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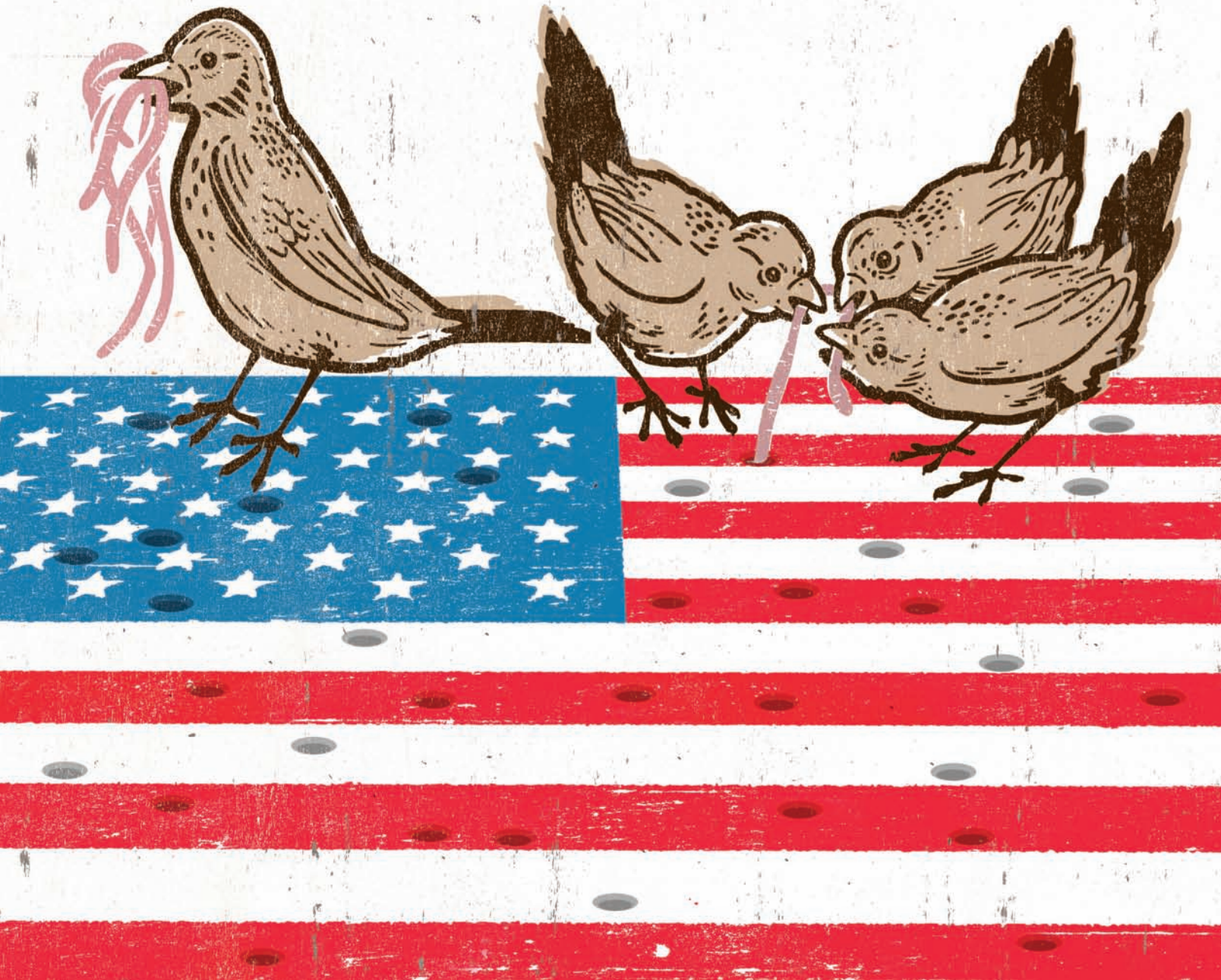
# HARVARD

MAGAZINE

JULY - AUGUST 2008 • \$4.95

## UNEQUAL AMERICA

★ ★ ★  
The growing gap

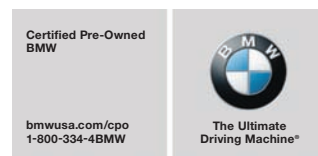




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STU ROSNER

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## 47 John Harvard's Journal

For the 357th Commencement, talk about matters military, monetary, and magical. Also, a \$100-million gift for international and arts education, a biologically inspired

engineer, English evolves, Allston and other agenda items, finance vice president departs, Radcliffe Institute's dean, the Harvard School of Public Health dean's decade, political challenges to large endowments, planning an expensive and extensive House renovation, raising the roof on hockey, Faculty of Arts and Sciences hiring and general-education plans, remembering Jeremy R. Knowles, campus social spaces, Harvard Management Company leader, engaging in office hours, the Ivy League's arbiter, and golf and tennis championships

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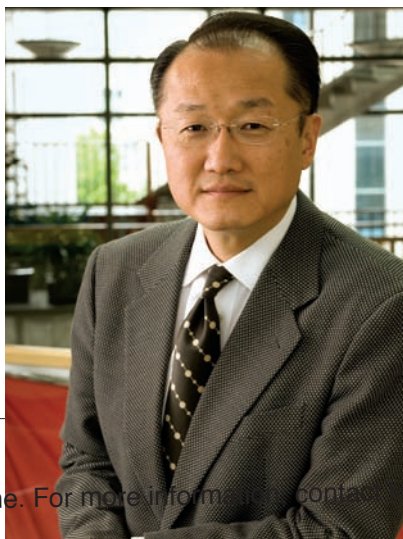
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NASA/STSCI



# Cambridge 02138

*First Amendment, slavery's reach, energy options*

## CONSUMER CREDIT

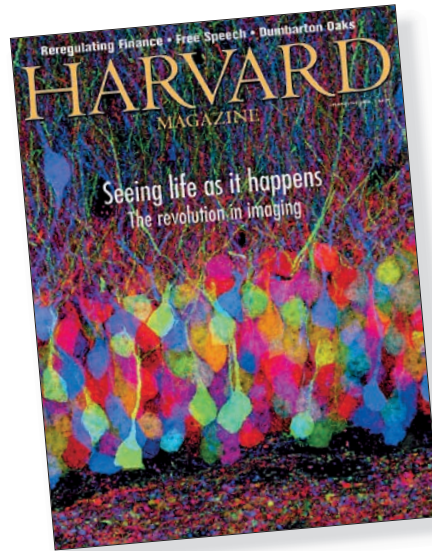
IT SHOULD NOT HAVE BEEN so easy for Elizabeth Warren ("Making Credit Safer," May-June, page 34) to expose so much about the credit industry in the space of a normal magazine article. That lenders have been allowed to grow so feral so fast is astonishing. Her argument for a Financial Products Safety Commission is long overdue. It has always seemed to me that the credit industry has carefully avoided exploiting its richest (and most influential) customers. While they get the platinum-plated treatment, the rest of the populace is tripped up and cheated. Thanks to *Harvard Magazine* for bringing this issue to the fore without the usual deference to the banking industry, and without placing the blame on the victims.

RICHARD GRAF, M.A.U. '83  
Somerville, Mass.

IN KEEPING with the popular national (and Harvard) trend toward the abandonment of personal responsibility, I was not surprised to see you run a story depicting borrowers as victims. A more interesting article might try to explain the new sense of entitlement that allows people to spend beyond their means. A person of my father's generation would have been red-faced with shame to be so personally irresponsible.

MARK W. BROWN, J.D. '70  
Malibu, Calif.

ELIZABETH WARREN focuses on one of the three ways of improving financial markets, legal regulation. But the other two are at least as important: disclosure legislation and consumer education. Unfortunately, my fellow economists have been derelict in focusing on any of the



three, and the consumer movement has often been insufficiently sophisticated. Many of the mistakes consumers make, such as maintaining large credit-card debts at high interest rates, require alerting them rather than regulating rates. A sit-com series based on some of these problems might be good. Perhaps the neatest example of disclosure would be requiring life-insurance companies to reveal the expected interest-rate return on the savings part of whole-life policies. That allows consumers to compare competing policies, and policies without cash reserves. We cannot keep people from gambling, but we might teach them that the more one gambles, the surer one is to lose a fraction of the total bets that goes to the house. How about two more articles on disclosure and education?

JAMES N. MORGAN, PH.D. '47  
Ann Arbor, Mich.

## UNFULFILLING FINANCE

"FLOCKING TO FINANCE" (May-June, page 18) left me feeling disappointed.

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The article reports on recent findings from a study conducted by Claudia Goldin and Lawrence F. Katz that found that the percentage of graduates who choose to work in finance has increased dramatically over time. The article states that “the survey turned up plenty of things, including the size of the shift into finance, and the reason for that shift.” In their relatively limited explanation for that shift, they cite extremely high compensation and the lack of necessarily needing an advanced degree, in comparison to law or medicine, in order to “practice” business (my quotations). I was curious that there was little exploration of how social trends like changes in consumer culture, the relative de-valuing of certain industries in comparison to others over time (i.e., what are you going to do with a sociology degree?), or Harvard’s own role in defining, marketing, and otherwise extolling success and achievement in economic terms could impact the choices students are making.

Most off-putting to me was Katz and Goldin’s apparent surprise [as the article put it] that even “more remarkable than

the growth of finance...is the fact that Harvard graduates, with all the options open to them, still decide to pursue careers in the arts, the nonprofit sector, and academia.” Despite 14 years of private school and an undergraduate Harvard degree, which have afforded me the educational privilege and access to have “all the options open” to me, I eventually chose to go to graduate school to become a clinical social worker. It is a field that I spent 10 years arriving at over medicine and psychology, and I feel pretty confident that it can meet my wide-ranging personal, professional, and intellectual needs. I might have to live on \$40K (gasp) for my first few years out of graduate school at age 33, but that’s actually OK. And ironically, I might just become the therapist whom the 30-year-old multimillionaire I-banker hires because she can’t shake that feeling of emptiness and dissatisfaction, despite her pecuniary success. While necessary, money is not the only objective, nor can it alone create fulfillment, satisfaction, or happiness.

LINDSAY DAVISON '97  
Northampton, Mass.

#### FIRST AMENDMENT FAILINGS

A COMMENT ON Richard Fallon’s review of Anthony Lewis’s book, *Freedom for the Thought That We Hate* (May-June, page 27). As an interested attorney, I have studied our 50 state constitutions as well as some of the legislative history of those and of our First Amendment, especially *The Federalist Papers*. My distinct impression, despite recent holdings of the Supreme Court, is that our First Amendment was intended to *only* protect *political* speech and press. Any other speech or press (now media) could be subject to democratically imposed regulation, depending on the will of the population concerned. Our modern entertainment media have become a national disgrace—full of tasteless material, violence, raw sex, and permissiveness toward, if not actual incitement of, immorality, drug use, undermining the traditional family, and even crime. Our Supreme Court has opened the door to panderers who profit from undermining our social environment.

My second point: Under our constitutional “separation of powers,” it is *only* our elected legislators who have the power to

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## LETTERS

make policies, by passing appropriate laws which are then enforced by our elected executive branches. Our justices are not empowered to legislate policies, to issue "judge-made law." That must be corrected. As a good first step, Congress should more precisely define the legal term "obscenity."

JOHN A. McVICKAR, Esq., M.P.A. '59  
Richmond, Va.

### "UNDERGRADUATE" MEMORIES

AS A DIRECTOR of the Harvard Club of Chicago and an applicant interviewer for more than 20 years, I enjoyed reading Liz Goodwin's Undergraduate essay ("Getting My Feet Wet," May-June, page 73), especially as she conveyed her thoughts on acclimating to Harvard, her family roots, and her grandfather's recent passing.

My own father passed away over a year ago at age 85, and I remember his wistful and cautionary remarks to me before I left for New England in the fall of 1971. He recalled how his own grandfather and family had sent him off to Peking University from the southern rural provinces of China in the late 1930s, as the first family member to be able to attend college, let alone that far-away institution. The Japanese occupation, World War II, and the Chinese Communist revolution intervened in his postgraduate career working in the local government "back home." Refugee immigration to the United States followed, and life allowed him to see his children admitted to and attending several similar higher-educational institutions in the West.

I would encourage Goodwin to seriously consider putting her "mental notes"

about her grandfather's life and her roots into writing. Her essay clearly shows a flowing and thoughtful style that would make her book well worth reading. I think it would be as personally fulfilling as completing her senior thesis (probably more so); you can add my name to any publication e-mail announcement.

