep that night, I felt satisfied. ▢

Berta Greenwald Ledecy Undergraduate Fellow Madeleine Schwartz '12 is looking for a pair of white felt boots. The translation from Lucian used in this essay is by Tim Whitmarsh, that from Philostratus by Wilmer Cave Wright.

New Fellows

Harvard Magazine’s Berta Greenwald Ledecy Undergraduate Fellows for the 2011-2012 academic year will be Isabel Ruane '14 and Katherine Xue '13. They were selected after an evaluation of writing submitted by nearly two dozen student applicants for the two positions. The fellows, who join the editorial staff during the year, contribute to the magazine as “Undergraduate” columnists and initiate story ideas, write news and feature items for print publication and *harvardmagazine.com*, and edit copy. Ruane, of Wilton, Connecticut, and Mather House, was a member of the women’s sailing team that finished seventh in the national championships this past May in Cascade Locks, Oregon. She is interested in pursuing a concentration in history and literature or history. She served as a counselor at Camp Onaway on Newfound Lake in New Hampshire during the summer. Xue, of Oak Ridge, Tennessee, and Quincy House, is concentrating in chemical and physical biology. During the past summer, she taught English and other subjects in Namibia, under the auspices of WorldTeach. She is a member of the Harvard Ballroom Dance Team and has written and edited for several campus publications. The fellowships are supported by Jonathan J. Ledecy '79, M.B.A. '83, and named in honor of his mother.



SPORTS

How to Wreak Havoc

Defensive tackle Josue Ortiz explains his art.

IN FOOTBALL, there's a radical asymmetry between offense and defense. For an offensive play to succeed, all 11 players have to execute nearly perfectly. Thus a pass play may require a wide receiver to run his route flawlessly, secondary receivers to tie up cornerbacks, and the quarterback and running back to deftly fake a handoff and leave the former rolling out—ready to heave a long pass. But perhaps the left guard misses his block, letting a defensive end roar into the backfield for a sack—and the entire play collapses due to one goof-up.

On defense, it's a mirror image. Maybe a safety was three steps behind that wide receiver and two linebackers bought that

fake—but the defensive end's big play erases those errors and scores a big win for the D. Consider, for example, the moment in last fall's Harvard-Yale game when defensive tackle Josue Ortiz '11 burst into the Yale backfield and blocked a punt, then recovered the ball on Yale's 23-yard line, setting up the Crimson's go-ahead touchdown in a 28-21 victory.

Offenses run set plays; defenses react, improvise, and wreak havoc. The offense is the Roman Empire, the defenders are Visigoths. (Perhaps it's no accident that the biggest disruption that defenders can perpetrate is called a "sack.") "Sacks are the most fun, for sure," says Ortiz. "It's like devastating a city, creaming a multitude

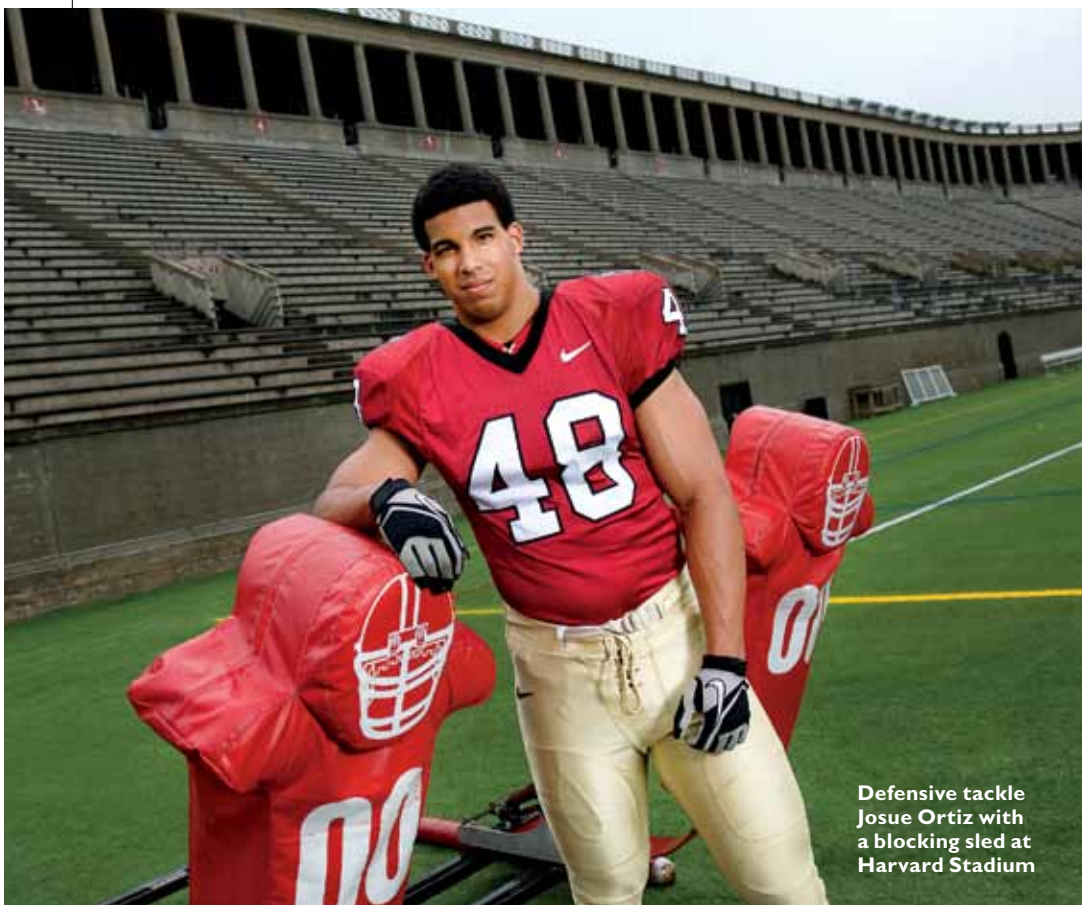
of people. When you get your sack, you've just ended an entire play that 11 guys got together and thought up. You've beaten the whole offensive team."