SHU YAN CHAN '75  
Chicago

### SLAVERY'S NORTHERN REACH

TED WIDMER'S off-the-cuff comparisons of Massachusetts to Virginia in his review of Susan Dunn's *Dominion of Memories* (March-April, page 26) are inaccurate and one-sided. He should also have mentioned that Massachusetts benefited from "slave power" just as much as the southern states. As the southern economy declined from plantation labor, New England flourished as the birthplace of the triangle trade, the notorious practice of distilling rum to trade for African slaves. Boston slave traders, including Peter Faneuil, after whom Faneuil Hall is named, benefited from auctioning human property and financing the Massachusetts-built slave ships that kidnapped children from West Africa. Widmer should also know that one of the largest slave plantations in New England, the Isaac Royall House, is near Harvard in Medford. Regardless of how New Englanders felt about slavery, the Bay State still enforced the fugitive-slave laws. My intent is not to stain New England, but readers should know that while human bondage corroded the standing of Virginia, slavery seemed to profit the elites of Massachusetts.

CARL JACKSON, M.U.P. '05  
Newport News, Va.

### ON LINE: COMMENCEMENT AND SUMMER NEWS UPDATES

WE INVITE YOU to visit our website, [www.harvardmagazine.com](http://www.harvardmagazine.com), for audiovisual highlights of Commencement, speech texts, and more. Look for continuous news coverage of Harvard during the summer—plus links to other coverage of the University, work by alumni writers, and more—on line. And during those idle moments at the beach, you can also test your wits with the new on-line puzzle feature at [harvardmag.com/puzzles](http://harvardmag.com/puzzles).

### ENERGY ENCORE

MICHAEL MCELROY deserves the non-existent Sensible Energy Award for his "Saving Money, Oil, and the Climate" (March-April, page 30) and the earlier "The Ethanol Illusion" (November-December 2006, page 33). Since future savings on gasoline by driving plug-in hybrid electric vehicles (PHEVs) are unlikely to offset some \$10,000 higher initial cost, let alone premature battery failure, substantial income-based incentives should be made available. But truly minimizing gasoline consumption will take substantial penalties for driving fuel hogs. I pro-

# HARVARD

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pose an annual fee based on rated mpg below a minimum, collected with license renewals. It could more than fund the incentives previously recommended. If properly structured, we would not have to convert to ethanol, a costly and inefficient fuel, at all—we'd use gasoline blended with ethanol. Much more nuclear power would supply our needs, supplemented by wind and other renewables, though not solar as a significant factor.

ELLIOTT P. DOANE '51, Ph.D.  
*Oklahoma City*

I WAS ASTOUNDED by the letter in the May-June issue from Thomas E. Phipps Jr. '46, Ph.D. '51 (page 6) who thinks that nuclear plants aren't polluting and we need more of them. Nuclear plants are the *most* polluting way to produce energy. A nuclear plant needs lots of water and so must be situated next to a large river or lake, which is some of the most desirable land for people. Once built, that land can *never* be used for any other purpose. The spent fuel is so toxic that most states prohibit it being transferred through [their jurisdictions], not to mention being stored there, so the spent rods are piling up on site at all current nuclear plants. The one place that the government has built to store these spent fuel rods deep underground has not been used due to the long-term safety concerns. Since there are much better alternatives available, one has to wonder why the nuclear option is still being considered. A well-funded lobby is the most likely answer.

CHRISTOPHER AVERY '62  
*Washington, D.C.*

I USUALLY stay out of non-technical debates on energy issues, but the replies to Professor McElroy's article prompted me to clarify a few things. As someone who recently completed a comparative analysis of advanced vehicle technologies [for the U.S. Department of Energy; see [www.xcd.com/EVS23CD/prof260.html](http://www.xcd.com/EVS23CD/prof260.html)], I found his article basically correct, but do have two minor bones to pick. First, I think he overstated the role that wind can realistically play. Second, he failed to recognize the significant role that PHEVs with 20 or 30 miles of all-electric range can play in early market penetration. These will be considerably more affordable and pose much less difficult challenges for the battery developers than those with a 60-mile

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## LETTERS

range. The engineering analysis of hybrid cars (May-June, page 7) was flawed in two serious ways. First, the letter writer neglected an important feature of hybrid vehicles: they enable the engine to avoid running in the least efficient parts of its operating range and therefore produce benefits beyond energy recovery. The second major error was the statement that benefits would not be realized if upstream impacts were taken into account. In fact, our life-cycle analysis includes all steps from extraction of primary energy to recycling of the batteries, and demonstrates conclusively that miles are supplied more efficiently by a hybrid in charge-depleting mode (i.e. running off the battery) than by any other way currently available. And those miles use no gasoline. Emissions are reduced, even if the electricity is generated by coal, but of course cleaner generation minimizes emissions.

LINDA (LURIE) GAINES '69, Ph.D.  
Naperville, Ill.

**ERRORS AND AN AMPLIFICATION**  
TWO CORRESPONDENTS, George Brock and Barry Mackintosh, noted that it was

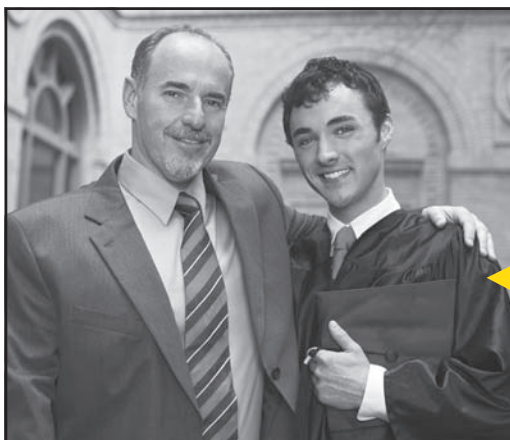
Beatrix Farrand, the landscape architect who designed the gardens at Dumbarton Oaks, who was the niece of Edith Wharton—not Mildred Barnes Bliss, as incorrectly reported in “Home of the Humanities,” May-June, page 48. Tom Booker '80 noted that we erroneously sliced the “y” off Judge Scott W. Stucky’s name in his letter to the editor (May-June, page 93), for which we sincerely apologize. Ma Yu’e, chief legal officer of the Chinese Disabled Persons’ Federation, e-mailed from Beijing, explaining that her organization published the two books shown on page 72 of the May-June issue; we regret the misattribution. Pan Tianshu,

### SPEAK UP, PLEASE

*Harvard Magazine* welcomes letters on its contents. Please write to “Letters,” *Harvard Magazine*, 7 Ware Street, Cambridge 02138, send comments by e-mail to [yourturn@harvard.edu](mailto:yourturn@harvard.edu), use our website, [www.harvardmagazine.com](http://www.harvardmagazine.com), or fax us at 617-495-0324. Letters may be edited to fit the available space.

Ph.D. '02, has informed us that he is an associate professor at Fudan University in Shanghai, and taught four courses only in the spring term; his usual assignment is two. We regret these reporting errors.

Vernon S. Courtney '69, director of the Hampton University Museum & Archives, wrote to identify the Native American students shown in the photographs published with “Trails of Tears, and Hope” (March-April, pages 40-41)—information beyond that available from our source, the Peabody Museum’s copies of the prints. The students, enrolled at Hampton’s Native American Boarding School (1878-1923) were Carrie Anderson, Annie Dawson, and Sarah Walker (page 40 top, left to right), and Walker, Dawson, and Anderson (page 40 bottom, left to right); and (page 41, bottom) Sayedda, Uhahkeumpa, Edorrupttaha, and Karunach (back row, left to right), Iiscahfu, Pamani, and Ahuka (front row, left to right), and Arihotehkish (seated). The photographs were taken around 1879 or 1880 in part to demonstrate the “effects of civilizing education.”



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## SPYMASTERS' SECRETS

### The Seductions of Snooping

A RECORDING device hidden in an ashtray. A camera concealed inside a pen, an innocuous-looking deer statuette, or even a bra. A chair that captures your body scent when you sit on it, to facilitate tracking your movements later.

What sound like gadgets from a James Bond movie were real-life instruments of espionage used by the Stasi—communist East Germany's Ministry for State Security (*Staatssicherheit*), the secret police. Kristie Macrakis, Ph.D. '89, learned about these devices and much more in her exploration of the Stasi archives, which were gradually declassified and opened for public perusal starting in 1992, three years after the fall of the Berlin Wall.

Macrakis wrote her dissertation on science in Nazi Germany, but a trip to conduct research in East Germany before the Wall fell blossomed into a fascination with the Cold War period and Stasi spying techniques. She spent eight years intermittently poking through thousands of files during short trips, summers, and a year-long Fulbright scholarship, focusing on two particular aspects of East German spy science: how the Stasi got access to top-secret intelligence and scientific knowledge from the West, and the spying techniques they used.

The resulting book, *Seduced by Secrets: Inside the Stasi's Spy-Tech World* (Cambridge



Tools of Stasi spying: jars containing dust cloths used to capture the body scent of people the Stasi was trying to track; a deer statuette with a camera hidden inside; a Swiss-made Tessina 35-mm miniature camera

University Press), may make even post-Cold War readers suspicious of everyday objects. Consider the “smell chair,” whose seat covering was an interchangeable cloth fastened down to look like a regular cushion. After the “target” got up from the chair, Stasi agents would collect the cloth and store it in an airtight jar. The captured scent served as a kind of pheromonal fingerprint, a form of positive ID in an age of ever-multiplying code names and aliases. The Stasi used this method to check up on known dissidents and employees suspected of acting as double agents. If they could gain access to the hotel room or office where an allegedly duplicitous meeting took place, they could



use dogs to determine whether their target had been there.

Macrakis didn't just pore through documents. She viewed spying equipment in museums, criminal-evidence archives, and private collections. She learned about scent-detecting dogs from a dog trainer. She mixed up invisible ink using a recipe she found in the Stasi archives. And she interviewed two dozen former Stasi leaders, case officers, and agents, including Markus Wolf, who directed the Stasi's foreign intelligence department for 34 years, and Werner Stiller, the defector who gave 20,000 pages of microfilmed documents to the West Germans. These experiences sometimes assumed all the intrigue of a John Le Carré novel. When Stiller invited her to stay

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overnight in the guest room of his home in Frankfurt, she jumped at the chance to spend time with such a crucial source. But the prospect of staying by herself in the home of a strange man who had stolen nuclear secrets from the West, then sold out his country and employer to the West, made her cautious enough to craft an escape plan that involved jumping out a window.

For the past year, Macrakis has been at Harvard as a visiting scholar in the history of science department. Her next project delves deeper into the topic of invisible ink; she has found a wealth of resources in Widener and Houghton libraries, including the earliest mention of invisible ink she has located: a text written in ancient Greek around 250 B.C. (She returns to Michigan State University, where she is a professor, this fall, and will move to a new job at the Georgia Institute of Technology in January.)

And she will be watching closely as the Stasi archives yield still more secrets. The German government regularly declassifies new files, and a massive effort is under way to reconstruct records shredded in 1989 as the East German regime dissolved. Yet review by scholars and journalists, even of the

materials already available, has been far from comprehensive. Contrary to the popular impression—that the files were thrown open in 1992 and anyone may browse through the drawers—the commission that runs the archives strictly controls access; visitors must request specific files. Macrakis says she discovered the identities of Stasi agents and informants whose spying activities would, to her knowledge, be news to their current employers. Her book omits some people's names and identifies others only by first name and last initial.

Macrakis writes that the Stasi “became so caught up in the great game of espionage that it lost sight of its initial goals.” The agency devoted a large proportion of its resources to finding out who was working for the other side: developing one machine that could steam open 600 letters an hour and another that could reseal them twice as fast, and employing between 3,000 and 4,000 people in a department that focused on eavesdropping in hopes of catching someone in a subversive act or overhearing a conversation—with a mistress, perhaps—that could later be used for blackmail. (The resulting paranoia that charac-



This camera-in-a-bra could take pictures through sheer fabric or lace. A remote release in a pocket operated the shutter.

terized life in the German Democratic Republic is depicted in the 2007 Academy Award-winning film *The Lives of Others*.)

For all the effort expended, Macrakis concludes that in terms of surpassing the enemy in science and technology, Stasi spying was mostly futile; East Germany would have been wiser to invest in innovation. Particularly in fast-moving fields such as computers, engineering, and nuclear physics, she writes, “A scientific establishment based on pirated and cloned technology can never be a leader.”

—ELIZABETH GUDRAIS

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ON MAY 15, *Harvard Magazine* donors gathered at the Charles Hotel for a talk and discussion with *Cardenio* co-playwright Stephen Greenblatt that was followed by a performance of the play *Cardenio* at the American Repertory Theatre.



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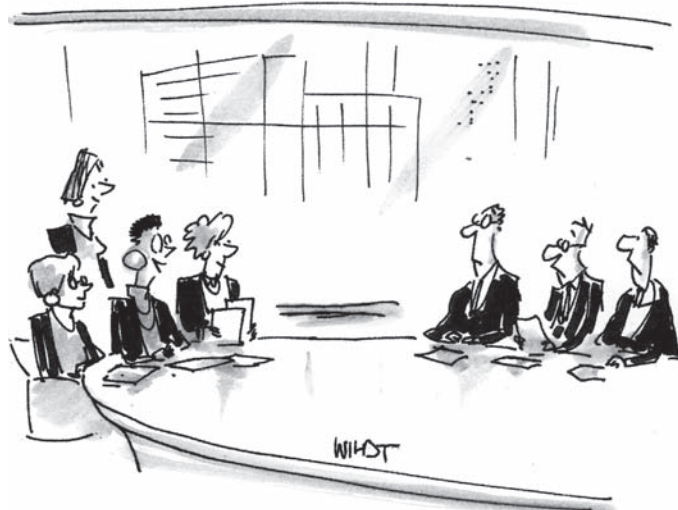
# Raiders Rehabilitated

**G**ORDON GEKKO, the antihero of the 1987 movie *Wall Street*, epitomizes the excesses of the U.S. financial sector in the 1980s. Gekko embraces insider trading and the strip-and-flip model of the hostile takeover—buy a company, ruthlessly lay off workers, cut corners wherever possible, and sell soon after for a huge profit. “I am not a destroyer of companies,” he proclaims during one memorable speech. “I am a liberator of them!”

Helped along by media coverage focused on deals that were the exception, not the norm, the corporate-raider stereotype of buyouts took hold in the public consciousness. But in a recent study of 5,000 buyouts that occurred between 1980 and 2005, Josh Lerner, Schiff professor of investment banking at Harvard Business School, and colleagues call into question just about every component of this unflattering stereotype.

The research updates an academic liter-

ature that had not seen much work since the 1980s, when buyouts were a new phenomenon and when, says Lerner, “there were almost as many papers about buyouts as there were buyouts.” The absence of systematic analysis in the interval has led to a reliance on anecdotal evidence—a newspaper story on the \$26-billion Clear Channel buyout here, a CNN clip on the \$17-billion Albertson’s supermarkets buyout there. Labor unions have long described buyouts in terms of American jobs shipped overseas. Lobbyists and trade groups for the private-equity industry, meanwhile, depict a sector that provides an invaluable contribution to the U.S. economy by making companies more efficient, jarring them out of inertia, and improving corporate governance. Lerner and his coauthors suspected



“‘Take over’ is such a harsh term. We prefer corporate ‘make over.’”

the truth lay somewhere in between.

Their analysis, originally presented at the World Economic Forum’s 2008 annual meeting in Davos, Switzerland, examined 300,000 factories and offices associated with companies that were bought out, and compared those with a control group of six million more facilities. The results suggest that buyouts tend to happen to companies that are already struggling, but do not increase the likelihood that a company will fail. The authors found evidence that

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the private equity firms home in on management controls and invest in R&D during the holding period—evidence, says Lerner, that the goal is to make companies not just leaner, but better organized.

Sometimes this entails cutting jobs, he notes, but the notion of buyout firms taking an ax to employment rolls doesn't hold water. In fact, the study found that companies were more likely to cut back in the two years *before* a buyout; takeover targets had 4 percent lower job growth than similar firms that were not bought out. In the two years following a buyout, the targeted corporations did cut jobs—7 percent more than comparable firms—but they added employment in other U.S. locations. In fact, new facilities opened by the bought-out companies grew 6 percent *faster* than comparable firms in terms of jobs created. (The study did not look at jobs created outside the United States, and did not count them

as offsetting domestic shrinkage.) “Buyouts,” says Lerner, “increase the pace of ‘creative destruction’—the pace of job creation and destruction both accelerate.”

News accounts mostly cover public-to-private deals, partly because investors care about companies in which they hold stock, and partly because public companies are easier to cover due to the financial statements they must file. But the average buyout involves a private, rather than public, company; Lerner and his colleagues found that the vast majority of the deals in their database—more than 93 percent—affected companies that were not publicly held. Even accounting for the fact that the public-to-private transactions typically involve bigger companies, such transactions were less than 30 percent of the total by value.

The study also found that quick flips (companies that went public again less than a year after a buyout) make head-

lines—but the average holding time was far longer. Lerner's study found that only 12 percent of the private-equity firms exited within two years; 58 percent took more than five years to exit. Another headline-grabbing situation, the company that collapses in the wake of a buyout, is also not the norm. Among firms that were bought out, the five-year failure rate—6 percent—was actually *lower* than the rate for all U.S. companies that issue public debt.

Although Lerner teaches a course on venture capital and private equity, and has spent much of his career studying those sectors, he says even he was surprised by the findings. “If you read something in a business magazine a hundred times,” he says, “you sort of begin believing it.”

—ELIZABETH GUDRAIS

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#### CHAPERONING GENETIC CHANGE

## What Stress Reveals

**E** VOLUTION, the fossil record shows, sometimes proceeds in sudden leaps. Millions of years of stasis can end abruptly with multiple changes in forms and functions. To distinguish this evolutionary process from Darwin's gradualism, the late Harvard professor Stephen Jay Gould famously described it as “punctuated equilibrium.” (Gould's detractors, he was fond of pointing out, called it “evolution by jerks.”) But one of the great scientific challenges of punctuated equilibrium has been explaining how—if mutations are random—multiple, interdependent mutations can occur all at once, giving the appearance of coordination.

A living example of this mystery is found in monkey flowers from the Rocky Mountains, explains Radcliffe Institute fellow Susan Lindquist, Ph.D. '77, a professor of biology at MIT. One form of the plant has a long trumpet suited to pollination by hummingbirds; the other, with a conventionally shaped flower, is pollinated by bumblebees. The two forms don't interbreed in nature, but scientists can pollinate the plants by hand to generate hybrid offspring. The offspring aren't likely to do well in the wild, though, says Lindquist: because they “don't have the right genes coming together,” they

are not easily pollinated by bumblebees or hummingbirds.

How do four or five different changes, which work together, happen simultaneously—in evolutionary time, in an individual organism—when having only two or three of those changes generates functions and forms that don't survive? Lindquist, a Howard Hughes investigator, has discovered and elucidated during the last decade an extraordinary molecular mechanism that allows organisms to do precisely this—by revealing during times of stress the accumulated genetic variation lying dormant in their genomes. Selective pressures such as heat or drought, she has shown,

**One form of the Rocky Mountain monkey flower has a long trumpet suited to pollination by hummingbirds; the other is pollinated by bumblebees. Their hybrid offspring don't do well in the wild, however, because they are not easily fertilized by the birds or the bees.**

then act upon the revealed variation, so the mutant organisms best adapted to the new stress become widespread and the beneficial traits they carry become enriched and subsequently fixed in a population.

Lindquist stumbled into evolutionary biology by accident. As a graduate student at Harvard, she began studying the stress, or “heat-shock,” response in yeast. “If you take a cell doing one thing,” she says, “and expose it to high temperature, it immediately switches on a new set of genes.” At the time, biologists didn't understand how cells did this. Eventually, however, they were able to connect what was happening at the level of the gene (a







Inhibiting a “protein chaperone” in the cress plant, *Arabidopsis thaliana*, mimics the effect of an environmental stress, revealing the hidden variation in the plant’s genome. On the left, the unmodified control plant; on the right, a mutant reveals succulent-like characteristics.

unit of DNA that codes for a protein) to the different kinds of proteins cells make.

“The code for life—DNA—is linear,” explains Lindquist. “It is like a tape; it doesn’t do anything interesting by itself. But when you put it in a tape recorder and press ‘PLAY,’ music comes out.” Similarly, proteins, when first made, appear as long, linear strings of amino acids. “But they do nothing when they are linear,” Lindquist notes. In order to perform their functions, they must fold into complicated shapes. For example, hemoglobin, which carries oxygen in the blood, must fold properly in order to bind the iron groups that then bind to oxygen. If a protein’s long string of amino acids doesn’t fold just right, it won’t bind to its targets.

Just as there are mutations in DNA, so there are situations in which proteins misfold, or fold only partially. That is where protein chaperones, Lindquist’s particular area of expertise, step in. The chaperone’s job is to “keep other proteins out of trouble while they are still immature and haven’t finished folding properly,” a condition in which they might “make inappropriate liaisons with other proteins,” she says. A protein chaperone called HSP90 (heat-shock protein 90) plays a key role in the stress response.

HSP90 regularly works on a small but critical subset of proteins called signal transducers, which are involved in cell growth and development. It binds to these proteins in their vulnerable, unfolded state, keeping them neutralized and latent, but safe, until the right signal—from a hormone, for example—comes along, at which point the HSP90 releases them so they can bind to their proper targets.

But HSP90 plays another role, as well: it rescues mutant proteins. Many proteins fold just fine without chaperones. But when there is a mutation, the resulting protein often doesn’t fold properly and becomes rel-

## RIGHT NOW

atively unstable. HSP90 binds to such unstable proteins, allowing them to survive in a latent state in which the genetic variation they represent is neutralized rather than physically manifested. Major environmental stress, such as heat or drought, however, produces so many unfolded proteins that they can overwhelm HSP90’s buffering capacity, which simultaneously reveals numerous mutations that have accumulated over generations.

Lindquist first observed this effect a decade ago when she genetically inhibited HSP90 production in fruit flies. A few of them developed malformed wings, legs, or bristles. Given the protein’s important role in cellular circuitry, this was not surprising. “But what was interesting about it,” she reports, “was that...depending on where we had gotten the flies, they had different kinds of morphologies. Flies from England had funny-looking legs. Flies from California had funny-looking eyestalks.” The Lindquist lab’s tinkering had not randomly interfered with development; instead, it had revealed “hidden variations in the genome that were not having an effect before, but were revealed when the organism was stressed.”

In February, in the *Proceedings of the National Academy of Sciences*, Lindquist described further HSP90 experiments with the cress plant, *Arabidopsis thaliana*, which is separated from fruit flies by a billion years of evolution. Starting with a normal population of the plants, Lindquist’s student Todd Sangster ’00 inhibited HSP90 and showed that the underlying variation thus revealed is common. Focusing on the rare individuals with beneficial traits that might actually confer an evolutionary advantage, such as the tendency to develop succulent-like leaves (which could help the plant survive a drought), she and her colleagues showed that these traits could be enriched and made stable in just 10 to 15 generations of cross-breeding. Lindquist says this is probably just one of several mechanisms that facilitate rapid evolution. But the work is important because it shows that in the face of changing environmental conditions, HSP90 is likely to play a central role in the translation of genetic variation into physical changes in all kinds of organisms.

—JONATHAN SHAW

LINDQUIST LAB WEBSITE:

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## An Argument for Music

*Critic Alex Ross keeps “classical” music current.*

by PAUL GLEASON

**T**HE FIRST MOVEMENT of Tchaikovsky’s Violin Concerto ended, and Carnegie Hall erupted in applause. Joshua Bell, whose dazzling solos and severe good looks had fired the crowd, pulled a handkerchief from his pocket and wiped it theatrically across his brow. The audience remained enthralled, but Alex Ross ’90, sitting in the critic’s traditional perch halfway up the left aisle, jotted down his thoughts in a small black notebook.

Ross was less interested in Bell than in how conductor Kent Nagano was molding his new group, the Montreal Symphony Orchestra. Already, Ross heard hints of Nagano’s signature sound: a cool, elegant balance. But the concerto itself, he noted during the intermission, wasn’t quite together. “Bell performed very brilliantly. But I didn’t feel he and Nagano and the orchestra were totally in sync,” Ross said. “Bell seemed to be in his own world a bit, and the orchestra was a little eeeehhh...” He made a nervous motion

with his hands, as if someone were trying to hand him a small, rambunctious animal.

Ross wasn’t planning to review the concert for the *New Yorker*, where he is a staff critic. He simply wanted to keep up with a favorite conductor and hear the American premiere of a piece by Unsuk Chin, a Korean composer whose opera he had

reviewed favorably the previous summer. “Absolutely essential to my mission as a critic is

**Alex Ross takes a seat at Carnegie Hall.**

talking about living composers,” he said. “It wouldn’t be interesting to me to spend all my time evaluating the right way to play Beethoven’s Fifth Symphony. I enjoy writing that kind of column, but the greatest excitement is when works come into being.”