Ortiz knows that satisfaction well: last fall, he led the Ivies in sacks (7.5) and in tackles for a loss (13.5). He recorded two sacks against Dartmouth, a squad that had allowed only one sack by opponents in their first five games. Such performances landed him a First Team all-Ivy berth as well as a spot on the Associated Press all-America third team.

Josue (ho-sway) Ortiz is a "super senior" with one semester to complete, having taken last spring off to work at a Boston law firm. (He hopes to become a law professor.) A wrist fracture two weeks into his freshman season wiped out his 2007 campaign; under NCAA eligibility rules, this fall will be his fourth season of college football.

His Puerto Rican family settled in an agricultural area in central Florida where "cattle outnumber people, five to one," he explains. It's a football-saturated region: state champion Lakeland High School, for example, is only an hour away from Ortiz's hometown, Avon Park. This football-powerhouse background raised expectations, and influenced a pivotal conversation head coach Tim Murphy had with the young defender. After Ortiz played in only three games as a Harvard sophomore, Murphy sat down with him after spring practice the next year. "Coach asked me when I was going to start contributing at the level I was capable of," Ortiz recalls. "He was right. I had not really dominated or shown any flashes of how good I could be. That summer is when I really got to work and said, 'I'm going to fix that.'" He gained strength and weight (he's now six feet, four inches, and 260 pounds) and that fall played every game, led the squad with 9.0 tackles for a loss, and made second-team all-Ivy.

"When Josue came in as a freshman, he was very raw. College football did not come easy to him," says Murphy. "One thing that was readily apparent, though, was that he had a tremendous work ethic and a relentless attitude, and because of that he has probably improved more



Defensive tackle Josue Ortiz with a blocking sled at Harvard Stadium

than any member of that freshman class. At this point he's one of the top players in the Ivy League at any position, and certainly one of the top two or three defenders."

Succeeding on the defensive line largely means finding a way to get past bigger men. Ivy offensive linemen often weigh 300 pounds or close to it. They need good footwork, but not running speed; where a defensive tackle may sprint 40 yards in 4.4 seconds, his offensive counterpart will usually take 5.2 or 5.3 seconds to do so. The O-line's key job is to block defenders and get in their way, and, as Ortiz explains, "It's harder to move 320 pounds than 250." One of his weapons in the one-on-one trench battles is having "tremendous ability to change direction, for someone of his size," Murphy explains. "Josue has the agility of a guy who is 200 pounds—even though he weighs 260 and can bench press 400 pounds." That kind of strength allows him to throw those bigger fellows aside. "If he's going in one direction," says Murphy, "you're going in the other."

His wrestling background also helps. As a high-school senior, Ortiz went 35-4 wrestling at 215 pounds and ranked third in the state. He says that wrestling skills—"aggressiveness, using your height and leverage, quickness, foot speed, hand speed, hand-eye coordination, learning how to get away from people, taking guys down"—transfer well to football line play, which is really a grappling match. In particular, he adds, "hand placement is one of the premier factors," because although an offensive lineman can control a defender by grabbing the inside of his breastplate, he can also be penalized for "holding" if his hands are on the outside—say, on the shoulders. "If you don't have proper hand placement you pretty much lose the battle—that's where it's won or lost," Ortiz explains. "When you're inside his breastplate, that's where all the control is. On pass-rushing moves, the way you beat blocks is keeping his hands off you." You have to be quick; in "gunslinger" drills, two linemen starting out with their arms at their sides try to get their hands on the other man's breastplate first. Similarly with footwork: "The first step is where you make your money," he says.