ROSS’S APPROACH is both thorough and adventurous. He once spent three months listening to Mozart’s complete works (180 CDs) for a single essay, but he’s just as likely to seek out music that breaches the pop/classical divide. In recognition of his eclectic and exacting criticism, the American Society of Composers, Authors, and Publishers has honored him twice, and his book, *The Rest Is Noise: Listening to the*

O P E N B O O K

## Two Musical Neighborhoods

Quartet mine this connection in *Inside Beethoven's Quartets: History, Performance, Interpretation* (Harvard University Press, \$35), a book-plus-CD collaboration. How they do so may be especially informative as the University considers the place of the arts and creativity within Harvard's curriculum. Lockwood's preface begins with a borrowing from a different genre—Italo Calvino's *Invisible Cities*.

**F**ollowing Calvino, I imagine the world of classical music in our time as an invisible city whose present contains its past—a past inscribed on it “like the lines of a hand” that, as the image suggests, imply its history and foretell its future. My imagined inhabitants are musical citizens of many kinds: performers of vocal and instrumental music, composers, scholars, critics, teachers, students, concertgoers, music lovers, and casual listeners. Many have more than one strong interest and enjoy more than one kind of music. Two groups among them, the performers and the scholars, typically live in different neighborhoods, teach in different kinds of schools, mostly address different publics, and rarely communicate with each other.

The performers spend their days engaged in playing or singing, rehearsing, preparing concerts, perfecting their techniques, developing their interpretations, making recordings, teaching their students, living the active lives of profes-

sional music-makers. Their habitats are practice rooms, studios, and concert halls....[T]hey rarely have time to pursue historical or critical issues behind the works. Their job is to bring music to life in performance and to interpret it well. They are deeply engaged in the practical tasks of preparing performances down to the last detail.

The scholars spend their days thinking, reading, listening, writing essays or books, teaching classes or seminars, preparing lectures, studying in libraries or in their private studies, living the contemplative lives of historians or critics. A few scholars work regularly with performers and many are themselves skilled amateur performers who understand the art and craft of music-making. In fact many members of the two groups know more about each other and their domains than might generally be supposed, though their paths rarely cross in public.

Still, if the history of this invisible city is indeed inscribed upon it, that history can be discovered in its concert halls, its schools of music, its practice rooms, its university and high-school classrooms, its music libraries, and its lecture halls. It is imprinted on the memories, imaginations, hearts, voices, and hands of all as denizens of one city.

This book attempts to link musical scholarship and performance.

**Artists** and scholarly analysts of their works inhabit different realms of a co-dependent relationship. Peabody research professor of music Lewis Lockwood and the Juilliard String

*Twentieth Century*, won the 2007 National Book Critics Circle Award for criticism and was a finalist for the 2008 Pulitzer Prize in general nonfiction.

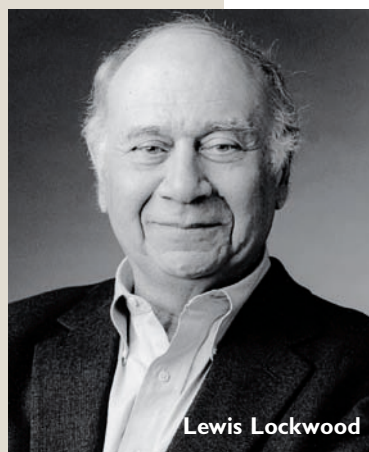
He first aired some of the ideas that appear in his book while an undergraduate English concentrator who spent “an undoggy amount of time” at WHRB, the student radio station. During his junior and senior years, Ross hosted a program called *Music after 1900* and he now describes the mini-essays he wrote to introduce each segment as precursors to his book.

After graduation, Ross moved briefly to northern California, where he co-wrote a screenplay for a romantic comedy. (“That didn’t quite go anywhere,” he says.) In 1992, he began reviewing music for the

*New Republic* but, uncertain about pursuing a career in journalism, he also applied to Ph.D. programs in English. He was accepted at Duke, but turned that down when he received an offer to freelance for the *New York Times*.

In New York, Ross attended five or six concerts a week, taking notes in programs that quickly crowded his apartment. Almost every morning he had to wake up and write a brief review for his noon deadline. “I had a hard time with it, actually,” he says; the writing “felt kind of like an official communiqué.” He preferred having space to write about both music and the culture surrounding it. Discouraged, he applied for graduate school again in 1993.

This time he got into Harvard and nearly returned to Cambridge, but an experience writing a book review for the *New Yorker* gave him pause. Although the editors’ eagerness to rip up and reassemble his review had been intimidating, Ross liked joining his scholarly bent (the book was about the history of opera’s gay fan base) with his desire to connect the music he loved to a broad, adventurous readership. “There’s this great notion at the *New Yorker* that any topic, no matter how obscure, can be made interesting or made comprehensible,” he says. “Classical music fit in very well with that.” After writing a few more freelance pieces for the magazine, he joined its staff in 1996.



Lewis Lockwood

TOM KATES

The Juilliard String Quartet



CLEMENS KALISCHER



## Ross worries that the concert-going ritual sometimes runs counter to the spirit of the music.



Between 15 and 20 CDs arrive in the mail daily, Ross reports.

His most pointed argument ap-

peared in a 2004 essay, "Listen to This." He aims his opening salvo at the very term "classical music"—arguing that "It traps a tenaciously living art in a theme park of the past...The phrase is a masterpiece of negative publicity, a tour de force of anti-hype"—and then makes a case for music appreciation based on emotional investment. "Music is too personal a medium to support an absolute hierarchy of values," he writes. "The best music is music that persuades us that there is no other music in the world." Whether that's a concerto, a pop song, or an electronic noise experiment is up to you. He concludes by imagining himself a 36-year-old who goes to the symphony for the first time and encoun-

ters a rigid ritual that seems designed to keep him from having fun. He coughs; people "glare." He applauds at the end of a movement; people "glare again."

Ross worries that the concert-going ritual sometimes runs counter to the spirit of the music. Mozart's operas draw on sounds both high and low. Beethoven's music is full of earthy dance rhythms. Gustav Mahler, Ross says, embraced just about everything. "It's ironic if we start taking those pieces and confining them in a space that's so regulated," he argues. "It almost betrays the spirit of those pieces." But despite these small irritations, Ross still believes that classical music—especially as heard in concert halls, with the resonances and overtones that are lost in recordings—offers something unique. "It's like escaping into some wide-open empty landscape," he says. "There's almost a spiritual dimension to the experience. At its best, it can be like religion without dogma—the feeling of a bigger presence looming above you, requiring nothing but a certain stillness."

The first draft, completed in 2005 after four years of work, was a whopping 390,000 words long. Ross e-mailed his final draft—half the original size—to his publisher from a Los Angeles hotel room overlooking the recently constructed Walt Disney Concert Hall, where conductor Esa-Pekka Salonen had reinvigorated the city's orchestra by injecting contemporary music into the program. "It was kind of nice looking down at Disney Hall, because it symbolized what the L.A. Philharmonic has achieved," he says. "It's what I try to achieve as a writer."

Ross's most common vehicle for highlighting new music is his critical column, which he writes at least once every few weeks. It may be as straightforward as a review of a new production at the Metropolitan Opera or as unexpected as a round-up of talented student composers. "I do feel that a big part of my mission is not merely to write these reviews, but to write intelligently and appealingly about classical music itself for an audience that may not know a lot about the topic," he says. "It's a wonderful opportunity to make an argument for music."

Ross does his *New Yorker* writing in a Chelsea apartment or his office in Times Square. But writing a book, he found, required a different approach. To escape distractions, he ensconced himself in a coffee shop on Eighth Avenue whenever he could steal time away from his normal duties. In magazine pieces he tries first to grab the reader's attention, then provide context, and finally zero in on details. "That basic rhythm doesn't work for a book chapter at all," he reports. "You don't need to seize the reader's attention at the beginning of chapter seven."

## Anthologizing Yourself

Mary Jo Salter keeps her own (and others') poetry alive.

AFTER SQUEEZING nearly 1,000 years of creativity into the *Norton Anthology of Poetry*, Mary Jo Salter '76 began the smaller but still consuming task of anthologizing her own verse. The result, *A Phone Call to the Future*, revives selected poems from her previous books and introduces a handful of new ones. Her editing for W.W. Norton, where she sometimes had to whittle entire careers down to no more than a poem or two, helped her take a long view. "Anytime I was beginning to feel sorry for myself," she remembers, "I thought, 'You know, if you're lucky and you do get into posterity, you won't have nearly this many poems in front of readers.'"

*A Phone Call to the Future* begins with her

newest poems. Two appeared in *The Best American Poetry* series: the title work and "Costanza Bonarelli," an unnerving but expertly crafted meditation on a sculpture by Gianlorenzo Bernini. (After chiseling a bust of his mistress, Bernini sent a razor-wielding servant to do much the same to her face; rumor had it she was sleeping with the artist's brother, too.) Salter then guides her readers from her first book, *Henry Purcell in Japan* (1985), to her most recent, *Open Shutters* (2003). Along the way she visits a Kyoto hospital, rides in a hot-air balloon that she likens to a fire-breathing dragon, and winds up accidentally seated across the aisle from her former psychiatrist at a family restaurant. "Inevitably, with poetry, older books go



**Mary Jo Salter's anthology resuscitates "some poems I was still fond of."**

'79 (himself the editor of the *Norton Book of Ghost Stories*). But when Norton hired her in 1992 as an editor for its anthology, she had to balance her own preferences against poets' historical import. "Just because I'm not a huge Ezra Pound fan," she points out, "doesn't mean I can presume to take him out of the *Norton*." But she did take the chance to speak up for writers whose work she felt had been unduly neglected—Marianne Moore, for example. "There is something wonderfully shaped and new and strange about how she wrote," Salter says. Moore had just four poems in the third *Norton*; in the fourth, published in 1996, she had nine.

For the fifth edition, which appeared in 2005, Salter had to add more authors without adding more pages. Cuts, whether of poems or poets, were inevitable. "In the case of dead writers, they don't protest," she says. "In the case of living ones, that was a little more stressful." Still, she relished the opportunity to reconsider which threads best rep-

resented the whole tapestry of a poet's life. Salter dropped one of Moore's later poems and added two earlier ones that showcased her tendency to fit each poem into a brand-new verse form. "I didn't particularly like Moore myself when I was younger," Salter admits. "But I've become a big fan of hers in the last 10 to 15 years."

As *A Phone Call to the Future* demonstrates, Salter, too, invents new forms. The nine stanzas in "Costanza Bonarelli" are all seven lines long, and each line has three stressed syllables. Another poem, "Poetry Slalom," tries to look like someone flying down a hill on skis. Salter enjoys language games and favors words with double meanings. The first line of "Costanza Bonarelli" describes the sculpture literally as a "bust," but the word, in one of its more colloquial uses, hints at the awful violence ahead. She also likes words she can use in a variety of ways, in both verbal and adjectival forms, for example. In "Please Forward," she finds a postcard in a used book that she and the writer of the card, Salter surmises, thought equally unreadable: "So Gert/...had failed, like me, and stuck/the postcard in the early/scene where she got stuck."

Poetic form is also something Salter knows how to teach, along with the history of meter and the many uses of rhyme. At Harvard she took classes with Elizabeth Bishop (herself a Moore protégée) and Robert Fitzgerald, and was poetry editor of the *Advocate*, the undergraduate literary magazine. After graduation, she taught English in Japan for three years and, beginning in 1984, poetry at Mount Holyoke. What started as a part-time, annual contract lasted until last year, when she and her husband both accepted positions at Johns Hopkins University's Writing Seminars. They took the jobs to move closer to family—her father lives in Mary-

out of print," she says. *A Phone Call to the Future* "was a way of resuscitating some poems I was still fond of."

With her own poetry, Salter could pick and choose as she pleased, though she did take advice from her long-time editor at Knopf, Ann Close, and her husband, the poet and novelist Brad Leithauser '75, J.D.

**Ken Bresler requests** a source for "God looks down and judges."

**"tyranny of the left versus that of the right...dogs and cats"** (March-April). Thomas Owen for-

warded this unattributed anecdote from *Leo Tolstoy* (1946; page 651), by Ernest J. Simmons: "When asked 'Is there not a difference between the killing that a revolutionist does and that which a policeman does?' Tolstoy answered: 'There is as much difference between cat-shit and

dog-shit. But I don't like the smell of either one or the other.'"

**"Carving nature at her joints"** (May-June). Lydia Kirsopp Lake was the first to identify Plato as the ultimate source of this concept, seen (in Harold N. Fowler's trans-

## Chapter & Verse

Correspondence on not-so-famous lost words

lations for the Loeb Classical Library) in *Phaedrus* 265 d-e, "dividing things again by classes, where the natural joints are, and not trying to break any part, after the manner of a bad carver," and in

*Statesman* 287c, "Let us divide them, then, like an animal that is sacrificed, by joints."

Send inquiries and answers to "Chapter and Verse," *Harvard Magazine*, 7 Ware Street, Cambridge 02138, or via e-mail to [chapterandverse@harvardmag.com](mailto:chapterandverse@harvardmag.com).



land and her husband's mother and two brothers live near Washington, D.C.—and for the chance to teach graduate students. Salter says she enjoys teaching, even though “there’s always a conflict in terms of time. There are inevitable periods when you feel resentful that you’re helping other people write their poems when you want to be writing yours.”

“But,” she adds, “I don’t think that most poets could only write poetry all day, every day. I certainly couldn’t. You need interaction with other people.” Her M.F.A. students at Johns Hopkins, in particular, seem more like peers than students to her: “It seems like we’re all in this enterprise together, trying to keep poetry alive.”

Not that it’s in any danger of disappearing, she says, but it’s certainly under pressure from the many other, flashier ways to spend an evening. She likes movies and TV, but their pleasures aren’t quite the same. “It’s hard to keep alive that excitement some of us feel when you see someone using a verb as an adjective. There just aren’t as many people out there who love to see that happen,” she says. “And I’d like to find those people and encourage them. ~P.G.

## Thoroughly Eclectic

*Performer Eisa Davis stays open to her many passions.*

SOMETIME between 6:30 and 7:30 P.M. every Tuesday through Saturday, Angela Eisa Davis '92 (she goes by her middle name, which rhymes with “Lisa”) slips through an alley on the left side of Broadway’s century-old Belasco Theatre. She opens a heavy, unmarked door, calls a joyful greeting to the security man who sits just inside the entrance, and climbs two flights of steep concrete steps to reach a dressing room that must have looked similar in 1907 (when Antoinette Perry was starring in the Belasco’s inaugural production), despite a few of Davis’s own touches—a rattan mat, a map of the world thumbtacked to the



Visit [harvard-mag.com/extras](http://harvard-mag.com/extras) to hear Eisa Davis sing a selection from her new album.

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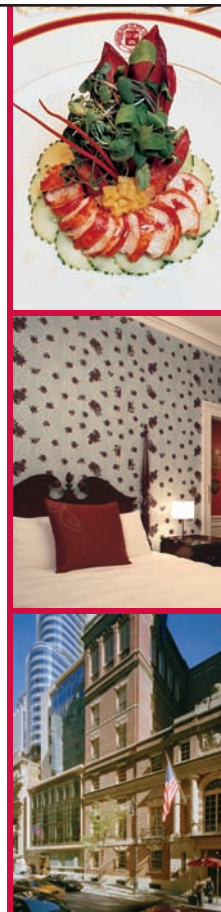
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## MONTAGE

wall. An antique sink in the corner appears to have its original fixtures. The mirror is rimmed with light bulbs. The cruddy glamour of the space screams Broadway. And yet, nearly every day, after stepping into a crisp, lavender dress, muting her shock of black curls into a demure bun, and strapping her microphone to her chest, Davis strides onstage to star in a Broadway show that screams, "This is not a Broadway show!"

She plays The Mother in *Passing Strange*, the coming-of-age story of a middle-class black teen—The Youth—who's a little too smart for his own good. With his mom's reluctant blessing, he heads off to Amsterdam and Berlin to hobnob with free-lovers and anarchists. He's searching for a life that he sees as more "real" than his own bourgeois upbringing, but he can't escape the stubborn love of his flawed but strong mother, which catches



**Mother and son, and creator:** Eisa Davis with Daniel Breaker, *The Youth*, and rock musician Stew, who is *Passing Strange's* Narrator

up with him when he least expects it.

The plot sounds simple, but the musical might be the most original in a string of unconventional productions that have

changed the face of Broadway recently, including *Spring Awakening* and *In the Heights*. Like its more famous cousins, *Passing Strange* more closely resembles a rock-concert-cum-literature-seminar than an Andrew Lloyd Webber popera. Its title is lifted from *Othello*, and its lyrics are sharply witty and subversively clever, overflowing with casual references to Hegel and Marx, Truffaut and Godard, James Baldwin and Josephine Baker.

Stew, the mononymous rock musician who wrote the show and serves as its narrator, draws inspiration from gospel, soul, vaudeville, cabaret, and punk—nearly every genre, in fact, except traditional musical theater. At one point, *The Youth* breaks into a giddy

## Off the Shelf

Recent books with Harvard connections

**Love Marriage**, by V.V. Ganeshananthan '02 (Random House paperback original, \$14). This debut novel, begun as the author's senior thesis (she has since graduated from the Iowa Writer's Workshop), explores family and marriage—arranged, or for love—in the context of Sri Lanka's horrific, now generational, civil war.

**Free Trade Nation**, by Frank Trentmann, Ph.D. '99 (Oxford \$50). Amid American anxieties about globalization and election-year skirmishing over trade pacts, a professor of history at Birkbeck College, University of London, exhaustively explores Britain's "Free Trade" culture

**The misery of free trade:** a British worker and his family suffer from foreign "dumping" in a tariff-reform poster (ca. 1909)



from the nineteenth century to World War I, documenting the interplay of "commerce, consumption, and civil society."

**The Ark of the Liberties: America and the World**, by Ted Widmer '84, Ph.D. '93 (Hill and Wang, \$24). A sweeping history of Americans' sense of themselves as a chosen people—bearing "the ark of the liberties," in Melville's phrase—and the consequences for the country's constant international engagements; the author directs the John Carter Brown Library at Brown University.

**Environment: An Interdisciplinary Anthology**, edited by Glenn Adelson, Ph.D. '04; Gurney professor of English literature James Engell '73, Ph.D. '78; Brent Rallini '97; and Kevin P. van Anglen, Ph.D. '83 (Yale, \$70). Biology, environmental science, and literature are brought to bear on climate, biodiversity, energy, deforestation, and more—throughout some

950, often unexpected, pages of diverse readings.

**A Voyage Long and Strange: Rediscovering the New World**, by Tony Horwitz, RF '06 (Henry Holt, \$27.50). A Pulitzer Prize-winning former Radcliffe Fellow, Horwitz is among the best, and funniest, journalist-historians—even when he tracks down bloody, decidedly unfunny remnants of pre-Pilgrim America that we have chosen to forget, or remember only dimly, in tawdry, commercial ways.

**Einstein for the 21st Century**, edited by Pellegrino University Professor Peter Galison; Mallinckrodt research professor of physics Gerald Holton; and Silvan Schweber (Princeton, \$35). Essays on the iconic thinker's continuing relevance for scientific inquiry, literature, art, music, and modern culture in general.

**Ahead of the Curve**, by Philip Delves Broughton, M.B.A. '06 (Penguin, \$25.95, paper). The author, a former *Daily Telegraph* journalist, recounts his two years at Harvard Business School. "Until I was there," he discovers, "I had underestimated capitalism's power to sow such in-



pantomime of what Stew has just referred to as an “upbeat, gotta-leave-this-town kinda show tune.” “We don’t know how to write those kinds of songs,” Stew interrupts, with a sly grin. Although Davis is quick to praise more conventional musicals—“I’m so excited that we’re on the same street as *Gypsy* and *Spamalot*”—she is also quick to point out *Passing Strange*’s many differences from them. “Everyone who sings in our play is singing for a reason,” she says. “It’s not just, ‘Let’s drop in a song.’ Every moment is a full-frontal attack of meaning and story.”

DAVIS HERSELF was born into a very different kind of black family, but it marked her in a very similar way. She was raised in Berkeley by her mother, a civil-rights lawyer, and her aunt and namesake, former Black Panther Angela Davis. “We spent a lot of time at demonstrations,” she remembers. “The idea of social activism and justice on both a local and global level was just everyday. All of us wore black to school when Reagan was reelected.”

## “Playwriting has helped my acting and music by allowing me to see the entire picture...”

Davis’s mother was serious about exposing her to a variety of arts—dance, theater, music—and Davis responded by embracing nearly all of them, taking piano and dance lessons and putting on plays in their living room. She admits that she applied to Harvard on a lark, but once there, she was surprised and delighted to be surrounded by people who shared her drive to perform. She sang in a cover band, helped found two literary journals, and acted often, winning the Levy Award (for most promising actor or actress) in her senior year. She still speaks with giddy enthusiasm about studying film with Spike Lee and playwriting with Adrienne Kennedy, a leader in the Black Arts Movement, who became a mentor. And she concentrated in social studies; her senior thesis explored the role of parody and humor in identity politics, an issue she and her current castmates, who refer to themselves as the “Al-

ternanegros,” continue to delve into in *Passing Strange*, which is often disconcertingly blunt and jokey about race.

After graduating, Davis moved to Los Angeles to help edit a hip-hop magazine and try to begin an acting career. Not until she started going into debt did she realize she had to “get serious” about a life in the arts, or get out. She promptly left for New York and enrolled at the Actors Studio, studying acting, playwriting, and vocal technique. Since earning her M.F.A., she has acted on TV (*Law and Order*, *The Wire*) as well as on stage. She has written eight plays, including *Bulrushers*, a finalist for the 2007 Pulitzer Prize. And she has spent large chunks of her free time writing soulful, jazz-inflected songs, which she performs often at venues like Joe’s Pub and the Brooklyn Academy of Music.

At 37, she is wholly uninterested in choosing a specialty, rejecting the idea that

security.” He decides not to pursue the business plan for a high-end laundry; he does offer useful critiques of HBS.

**Out of Mao’s Shadow: Stories from the Struggle for China’s Soul**, by Philip P. Pan ’93 (Simon & Schuster, \$28). The former *Washington Post* Beijing bureau chief reports on a “venal party state” being challenged by a “ragtag collection of lawyers, journalists, entrepreneurs, artists, hustlers, and dreamers striving to build a more tolerant, open, and democratic China.”

**Kelly: A Father, A Son, An American Quest**, by Daniel J. Boyne, Ed.M. ’93 (Mystic Seaport, \$34.95). The author, coach of recreational sculling, produces a life of Jack Kelly Sr.—an Olympic gold-medal oarsman who learned the sport on the Schuylkill, a politician, and the father of the perhaps better known Grace. Various later generations of Kellys rowed the Charles for Harvard.

**When Things Fell Apart: State Failure in Late-Century Africa**, by Robert H. Bates, Eaton professor of the science of government and professor of African and African American studies (Cambridge, \$19.99,



Jack Kelly Sr., wearing his Olympic racing shirt, 1920

grew up in America in the 1930s, the author enrolled at Harvard in 1948, but returned to

the People’s Republic of China in 1950, inspired to help bring about a new order in the early days of the Korean War. His facility with English and his overseas experience equipped him to interpret for Zhou Enlai and Mao Zedong and ultimately led to diplomatic postings, including at the United Nations—more than routine memoir material.

**Blown to Bits: Your Life, Liberty, and Happiness after the Digital Explosion**, by Hal Abelson, Ken Ledeen ’67, and McKay professor of computer science Harry Lewis ’68, Ph.D. ’74 (Addison-Wesley, \$25.99). Evolved from Quantitative Reasoning 48, the Core course on “Bits,” jointly created and taught by the authors, this is a lively, accessible, and illustrated introduction to the digital world, from the seven “koans of bits” to the science of encryption to the footprints you leave when you use e-mail, Google, et cetera. The authors challenge readers to determine whether the outcome will be “destructive or enlightening.”

paper). A theoretical explanation, admirably concise and clear, of why “political order cannot be treated as a given.” The author is painfully aware of the tragic consequences for a beleaguered continent, from “the sinisterly clownish garb of teenage killers in Liberia” to “the dignified suffering of refugees in camps.”

**The Man on Mao’s Right**, by Ji Chaozhu ’52 (Random House, \$28). A refugee who

a viable career in the performing arts is impossible without devoting yourself to just one. *Passing Strange* is a surprise hit that will require her to take the stage five nights a week indefinitely. Despite her grueling Broadway schedule, Davis released a debut album, *Something Else*, on which she sings 10 bluesy and introspective songs of her own composition. Her newest play, *Angela's Mixtape*, a memoir about the complicated mixture of anxiety and pride she feels at being

her aunt's niece, will be staged in New York next season. Davis will play herself—or rather, “a character named Eisa.”