An offensive lineman also gains a big advantage from knowing the count—the "secret" number or word that triggers the center to snap the ball. That knowledge

allows him to get off the ball and at the defender's body before the latter knows what hit him. The defender's counter is to watch the ball closely with peripheral vision while looking straight ahead, and to react instantly to his opponent's slightest feint or movement. (If the offensive lineman flinches at all, the defender can hit him, because a flinch before the snap is an offside violation.) When scouting opponents with game film, Ortiz and his col-

leagues sometimes notice how a player with a stripe down the middle of his helmet looks in the direction he intends to move—and the stripe's motion gives it away.

On the line, a crowd of very big, very strong men like Josue Ortiz are looking for advantages in tiny elements of space or time. Those minuscule edges may not seem like much. But they win football games.

ALUMNI

"One Less Investment Banker"

Chung To quit Wall Street to sponsor schooling for China's "blood orphans."

ON A RUTTED dirt road in rural Henan Province, Chung To, A.M. '91, entered a destitute farmhouse. Before a dimly lit family altar with images of the Buddha, Mao, and departed kin, two grandparents nudged their granddaughter to greet the visitor.

To admired the top marks in the girl's

report card, hung on the wall, and asked about her plans for the future. "I don't think about it," said the 12-year-old in a small voice. After her father died of AIDS, her mother remarried, then moved away. Left poor and marked by the stigma of AIDS, the girl had little to hope for.

In China, she's one of many thousands of children born of Chinese farmers infected



Chung To travels frequently in rural China, visiting the students supported by his Chi Heng Foundation and their families.

by HIV-tainted blood products, effectively orphaned by the infamous “plasma economy” of the 1980s and 1990s. Almost 58,000 Chinese—nearly 8 percent of the country’s official estimate of 740,000 people living with HIV/AIDS in 2009—were infected through contaminated blood, spread largely by roving blood dealers. The rural poor, normally reluctant to give away their life’s energy source, were assured they could make money by selling their plasma because once

that was siphoned off, the red cells were re-infused into donors’ bodies. But pooling of cells from infected donors transmitted the virus in epidemic proportions. Although officially halted by the government in the mid 1990s, the plasma economy has deeply affected the next generation.

By visiting scores of villages throughout China’s rural heartland, To has found and helped about 12,000 such orphans through his Chi Heng Foundation (the Chinese

phrase means “wisdom in action”). A Hong Kong-born investment banker initially based on Wall Street, To accepted a job transfer from the Swiss banking and financial services firm UBS in 1995 because he wanted to experience living and working in his native city (he has dual Hong Kong and U.S. citizenship). He had quietly

come out as gay in the 1980s and, once he returned to Hong Kong, he was so moved by the vulnerability of Chinese men at risk of HIV/AIDS that he began volunteering as an AIDS-prevention educator in nightclubs and on help hotlines. In 1998, he launched the Chi Heng Foundation to help fight discrimination and the spread of HIV/AIDS; by 2001 he had abandoned his banking career to work full-time at the nonprofit. When he learned about the orphaned children during a trip through the countryside, he reoriented and expanded Chi Heng in 2002 to focus on helping them.

Chi Heng (*chir-hung*) is now the longest-running private program for educating AIDS orphans in China. Headquartered in Hong Kong, the foundation also has offices in Beijing, Shanghai, Guangzhou, and in Henan and Anhui provinces. To travels frequently in China and also abroad, on trips to meet donors. Sources of support range from the Chi Heng Foundation Canada, based in Toronto, which conducts fundraising in North America, to gifts of medicine from the William Jefferson Clinton



Visiting the home of a sick mother and her children

“Harvard Is Where You Are”

Ellen G. Reeves '83, Ed.M. '86, is probably the first Harvard Alumni Association (HAA) president to moonlight as a comedienne.

In college she did a comic soap opera with Conan O'Brien at Mather House; later she studied comic writing and performance at Second City. And last fall she created *Talk Show*, a series of improvised performances run out of a storefront on Manhattan's Lower East Side.

The show entailed her roaming nearby streets with a microphone, sometimes wearing a red crab hat, conducting interviews with passersby and then inviting her subjects to share the floor for an evening of hilarious, and often educational, conversation. “For six weeks, every night I was writing it, producing it, booking it, recruiting the audience, and then acting in it,” she says. “Most nights I also had to serve the snacks and clean the bathroom. It gave new meaning to the phrase ‘one-woman show.’ It was insane.”

That level of involvement, however, is typical for Reeves. Her simultaneous career paths—writer, editor, educator, and consultant—have run together on intercontinental trajectories for many years. She splits her time among Boston, Providence, Paris, and New York City—where she was variously executive, French fiction, and education editor for *The New Press*, a nonprofit book publisher co-founded by Diane Wachtell '83.

Recently Reeves has moved into the career-advising sector, running workshops and giving lectures in conjunction with her

produced a cookbook in France (she studied at Le Cordon Bleu) as well as a play (written with Bennett Singer '86) about World War II survivor Gerda Weissmann Klein.

Reeves is one of those ever-busy extroverts who makes it her business to connect people. This secular matchmaking is a cornerstone of her agenda at the HAA, which builds on the “power of the alumni network” theme established by her immediate predecessor, Robert R. Bowie Jr. '73, last year. She would like HAA board members to be leaders in their home communities as well as in Cambridge, facilitating an event at a local club or encouraging participation in the University's January Experience and public-service initiatives. “If we use an ‘each one, reach one’ approach,” Reeves explains, “we can easily increase the number of alumni who get a taste of the excitement we feel when we get together.”

She uses the phrase “Harvard is where you are.” That means “Connect. Call a friend, call a roommate, write to a professor or a classmate. Read the *Gazette*. Read *Harvard Magazine*,” she urges. See what’s offered at the HAA (<http://alumni.harvard.edu>) or go to a local club or Shared Interest Group (SIG) event “and introduce yourself to someone. I like to say that if there are two alums in a room, even a virtual one, it’s a reunion.”

This year, the HAA is continuing to reorganize its programs and committees around the life stages of alumni. Reeves is committed to strengthening the culture of the board of directors so that each committee sets “realistic, measurable goals: for exam-

2009 book, *Can I Wear My Nose Ring to the Interview? A Crash Course in Finding, Landing, and Keeping Your First Real Job*. She has also

Foundation, to donations from individuals and proceeds from special events and social enterprises that employ HIV-affected individuals. With a staff of 40, several hundred volunteers (including many former scholarship beneficiaries), and an annual budget of \$1.8 million, Chi Heng offers tuition and school aid from primary grades through college, plus psychosocial support, art therapy, summer camps, and vocational training. To relies on a network of like-minded health and welfare workers, not on government officials, for student nominations, and requires candidates to document their parents' condition to receive aid.

On his frequent visits, sponsored children greet their 44-year-old benefactor as *To Laoshi* (Teacher To), or *To Shu Shu* (Uncle To). "My children come from my work, and not from my family," he recently told students from a village where a third of the adults are infected. He was not much older than those children when his own family migrated to the United States, seeking an American education for him and his sister, Wing. "Don't give up," he told

the students. "If you study, we will spare no effort to support you. Knowledge is the way to change your destiny."

IN CHINA, ACTIVISTS—especially those focused on AIDS—are feared as agents of social disorder. Despite To's primarily educational mission, local officials in Henan briefly shut down his office there in 2005. "Secret police stormed in and took away our computer and documents," he says. They also arrested his office manager after midnight and briefly detained her, but the team refused to quit. "In mainland China, all our offices are under surveillance," To adds. "They even asked our officers: 'Do you mind if we tap your phone?' I told them to say: 'Of course not. We have nothing to hide.'" Still, he and his foundation are frequently under surveillance. Chi Heng's mission is especially sensitive because the unpunished negligence of the plasma economy is a chapter that many would like to forget.

When To first shifted his focus to the children, he drove from village to village—thousands of miles—to locate as many of

them as possible. Help came from Henan physician, academic, and AIDS activist Gao Yaojie, who diagnosed early cases of AIDS in local farmers. She herself has faced harassment and house arrest, and that, To admits, triggers his own "nightmare": the "fear of being caught, beaten up, and put in jail."

He strives to show he isn't a troublemaker. Private by nature, he seems to have avoided jail so far through discreet diplomacy and a fierce focus on the children—downplaying his role as advocate. When speaking publicly to students from village schools, he acknowledges Chinese officials by invoking a Maoist slogan: "I want to thank the leaders for giving us the opportunity to serve the people." He also eschews demonstrations and fiery speeches. "If I take to the barricades, I could raise awareness and I'd be the darling of the foreign media," he explains. "But I'd help fewer people."

When traveling, he speaks softly and carries a big backpack—stuffed with rice and cooking oil for families, and scholarship checks for the students. To, who once frequented the Metropolitan Opera and dined

ple, increasing the number of nominations for awards, elected directors and Overseers, and the number of alumni who vote in these elections." She is adding a "professional development component" to the board meetings this year, and hoping to better engage alumni leaders themselves in order to attract more active members.