Just as *Passing Strange* refuses to tamp itself down by committing to a single musical genre, Davis is determined to remain open to as many of her passions as possible, for as long as possible. “I’m a much better playwright because I’m an actor,” she says. “I can imagine what a character is experiencing in a sensory way, movement by

movement.” Music, she adds, “helps my playwriting for its rhythm and inevitability. Writing songs has helped me to become a more confident performer and to understand a character’s lyricism, and playwriting has helped my acting and music by allowing me to see the entire picture, the whole narrative I fit into or am creating. They all have their own unique craft, and yet they all feed each other in sometimes unexpected ways.” —JULIA WALLACE

## P E R F O R M A N C E

## From Soaps to Solos



NEW YORK CITY OPERA

**Operatic bass** Ethan Herschenfeld '90 never gave a thought to performing until he auditioned with his roommate, on a lark, for one of the Harvard-Radcliffe Gilbert and Sullivan Players' operettas during freshman year. He became a familiar presence on Harvard stages, and decided to pursue acting, not medical school, but still did very little singing. Then, while enrolled in a speech class at the Actor's Institute in London, he sang an operatic phrase as part of an exercise. The instructor encouraged him to take voice lessons.

Back home in New York, Herschenfeld began his vocal training, working for two years with tenor Franco Corelli and later with voice coach Armen Boyajian, while taking jobs in summer stock and earning a few roles on soap operas and cable TV shows. When an agent contacted him about flying to Sweden to replace a singer in a touring production of *The Magic Flute*, his solo career began. “I knew the role [Sarastro], but I had to learn a huge German monologue on the flight,” he says, “and I found out when I got to my hotel that I had to perform that same night with only a half-hour rehearsal. I was tempted to take a cab back to the airport, but after a bumpy first show, I got on track and by the end of the 12-day tour, I was hooked. I realized that this was something I could do.”

After more years of studying, auditioning, and singing in smaller productions, Herschenfeld won several competitions and began earning roles with major companies. A string of debuts in Italy included the role of Sarastro in *The Magic Flute* at Teatro La Fenice. “I’d been to Venice for some coach-

Herschenfeld (above, left) as Butt, a mechanical bird, in Charles Wuorinen's *Haroun and the Sea of Stories*, and as Bluebeard in *Ariane et Barbe-Bleue*, by Paul Dukas

ing 10 years earlier, right after the Fenice burned down,” he says. “It felt like a real arrival to be back there to sing a great role in the renovated opera house.”

Herschenfeld has sung in productions ranging from the traditional to the experimental, and witnessed staging concepts of every stripe. “I assume the audience is

there, like they’ve been for centuries, to hear great singing and get wrapped up in a story,” he says. “I’m not interested in using the opera for a political or artistic agenda. I’ve been in lots of those productions and they generally don’t serve the music or the story, and the audience gets shortchanged.” He remains focused on the drama. In Turin last April, at the climax of his aria as King Marke in *Tristan and Isolde*, he dropped to his knees and reached out to grab the tenor’s face. “It wasn’t clear if I was going to strangle him, pinch his cheek, or what,” he recalls. “It was a spontaneous move which ended up complementing the scene.”

Having now sung more than 40 roles at more than 60 theaters in the United States, Europe, and Asia, his operatic career is thriving. Reviewers have cited his imposing stature, impressive voice, and dramatic skills; his classmate Alex Ross of the *New Yorker* noted, for example, that he made the most of the smallish part of Bluebeard in a 2005 New York City Opera production of *Ariane et Barbe-bleue*, giving “a sharp portrait of a dark, wounded spirit.” Yet Herschenfeld is still drawn to pure acting. When he heard that his friends Glenn Kessler '92 and Todd Kessler '94 were ready to cast *Damages*, their 2007 show on the FX television network, he flew home

from an audition trip to Switzerland to read for a part, and ended up playing a hit man in the first season. “I usually get cast as the bad guy,” he says. “I don’t take it personally and it’s more fun, anyway.”

He sang Fafner in *Rheingold* in Bari and the Speaker in *The Magic Flute* in Rome this spring and then Alonso in *Der Sturm* in Amsterdam. (Hyperion is releasing a CD recording of the latter.) After that? “I’ll keep performing, in opera and maybe more TV, and I’m also busy as an investor in real estate and several start-ups. In college I studied a wide range of subjects. Turns out that was a good predictor of my professional life!” —DANIELA AMINI



Visit [harvard-mag.com/extras](http://harvard-mag.com/extras) to hear Ethan Herschenfeld perform.



CAROL ROSEGG/NEW YORK CITY OPERA



# New England

REGIONAL SECTION



## Extracurriculars

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### SEASONAL

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This outdoor market, which runs through October, offers fresh produce, baked goods, jams, herbs, chocolates, and cheeses, along with cooking demonstrations. It is organized by the Harvard University Dining Services.

### EXHIBITIONS

#### Harvard Art Museums

Please note: Beginning June 30, the Fogg Museum and the Busch-Reisinger Museum are closed to the public for renovations that are expected to last about five years. Beginning in mid September, selected works from the Fogg, Busch-Reisinger, and Sackler collections will be on view at the Arthur M. Sackler Museum (617-495-9400/9422). The Sackler will also be closed from June 30 through August 1 in order to complete the reinstallation.

#### Peabody Museum of Archaeology and Ethnology

[www.peabody.harvard.edu](http://www.peabody.harvard.edu); 617-495-1027

- Through August 31

**Remix: Indigenous Identities in the 21st Century** showcases the work of four young Native-American visual artists—Doug Miles (San Carlos Apache), Ryan Red Corn (Osage), Courtney Leonard (Shinnecock), and Bunky Echo-Hawk (Pawnee and Yakama)—and rapper Quese IMC—who transform traditional materials and iconography into contemporary art.

- Continuing: **Fragile Memories: Images of Archaeology and Community at Copán, 1891–1900.** The exhibit explores one of the most important Mayan sites and its influence on the local community.

#### Harvard Museum of Natural History

[www.hmnh.harvard.edu](http://www.hmnh.harvard.edu)

617-495-3045

- Continuing: **Looking at Leaves: Photographs of Amanda Means** is the third in a series of exhibits that invite viewers to look more closely at the natural world around them.

#### The Semitic Museum

[www.fas.harvard.edu/-semitic](http://www.fas.harvard.edu/-semitic)

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Continuing: **The Houses of Ancient Israel: Domestic, Royal, Divine** features a full-scale replica of an Iron Age (ca. 1200–586 B.C.E.) village abode. In **Ancient Egypt: Magic and the Afterlife**, visitors can view coffins, amulets, and funerary inscriptions that elucidate the Egyptian view of life after death.

### NATURE AND SCIENCE

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Left to right: An image from *Fragile Memories* at the Peabody Museum; verdant summer harvest at the Harvard Farmers Market; Peacock Plant by Amanda Means at the Harvard Museum of Natural History

FROM LEFT TO RIGHT: COURTESY OF THE PEABODY MUSEUM OF ARCHAEOLOGY AND ETHNOLOGY; JON CHASE/HARVARD NEWS OFFICE; AMANDA MEANS/HARVARD MUSEUM OF NATURAL HISTORY





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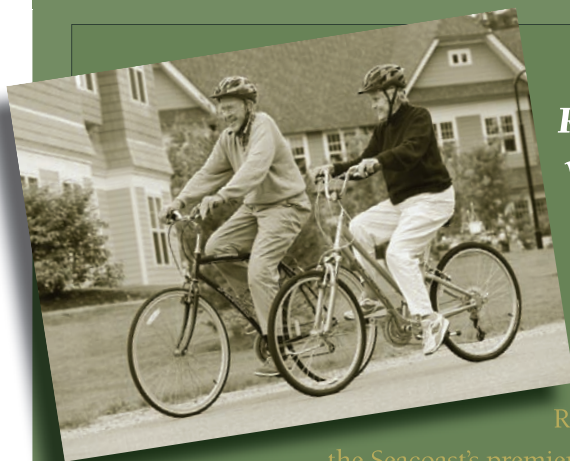


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### Harvard Summer Pops Band



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## FILM

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[www.harvardfilmarchive.org](http://www.harvardfilmarchive.org)

Visit the website for complete listings.

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• July 5-11

**Technicolor Dreams.** A series of Technicolor films produced from the 1930s through the 1950s, including *Rancho Notorious*, *Madigan*, *The Adventures of Robin Hood* (with Errol Flynn), *20,000 Leagues under the Sea*, *The Quiet Man*, and *Leave Her to Heaven*.

• July and August

The archive will host a complete retrospective of films by Joseph Losey, including his adaptations of Harold Pinter's *The Servant* and *Accident*, as well as *The Boy with Green Hair* and *Modesty Blaise*, and many others. Losey was among those investigated for alleged ties to the Communist Party and was blacklisted by Hollywood stu-

JEFFREY PIKE



## NEW ENGLAND REGIONAL SECTION

dios. He subsequently moved to Britain to continue his work.

## MUSIC

### Harvard Summer Pops Band

<http://hcs.harvard.edu/-hub>

- July 30 at 4 P.M. in Harvard Yard
  - August 3 at 3 P.M. at the Hatch Shell on the Charles River Esplanade in Boston
- This year's musical theme is "Invitation to a Dance"; the program includes Irish jigs, waltzes, marches, and Big Band swing.

### Sanders Theatre

[www.fas.boxoffice.harvard.edu](http://www.fas.boxoffice.harvard.edu)

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- July 18, at 7 P.M.

### Boston Landmarks Orchestra Concert

This group also offers free classical concerts at the Hatch Shell (see [www.landmarksorchestra.org/concerts.php](http://www.landmarksorchestra.org/concerts.php)).

- August 1, at 8 P.M.

The **Summer School Chorus** performs Schubert's Mass in E-flat major.

- August 9, at 8 P.M.

### Summer School Orchestra Concert

The program includes Bruch's *Scottish Fantasy* and Schumann's *Spring Symphony*.

Events listings also appear in the *University Gazette*, accessible via this magazine's website, [www.harvardmagazine.com](http://www.harvardmagazine.com).

A scene from *Accident*, playing this summer at the Harvard Film Archive



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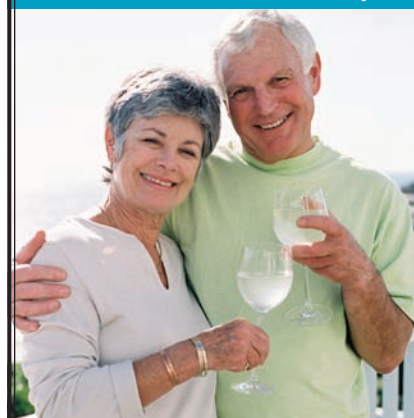


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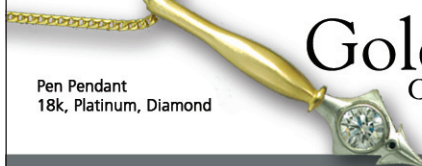
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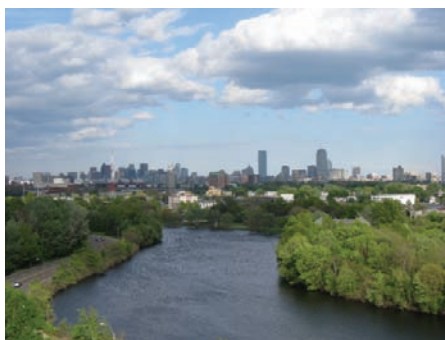
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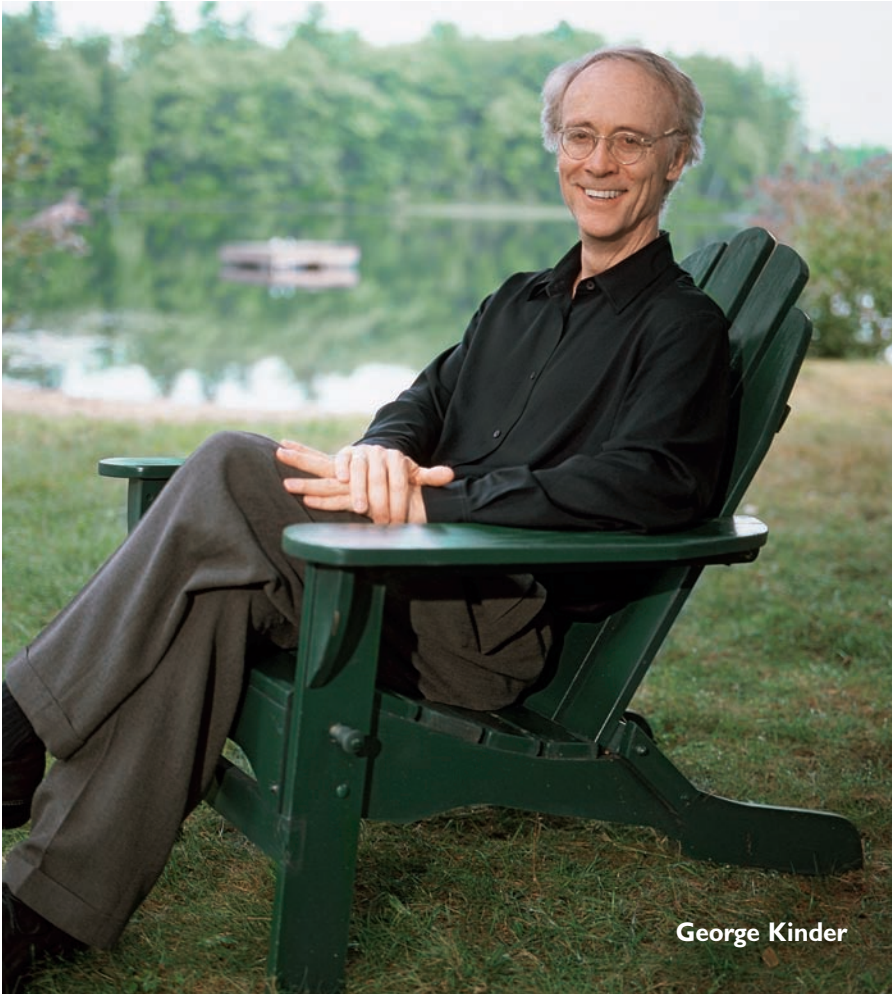


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# Your Money, or Your Life?