Reeves enjoys ferreting out the University's lesser-known campus resources, such as the Bureau of Study Counsel and the Collection of Historical Scientific Instruments. She plans to highlight them at upcoming HAA annual board meetings to let people know "all the cool things happening at Harvard." Her extensive grasp of the University's offerings stems not only from her two degrees (she also has a master's in writing from Northeastern University), but from having worked as a volunteer for Harvard for nearly 30 years. Upon graduation, she became her class's secretary and she has served on or chaired almost every HAA and parallel Radcliffe committee since. She has experience with both domestic and international Harvard/Radcliffe clubs, the Harvard College Fund, and schools and scholarship interviewing, and currently serves on the Harvard Art Museums' education and engagement committee as well as the



advisory board of the American Repertory Theater.

Reeves already knows hundreds of people in disparate corners of the campus. To push others along this course, she paused during her Class Day speech last May and had audience members turn to introduce themselves to someone new. "Don't wait for someone else to break the ice," she intoned. "Reach out!"

~N.P.B.

with divas at Manhattan's finest restaurants, now eats snacks from truck stops and totes his own thermos of tea to fuel grueling trips to some of the world's poorest places.

That cycle of fortunes won and lost—or relinquished—is a recurrent one for To, whose family fled to Hong Kong from northern China in 1937, ahead of the Japanese invasion. His grandfather's wealth, made in railroads, was lost during the war. The family rebuilt a life in Hong Kong thanks to his grandfather's insistence that education outlives status or riches. To, in turn, urges his students to rewrite their fate by studying hard.

As a dutiful immigrant son, To put aside his high-school love of humanities to pursue a major in engineering at Columbia, but soon gravitated toward a business career. He spent his evenings and weekends working at Wall Street companies, learning about trading, and found he was exceptionally talented in math and risk analysis. During the birth of AIDS activism in New York City in the 1980s, he came out to friends but didn't broadcast the fact. "I walked the AIDS Walk, and volunteered for campus events," he says, but "I was more of a follower than, not a leader." Even now, he adds, "If you asked me to be an activist and lie down in Tiananmen Square, I wouldn't be a good one. It's not me."

After graduating from Columbia, he returned to the humanities, enrolling in Harvard's East Asian Studies program in 1989. That intellectual oasis, he says, enabled him to explore his cultural roots, studying modern Chinese history, Confucianism, and the Cultural Revolution. He loved the free lectures, art exhibits, and concerts on campus, and rowed for the Dudley House crew. But once he earned his master's, he went back to the career he'd apprenticed for in New York. At Lehman Brothers, he began working hundred-hour weeks. With his earnings, he bought an apartment, collected antiques (especially vintage watches and snuff boxes), and enjoyed life in privileged and artistic circles.

Moving to Hong Kong was meant to

be a short-term adventure—giving him a chance to focus on international finance (when China was preparing for Britain's handover of Hong Kong in 1997) and to return to his native land. Once there, though, he encountered *tongzhi* ("comrades," a Chinese term denoting gay men) and began his AIDS-prevention work. In 1997, he says, on holiday in Tibet, he saw monks at prayer and had an epiphany: their ritual use of bell and scepter, symbolizing the union of wisdom and compassion, felt like a merging of the two

"If you asked me to be an activist and lie down in Tiananmen Square, I wouldn't be a good one. It's not me."



When traveling, To carries large quantities of food and drugstore items that he offers to families in need.

halves of himself—a head for business and a heart increasingly pulled toward philanthropy.

Within a year he had funded his fledgling foundation, tapping his own bank account and later pitching colleagues, alumni, and corporate donors for cash. His decision to leave banking altogether stunned his colleagues and parents. "Why do you do this?" his mother asked. "I decided the world could live with one less

investment banker...Chi Heng is more urgent," he explained. Now he collects no salary, owns no car, and lives on savings and investments.

DESPITE THE intermittent surveillance, official suspicion has abated somewhat as To continues to bring money for children into the villages. In 2006, he became one of the few nongovernmental organization leaders invited to address the Central Chinese Communist Party School in Beijing, where the Communist Party trains its future leaders. In his speech, he nervously proposed that NGOs could complement Beijing's AIDS program without sparking unrest—a still-controversial concept. Chi Heng also began to draw international notice. In 2007, he won the Ramón Magsaysay Award, a Philippines-based prize for service in Asia, for his "proactive and compassionate response to AIDS in China." In 2010, he received a BNP Paribas Award for individual philanthropy, including €50,000 to help defray his students' growing tuition bills.