*The promise of a more fulfilling approach to personal finance • by Nell Porter Brown*



George Kinder

**W**HEN financial planner George Kinder '70 sat down with new clients, he cared little about Roth IRAs, index-fund yields, or which life insurance to buy. He wanted to know what turned them on. "Our job," he asserts, "is to keep the flame of true desires alive."

Make no mistake. Kinder is a keen mathematician and entrepreneurial moneyman—talents first revealed through a boyhood paper route: one brother, who

didn't like asking people for money, worked 30 days delivering the goods; then Kinder spent two collecting the cash. But he is far from a stereotypical number-cruncher. He meditates for a couple of hours every day and says nothing in life is as real as the passing of each moment in time. He is devoted to the ancient Greek philosophers and English literature. And he has read *The Divine Comedy* many times over; he finds the descent into hell before entering heaven appealing. Some would say Kinder has found his own paradise in

Hana, a remote Hawaiian town of "lush jungles, beaches, waterfalls, rainbows, and indigenous people," where he and his family have a second home. "Once I'd discovered it," he says, "how could I not live there?"

This rich existence is the direct result of "life planning," a growing movement within the financial-services industry that Kinder has pioneered and promoted for about 15 years. Inspired by the ideas in *Money and the Meaning of Life*, by philosopher Jacob Needleman '56, the early life planners gathered in the 1990s through an informal think tank called the Nazrudin Project (cofounded by Kinder and named for the Sufi holy trickster). Kinder and the movement rated their own chapter in Lee Eisenberg's 2006 bestseller, *The Number*, which described Kinder as a "gaunt, somewhat bookish fellow with wispy hair and wire-frame glasses...a financial planner beyond category."

In essence, the movement aims not to connect clients with the typical commission-driven financial products and conventionally acceptable aims, but to meld their "deepest human aspirations for a life worth living" with rigorous financial goals. "Many of us are so used to our dreams being brushed off," he explains. "If you say you've always wanted to play the guitar like Eric Clapton, for instance, many people will laugh and say, 'Oh, yeah, you want to play like Clapton...Now, back to the real stuff—retirement, educating the kids, getting a house and a car.' But in that case, the planner is doing a disservice by covering over the client's deepest wishes to be creative."

Kinder eschews practiced sales pitches in favor of three deceptively simple signature questions. "What I've found through these questions over the years is that people's dreams, at heart, center around family, creativity, spirit, community, and the

environment—"a sense of place," he says. "In answers to the third question, which speaks to mortality, to legacy, you never hear about a Mercedes or big, expensive homes. Because in the end, life is about personal dreams of freedom."

At a recent workshop for planners, Kinder spoke of a former client who wanted "more than anything" to buy an investment property in Massachusetts, on the North Shore: "It was a great building, the man was very enthusiastic." They talked about returns to be expected and what steps were required to earn enough extra money during the next decade or so to bring the project to life. And then Kinder posed his three questions, which must be answered one at a time, in strict order.

Assume you've got all the money you need. What would you do with it? How would you live?

You just found out you have only five to 10 years to live. How will you live those years?

The building—a tangible, respectable goal—figured into both answers.

Kinder then asked the last question.

You've just found out you have 24 hours to live. What did you miss? Who did you not get to be? What did you not get to do?

The man thought hard—and the building disappeared from the list of desires. What he really wanted was "an authentic, better relationship with his six-year-old son."

Kinder, a skilled, theatrical presenter of stories and ideas, let the weight of this response hang in the air. "Then I told him, 'How would it be if, from a financial viewpoint, I got you five extra hours a week to spend with your son? Would that do it?' And the man just brightened up and said, 'Yes, that would be very good,'" Kinder reported. "Now, if I had gone and gotten him the building, being a good financial planner who 'gets people what they want,' it would've been as good as selling him a product, and it would be mis-selling. It would've taken him at least

five hours a week, probably more, in order to fund the cash flow for the building...I would've taken him further away from where he really wants to be as a person and a father, which is closer to his son."






KINDER IS CLEARLY ON to something. He has been named "most influential planner" in the financial-industry press, "a visionary" in dozens of mainstream articles and on talk shows, and sometimes called the father of the life-planning movement. Its mission and methodology are outlined in his 1999 book, *Seven Stages of Money Maturity: Understanding the Spirit and Value of Money in Your Life*, a "cult favorite among financial advisers," he says. It presents his own personal practices and philosophy, drawing heavily on Buddhism, William Blake, Aristotle, Shakespeare, and Dante. "This work is about sparking transformation in the client," says Kinder, who began his career as a tax accountant in Cambridge in the mid 1970s. "A 20 percent return rate is good. But what's really sexy is finding



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## NEW ENGLAND REGIONAL SECTION

what people want out of life and how to help them get it.”

Kinder sold his financial-planning practice, now operated by Abacus Wealth Management, in 2000 and rarely sees private clients today. Instead, he runs the Kinder Institute of Life Planning, which he cofounded in 2002 with Susan Galvan; in 2006 they wrote *Lighting the Torch: The Kinder Method™ of Life Planning*, a more formal textbook for planners. (Galvan has since left to open her own company.) The institute develops the movement and trains advisers in the U.S. and around the world. After completing a three-step, intensive workshop series (including a six-month mentorship), advisers may register as “life planners” through the institute, based in Littleton, Massachusetts, where Kinder and his family live most of the year. (Kinder himself travels extensively to promote life planning, most recently to the Netherlands, Australia, and South Africa.)

“Financial planner” describes a broad

group of advisers with varying skills, professional schooling, and motivations. In the last three decades, many have sought to professionalize the industry and cut down on potential abuses through better self-regulation, the formation of trade groups, standardization of certification

**“A 20 percent return rate is good. But what’s really sexy is finding what people want out of life and how to help them get it.”**

and training programs, and the use of classifications that indicate whether a given planner has a vested interest in a product or investment outcome (e.g., fee-only versus commission-based). Having taken courses and an exam, Kinder is, for example, a certified financial planner. “One of the industry’s main problems is its perceived lack of integrity; people don’t trust us,” says Kinder. “The movement in financial services all over the

world is from sales to service, often from commissions to fees [which are paid solely by the client]. Financial planning is broken when it doesn’t have life planning at its root. It’s a blunt instrument and it’s inefficient when you really don’t know who the client is.” Life planning, he says,

matches clients’ passions and purposes to their investments, retirement accounts, taxes, estate plans, insurance, and budgets: “It genuinely marries meaning and money.”

One reason life planning is growing in popularity, he adds, is that every major economic upheaval—the recessions of 1973 and 1982, the Internet bubble burst of 2001, the response to 9/11, and the current mortgage crisis—spawns collective ques-



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tions about the meaning of material wealth in life, and about the institutions that govern money and policy. Kinder also points to his fellow aging baby boomers and their continued search for meaning in life. “Frankly, I think we’ve always wanted something like life planning,” he says, “and it’s coming now because more of us have savings and inheritances than ever before, and we’re tired of ‘sales’ and ‘being sold products’ as our [primary] relationship with money and financial advisers. And advisers are equally fed up with the ‘sales model.’”

KINDER’S PASSION for personal freedom came early. One of four boys, he grew up in St. Clairsville, Ohio, near the West Vir-

horrified his parents by moving to rural Massachusetts after graduation “to live a life of spiritual practice and writing.” Then his father hired him to do some research on the stock market. Kinder enjoyed it, and learned a great deal. Eventually his mother suggested that he try accounting, because he was good at math and could do the work part-time. In 1975, he won an award for the third-highest score in the state on the CPA exam.

For the next 13 years he was a tax accountant, sometimes waking at 4 A.M. to paper neighborhood cars with flyers for his business; these entrepreneurial leanings helped transform the company into a broader financial-planning business by the early 1980s. “Many of my [tax] clients

Buddha called ‘impermanence’ or *anicca*. Both understood how attachment drives us, but at the same time, obscures us from the truth.”

He says that part of building maturity around money is facing what Blake refers to as the innocence and pain of childhood, and what Buddhists see as the constant, dramatic cycling between pain and pleasure. Money is the last taboo. “In a profound way, money concerns intimacy more than sex does. It speaks to our relationship with both ourselves—in terms of identity and purpose in the world—and with others—in terms of family, love, and friendship,” he writes. Problems arise because we project unmet intimacy needs onto the receiving, giving, saving, earning, and losing of money, he believes, and then “money becomes a substitute for intimacy.”

KINDER’S APPROACH is still seen as novel—sometimes suspiciously “therapeutic”—among traditional financial planners. At a spring workshop, Kinder had participants think and talk about their feelings—about money (envy, greed, fear, excitement, lust, longing), about painful life experiences, and about their most private unfulfilled relationships and personal goals. Twice the group sat, in their business-casual attire, in silent meditation, trying, as Kinder intoned, to “feel the sensations in the body and the passing of each moment in time.... Let thoughts go, let beliefs go, let judgments go... Just be in the moment, as it is.”

When asked why there was so much emotional content, Kinder said, simply, “Nobody wants to see financial planning as an emotional process. But what’s more emotional than divorce, disability, and death? Those are the things clients care about and talk about. We always had boxes of tissues at our office.” What’s different, he added, is that life planning does not delve into the root, psychological causes of childhood traumas or dynamics, as many therapists do. Instead, it strives to help clients identify and address emotionally laden obstacles or desires that are directly related to planning their use of time and money. “We train advisers to be at ease and comfortable with feelings and to be good empathetic

“Nobody wants to see financial planning as an emotional process. But what’s more emotional than divorce, disability, and death?... We always had boxes of tissues at our office.”

ginia border. His brothers all went to Princeton, like their forebears; only George “rebelled.” Their father was a country lawyer with something of a harsh work ethic. “It took me many more years than I would have liked to develop a career path and a relationship with work that felt healthy,” Kinder says. “I gravitated toward my mother, who had a sense of budgeting, creativity, and spirit.”

His earliest memory of money—he asks workshop participants to delve repeatedly into their own—is the paper route. He wore a coin machine on a leather belt and liked to dispense change. Once home, “I’d go to my bedroom and lay out all the money I’d collected and count it out, like a miser,” he said during a recent workshop. In his “puritanical” household, indulgences were disallowed, but “this was my money, and it introduced me to the sensuous experience of life and money. I loved rock-’n’-roll, and with this money I had Jerry Lee Lewis, candy, and soda pop.”

At Harvard, Kinder studied math, then economics, and then fine arts before settling on English, and soon discovered world religions and meditation. He

were making boneheaded investments on the recommendation of supposedly professional financial advisors, many of whom were raking in big commissions for bad advice,” Kinder writes in *Seven Stages*. “Angered by this combination of ineptitude and greed, I figured I owed my clients a chance at something better.” In the mid 1980s, he began offering a popular course on retirement savings at the Cambridge Center for Adult Education, which he repeated in Hawaii (where, after chasing a romantic interest, he had begun to live part time). All the while, he continued his Buddhist practices, in time becoming a teacher. (He sometimes leads four week-long Buddhist retreats a year and still keeps up with a Cambridge meditation group.)