In Shangcai County last year, To visited a 12-year-old boy he first met when "J" was about three. After two daughters, the boy's parents wanted a son and sold their blood to pay the fine they knew would come. They contracted HIV and passed the virus to J. His mother soon died, and the baby's immune system crashed. "When I first met him in 2002," To reports, J was emaciated and covered with skin lesions—"he was dying." Two years later, To revisited that village and was stunned

to see a familiar face. Pediatric antiviral drugs from the Clinton Foundation (later supplemented by China's government) had arrived just in time to help save J's life, although he still has HIV. J's survival revitalized To's sense of mission: to offer orphans not only education, but the love and support that families would have provided. "J made me realize that you can't give up," To says. "So he saved my life, too."

~MARILYN CHASE

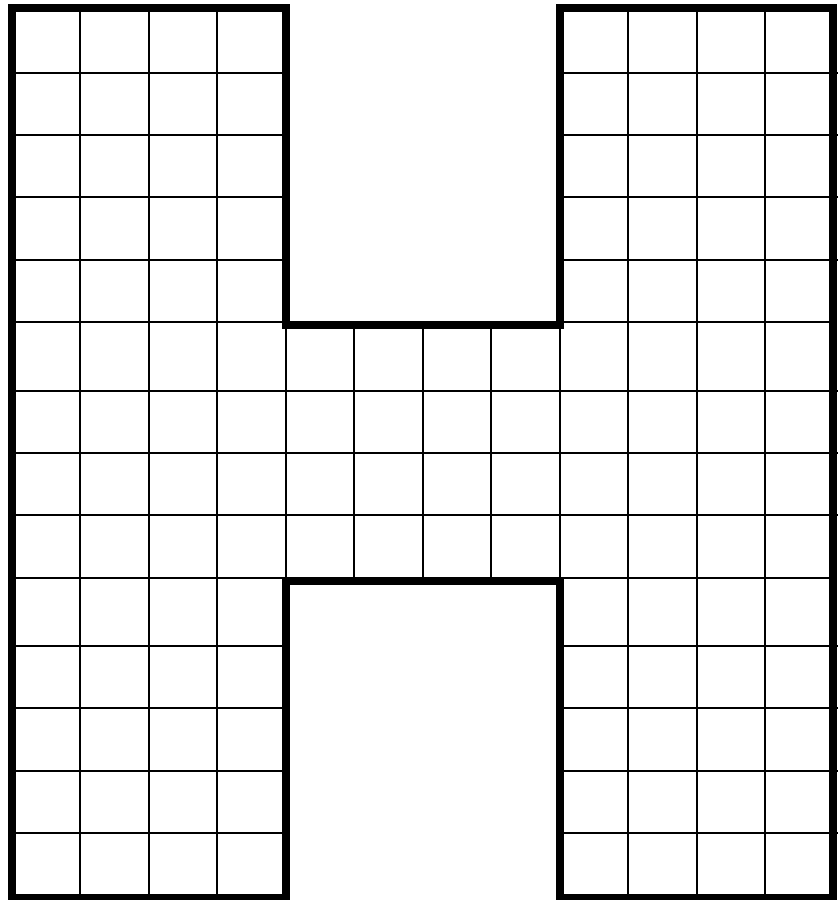
Marilyn Chase is a journalist, author, and lecturer at the University of California at Berkeley.

Harvard Puzzle “375”

INSTRUCTIONS: Guess the words defined by the cryptic clues (answers vary in length from four to nine letters, and two are capitalized), then enter them in the grid one after another in the same order as their clues, starting in the upper left corner. Across words straddle the gaps and those that don't end at the far right continue in the next row, while down words that don't end at the bottom continue in the next column. Nine across words and nine down words won't fit in the grid unless one of their letters is removed. Those 18 letters, taken in order as they occur in across and down words, spell a message appropriate to the occasion. Thanks to Kevin Wald '93 for test-solving and editing this puzzle.



Find an online version (or forward to a friend) at harvardmag.com/puzzle-375. Hints and solutions will be posted September 15. Also find previous puzzles, including the special 350th anniversary edition.



Across

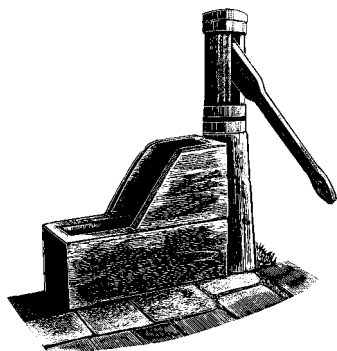
1. Party bracelet worn with emerald cap
2. French friend has no lack of purpose
3. Wild rats at start of winter in hay
4. Design town's factory
5. Philanderer excited more love
6. Plasterer's itinerary in Greece
7. In ten years I will take the place of a judge
8. Officer covering silly Minnie with cream
9. Observed a cephalopod ingesting fish
10. Marking material in pastry with small digit
11. Season's first grain prompts disdain
12. Niece rushing to embrace Victor in show
13. Flower? Yellow, perhaps
14. Allure of apprenticeship
15. Very important color with a bit of green
16. Work taken in by visionary seamstress
17. Scratch and scuffle with energy
18. Moderator's Muse
19. Contestant keeps shell
20. Dead mare revived in fantasy
21. Speak of form's essence at end of lecture
22. Average John ingests small amount
23. Sound register part
24. Small piece concealing a lure
25. Soil featured in recent ceremonial observance

Down

1. Vehicle carrying eggs mostly as an inducement
2. Great literary work of depiction
3. Pretty funny play making Duke start to laugh
4. Inside of pelt has label for coat

5. Niter rendered unreactive
6. Concerning speech of morality
7. Cringe induced when papa in drive is made head of campaign
8. Proceed slowly in Mandarin Chinese
9. Streamlined beginnings of an energy reducing operation
10. Meter placed inside totem pole
11. Tot turned up at the base of the embankment
12. Uncle's place being remodeled and gentrified
13. Homer gets to keep combine
14. Art of scenic rendering by Earl
15. Provision of toast or eggs
16. Glib, foolish, English nonsense
17. Brees sketched
18. For example, a dog having left for school
19. What Mr. Earp holds back
20. In practice, Mark's made Charlie a preserver
21. Dog's first bite treated as a drawback
22. Outrageous cost gets one indifferent to pain
23. Shocking rate includes 10 more than expected
24. Change in trend coming up
25. Force out former tour leader having little skill
26. Brief biography has singular outlook
27. Five returning to England for referendum

“The Tug of History”



“Your wooden arm you hold outstretched to shake with passers-by.”

THE HONORABLE David H. Souter '61, LL.B. '66, LL.D. '10, testified in his fiftieth-reunion class report as follows: “I retired when the Supreme Court rose for the summer recess in 2009, and a couple of weeks later I drove north from Washington [to New Hampshire] with no regrets about the prior 19 years or about the decision to try living a more normal life for whatever time might remain. As for the past, I had come to agree with something Justice Blackmun said to me years before. He remarked one day that I, like most justices, would probably have lived a happier life if I had never been appointed to the Court, but that in time I’d come to find a value in being there that was at least worth everything the Court took from me in return. He was right, and when it was time to sum up I realized that the appointment had given me the chance to do the best useful work that was in me, and the pressures always bearing on the Court had forced me to make good on what I could do. I couldn’t ask for more. And while the quality of the workmanship may be pronounced good, bad, or indifferent..., I realized long before I submitted my resignation that whatever the verdict

might turn out to be, I was the luckiest guy in the world.

“As to life after the Court,...[I put] endless effort into revising my residential arrangements to satisfy the needs of an accumulation of books...that some would call excessive. But I hope some of those books will be the focus of what comes next: I’ve had so little chance for serious reading for the last couple of decades, as my job devoured most of the time I had. My plan is to resume an interrupted education and follow out some lines of interest suppressed as far back as college.

“The menu is mostly history: the classical period, the Carolingians, Britain up through the fourteenth century, American Puritanism as seen by historians after Perry Miller, the United States from Jefferson through Lincoln. It may be that the seemingly intrinsic attraction that past time has for me is merely a desire for escapism, as I look out at the nation and world with little optimism, but it may also be that the tug of history gathers some force from a hope of getting a better perspective on what I see around me now, maybe a perspective even as sound as one in evidence

on Commencement morning last May.

“Not only did Harvard generously award me an honorary doctorate, but it gave me the great pleasure of spending a little time with a fellow degree recipient, Meryl Streep. She happened to be somewhat ahead of me in the cohort of honorees processing into the New Yard between rows of regular degree candidates, and we were just about at the corner of Widener when one senior boy reluctantly took his eyes off the eminent actress and noticed me. He smiled with diminished voltage as he said, ‘You’re no Meryl Streep.’”



MASTERPIECE: “Carroll E. Wood Jr., professor of biology emeritus, brought a mind of great precision to the field of plant systematics,” wrote four colleagues in a “memorial minute” presented to the faculty last February. (He died of a heart attack in 2009 at age 88, but had been hale enough not long before to hike up 6,288-foot Mount Washington in New Hampshire.) “Wood is remembered affectionately by his students for his encyclopedic knowledge and seriousness of purpose, which were leavened in the classroom by his mischievous, sometimes wry, humor, comic anecdotes, and play on words. In recognition of his editorial precision in matters of style and grammar, his associates awarded him the title of ‘Supervisor of Punctuation.’ Yet, for someone who was dedicated to sound scholarship, botanical order, and semantic precision, his office was a curious masterpiece of untidiness, referred to by his students as ‘Wood’s Hole.’”

~PRIMUS V



JOSH REYNOLDS/ASSOCIATED PRESS

Right: Streep and Souter, Commencement 2010

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LETTERS

out an almost impossible number of vital tasks, several of which have important financial implications. It would behoove us all to reflect on what it does well, and what it should not be called on to do.

The kind of profit-driven credentialing mills described in the article would be certain to enrich a very small number and impoverish many, all while putting at risk the one element in the American education system that is not an international embarrassment, its universities.

The simple binary model of traditional institutions swamped by emergent ones proposed by the article notwithstanding, institutions of higher education have been quite aggressive and varied in responding to the opportunities presented by technology. A number of approaches have been tried, with varying kinds of success, at institutions serving diverse constituencies.

What Christensen and Horn describe, with its ersatz populism (degrees for everyone!) and magical thinking about the benefits of unproven technologies, along with its bad faith about the balance between public-sector risk and private-sector profits—all this bears a striking resemblance to the kind of approach that led directly to our current financial crisis (mortgages for everyone!), and straight to the mess in which we find ourselves.

JONAH SIEGEL
*Professor of English, Rutgers
New Brunswick, N.J.*

KUDOS TO Christensen and Horn. I would take their analysis a step further. Believe it or not, there are some college students who merely wish to obtain an education, get their degree and move on without being subjected to the college “experience” of living with strangers in cramped quarters, eating slop in tenebrous dining halls, or negotiating their way between trails of vomit spewed over residence hall floors in the wake of obnoxious parties. Over time,

SPEAK UP, PLEASE

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even the aforementioned selling points of a conventional undergraduate education may cause even the mighty grip of Harvard College to give way.

ALEKSANDER MILCH '92
New York City

CHRISTENSEN AND HORN want a “new education technology and business paradigm” for higher education, but fail to prove the change would benefit anyone apart from those who profit financially. They mock colleges as “extraordinarily complex,” Whirlpool, McKinsey, and Northwestern Mutual Life combined. But people are complex—dishwashers, consultants, insurers, and more—and universities are designed to engage all our roles. They are complex because they are more human than institution, communities not businesses.

As a high-school teacher working primarily with low-income African-American students aiming for college, I object to people who have enjoyed its benefits offering others an inferior product—“actionable assessments” and “essential skills” with “real gains in cost.” My students deserve their chance to work with diverse people, lead an organization, and explore interests in a rich, multifaceted environment. They need college to be affordable, not nonexistent.

According to computer scientist Fred Commoner, managing modern technology requires not more technology, but rather more thoughtful “organizational culture” and education. A stripped-down, online university cannot provide that. Communities of remarkable people, such as colleges, can.

CHRISTINA E. ALBERS '79
New Orleans

CHRISTENSEN'S and Horn's essay missed the key issue entirely. Proposing that online education has the potential to disrupt the business model of post-secondary education is not based on the facts. Yes, online education is growing substantially and is a practical alternative for certain segments of learners, but there has been no substantive change in the fundamental business model and cost structure of most of American higher education in the last 30 years, despite the growth of online learning.

The root cause of this inertia is that college and university leaders have no reason

Nightmares

Today's undergraduates should put their angst in perspective.

WRITING anonymously in the *Harvard Crimson*, a student lamented recently that the “quantitative reasoning” requirement was the “humanities student’s biggest nightmare.” Courses in this area, say professors, introduce students to mathematical and quantitative modes of thought. Excruciating, of course, but not unprecedented. From the 1780s into the 1830s, juniors and seniors were required to produce detailed mathematical equations and illustrative drawings and diagrams on broadside paper to prove mastery of geometry and algebra. Most of these “mathematical theses” concerned

linear perspective, astronomy, and surveying, and they are thought to be the earliest evidence of formal instruction in the use of perspective in North America. The one shown here, more than two feet wide, is an orthographical projection of Hollis Hall (ordinarily a dormitory but briefly a barracks for soldiers during the Revolution) by Jonathan Fisher, done in 1791.

The Harvard Archives, presided over by archivist Megan Sniffin-Marinoff, has more than 400 such drawings. They are a small part of the riches she and her staff reveal in a newly launched website, *Harvard in the 17th and 18th Centuries* (<http://hul.harvard.edu/huarc/hl1718>). It is an engaging guide,

with 13,000 digitized pages, to mostly unpublished manuscript items—diaries, correspondence, University records, maps, student notebooks, lecture notes—that form the documentary history of early Harvard.

Young Fisher survived his mathematical thesis and earned his A.B. in 1792 and his A.M. in '95. He became minister of the Congregational Church in Blue Hill, Maine, and was known also for his endeavors as an artist, architect, furniture-maker, and author of a children's book with illustrations of every creature named in the Bible.

~ CHRISTOPHER REED



Visit harvardmag.com/ extras to see other examples of early coursework at the College.