His attachment to Blake also continues. *Songs of Innocence* and *Songs of Experience* figure strongly in *Seven Stages*. “Both Blake and Buddhism teach essentially about being present in the moment, about selflessness, and about forgiveness or compassion,” Kinder says. “In both, a central teaching is that the truth of things is found in a radical attentiveness to what Blake called ‘minute particulars’ and the



## NEW ENGLAND REGIONAL SECTION

listeners—those are really the overlaps with therapy,” Kinder said later. “If the adviser thinks the feelings are more than they would feel comfortable with, or more than the client would want, we train the adviser to back off toward a more traditional plan.”

By the end of the two-day workshop, many planners had clearly learned something new about themselves and money. “You can only go as far with a client as you have gone with yourself,” Kinder told them. “What I am trying to do is help financial advisers be more radically present to themselves and, in turn, to their clients.”

KINDER HIMSELF RETURNS to his foundational questions three or four times a year, “when I am going through a transition of sorts, when life hits me with some blow that has thrown me and I need to find out what’s significant, what’s bedrock.” Currently, his answer to the third set of questions also includes spending more time with his children, Rachel and London, whom he had with Kathy Lubar, his third—but “first successful”—wife, Kinder jokes. She is an actress and owner of The Ariel Group, which teaches executive leadership skills using theatrical techniques. He has also vowed to create “wildly, including illuminated manuscripts.” Last year, he self-published a book of his photographs and poems called *A Song for Hana & the Spirit of Leho’ul* (50 percent of the profits go to conserving the Hawaiian coastline), and is at work on seven more books.

When asked, he lays out his ideal day: 6 A.M. to 2 P.M. for meditation, spiritual practice, and “wildly creative activities, and in nature”; 2 P.M. to 6:30 P.M., work on life-planning business; 6:30 P.M. to 9:30 P.M., time with the family.

Travel and workshops, and whole days with the family, can interrupt this flow. But in the end, Kinder’s greatest assets may be this focused dedication to his own personal freedom and the talent to bring about the same clarity of vision in others. “The reality is, a lot of us just putter along and then die,” he says. “But everyone should experience life, the glorious nature of life. If I can’t help people do that, what I am doing this for?”

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**HARVARD**  
MAGAZINE

# Large Successes

*Tapas of distinction at Small Plates restaurant and wine bar*



**O**NE TAPA might suffice at lunch, perhaps partnered by a glass of Di Lenardo Pinot Grigio '06 (\$7) and consumed outdoors on the terrace on a soft afternoon. Consider choosing the New Bedford seared scallops surmounting a plop of black “sticky rice,” with caperberries (\$11). The sweetness of the scallops, the nutty flavor of the rice, and the briny crunch of the multitudinous caperberry seeds combine in a culinary medley of tastes and textures that is astonishingly good. This dish is a fair advertisement for what Small Plates means to achieve with all its tapas, each a little symphony of carefully considered orchestration.

At an explorational dinner, two or three tapas may be required per person, so that a table of four might have 10 or 12

**Above, center: Scallops atop black sticky rice; behind, beef satay and baby greens**

plates brought from the kitchen and set before them. The usual drill is to share. Beware. A feeding frenzy may ensue in which everyone forks a piece of every plate competitively, lest it be speared by another feeder—they are *small* plates, remember—and pushes food down the mouth at speed. This is unseemly and leads to complete confusion of the taste-buds. One must choose one's dinner companions cautiously. None must ever have lived in a boarding house.

Proceed gracefully and one will savor 10 or 12 discrete delights. Among those enjoyed on a recent outing were baby greens with eggplant, a slice of roast pear, and a masterly pear vinaigrette (\$6); a delicious mess of mushrooms (mostly oyster, with shiitake and others) in basil

oil, with hits of poached garlic (\$8); thin-sliced summer squash posing as fettuccine, with a thick tomato *romesco* sauce (\$8), served warm, not hot; beef satay with peanut sauce and a few enlivening bites of bright yellow, apple-and-saffron chutney (\$8), which could have been rarer for some carnivores at the table (tell the waitress what's hoped for); spicy grilled prawns and a roast jalapeño pepper, their fires cooled by smoked corn (\$11); and a petit filet mignon with a merlot demi-glace, served with a mash of root vegetables (\$11) and agreeably accompanied for one participant by a glass of Luigi Bosca Malbec '05 (\$7). The steak can be had in tapa size or as an entrée (\$22), as can sesame seared salmon (\$11 or \$20) and grilled lamb chops (\$11 or \$22).

Paella for two is on the menu as an entrée (\$24), and Small Plates offers a cold and a warm platter for two “à partager” as starters (\$12 each)—cold roast vegetables with chèvre, warm brie and port-soaked apricots, and so forth—to get guests in the mood for sharing.

For dessert (\$7 each), how about ginger peach bread pudding, which three out of four of us thought fine, and one too bready; or the good almondy goo of a pear frangipane tart; or a crème caramel that was far, far above average?

Small Plates is off the street, down a passageway between buildings, in a space where Iruña satisfied for decades. The décor is simple: pale yellow walls accented by bold red and gray stripes, big mirrors, plain wood floors. The staff is

friendly. And—a huge blessing—the acoustics are such that one can carry on a conversation, perhaps about the crawfish étouffée in puff pastry (\$11) that one means to try next time. ~C.R.

## SMALL PLATES


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# Unequal America

**W**HEN MAJID EZZATI thinks about declining life expectancy, he says, “I think of an epidemic like HIV, or I think of the collapse of a social system, like in the former Soviet Union.” But such a decline is happening right now in some parts of the United States.

Between 1983 and 1999, men’s life expectancy *decreased* in more than 50 U.S. counties, according to a recent study by Ezzati, associate professor of international health at the Harvard School of Public Health (HSPH), and colleagues. For women, the news was even worse: life expectancy decreased in more than 900 counties—more than a quarter of the total. This means 4 percent of American men and 19 percent of American women can expect their lives to be shorter than or, at best, the same length as those of people in their home counties two decades ago.

The United States no longer boasts anywhere near the world’s longest life expectancy. It doesn’t even make the top 40. In this and many other ways, the richest nation on earth is not the healthiest. Ezzati’s finding is unsettling on its face, but scholars find further cause for concern in the pattern of health disparities. Poor health is not distributed evenly across the population, but concentrated among the disadvantaged.

Disparities in health tend to fall along income lines everywhere: the poor generally get sicker and die sooner than the rich. But in the United States, the gap between the rich and the poor is far wider than in most other developed democracies, and it is getting wider. That is true both before and after taxes: the United States also does less than most other rich democracies to redistribute income from the rich to the poor.

Americans, on average, have a higher tolerance for income inequality than their European counterparts. American attitudes focus on equality of opportunity, while Europeans tend to see fairness in equal outcomes. Among Americans, differences of opinion about inequality can easily degenerate into partisan disputes over whether poor people deserve help and sympathy or

Causes and consequences  
of the wide—and growing—gap  
between rich and poor

By ELIZABETH GUDRAIS

should instead pull themselves up by their bootstraps. The *study* of inequality attempts to test inequality’s effects on society, and it is delivering findings that command both sides’ attention.

Ezzati’s results are one example. There is also evidence that living in a society with wide disparities—in health, in wealth, in education—is worse for *all* the society’s members, even the well off. Life-expectancy statistics hint at this. People at the top of the U.S. income spectrum “live a very long time,” says Cabot professor of public policy and epidemiology Lisa Berkman, “but people at the top in some other countries live a lot longer.”

Much is still unknown in this dynamic field, where Harvard is home to pioneers who first recognized income inequality as worthy of study and younger scholars at the forefront of its study today. The variety of disciplines featured in presentations of the University’s Multidisciplinary Program on Inequality and Social Policy—economics, sociology, political science, public policy, health, medicine, education, law, and business—highlights the field’s broad importance.

Because of the subject’s complexity and the scarcity of consistent data that would allow comparison between countries and across wide timespans, research findings are often highly specific or framed in the language of interesting coincidences, rather than as definitive conclusions. Even when discernable patterns exist, there tend to be counter-examples; for instance, the United States, with high inequality, has low life expectancy compared to Denmark and Finland, with very low inequality—but in Spain and Italy, with inequality somewhere in between, life expectancy is even longer.



But the coincidences are intriguing indeed. Research indicates that high inequality reverberates through societies on multiple levels, correlating with, if not causing, more crime, less happiness, poorer mental and physical health, less racial harmony, and less civic and political participation. Tax policy and social-welfare programs, then, take on importance far beyond determining how much income people hold onto. The level of inequality we allow represents our answer to “a very important question,” says Nancy Krieger, professor of society, human development, and health at HSPH: “What kind of society do we want to live in?”

### KEEPING UP WITH THE JONESES

THE UNITED STATES is becoming even more unequal as income becomes more concentrated among the most affluent Americans. Income inequality has been rising since the late 1970s, and now rests at a level not seen since the Gilded Age—roughly 1870 to 1900, a period in U.S. history defined by the contrast between the excesses of the super-rich and the squalor of the poor.

Early in the twentieth century, the share of total national income drawn by the top 1 percent of U.S. earners hovered around 18 percent. That share hit an all-time high in 1928—when top earners took home 21.1 percent of all income, including capital gains—then dropped steadily through the next three decades. Amid the post-World War II boom in higher education, and overall economic growth, the American middle class swelled and prospered, and the top 1 percent of earners took home less than 10 percent of all income through the 1960s and 1970s. Since then, the topmost 1 percent have seen their share rise again: it shot past 15 percent in 1996 and crested at 20.3 percent in 2006, the most recent year for which numbers are available.

To describe the distribution of income inequality in the United States, Allison professor of economics Lawrence F. Katz likes to use the analogy of an apartment building. “Over the last 25 years,” he says, “the penthouse has gotten really, really nice. All sorts of new gadgets have been put in. The units just below the penthouse have also improved a lot. The units in the middle have stayed about the same. The basement apartment used to be OK, but now it’s gotten infested with cockroaches and it’s been flooding.” (See graph, page 26.)

The argument that none of this matters as long as the overall economy is growing—that a rising tide lifts all boats, as President John F. Kennedy famously said—is the subject of vigorous academic review, with mixed results, but it may not be the most important question. Picture a buoyant luxury cruise ship surrounded by dilapidated dinghies, full of holes and on the verge of



Lawrence F. Katz

sinking. The fact that the tide has lifted them does not mean they are doing well.

This is a concept social scientists call relative deprivation. The idea is that, even when we have enough money to cover basic needs, it may harm us psychologically to see that other people have more. When British economist Peter Townsend developed his relative deprivation index in 1979, the concept was not new. Seneca wrote that to be poor in the midst of riches is the worst of poverties; Karl Marx wrote, “A house may be large or small; as long as the neighboring houses are likewise small, it satisfies all social requirement for a residence. But let there arise next to the little house a palace, and the little house shrinks to a hut.”

Investigating whether relative deprivation and the negative emotions it engenders help explain why the poor have worse health than the rich in most societies began with epidemiologist Michael Marmot’s study of British civil servants in the 1960s and 1970s. Marmot found that the lower-ranking bureaucrats had elevated levels of stress hormones compared to their high-status coworkers, even though the low-ranking workers still had job security, a living wage, decent hours, and benefits.

Others have found similar links. Examining health outcomes for identical twins raised together—pairs that shared genes and environment—Nancy Krieger found that when the twins became adults, if one was working class and the other professional, the working-class twin’s health was, on average, worse.

There is little question that it is bad for one’s health to be poor. Americans at the 95th income percentile or higher can expect to live *nine years* longer than those at the 10th percentile or lower. The poor are more likely to develop illnesses such as diabetes, hypertension, heart disease, and cancer, and there is evidence that rela-

tive deprivation and the stress it engenders are involved. When high inequality and rising top incomes shift society's accepted standards of living upward, it seems that people experience deprivation even when they have adequate food, clothing, and shelter. The official U.S. poverty rate—12.3 percent in 2006—is relatively low, but scholars agree that number is essentially meaningless.

The poverty threshold was developed in 1965 based on the cost of a grocery budget “for temporary or emergency use when funds are low,” multiplied by three. It was “arbitrary,” says Wiener professor of social policy Christopher Jencks, “but once it was adopted, it was politically impossible to change it.” That threshold has been adjusted for inflation, but does not take into account the fact that housing prices, energy prices, and certain other costs have grown faster than the consumer price index (CPI). “Going to movies, eating out at restaurants, going on occasional vacations, having Internet access and a cell phone—none of these things are in the federal poverty level,” says Ichiro Kawachi, professor of social epidemiology at HSPH and associate professor of medicine at Harvard Medical School (HMS). “What matters for functioning in society is what the average person is able to do.” During the same period, the Gallup Poll definition of the poverty line—based on asking people how much income they need not to feel deprived—has risen much more steeply than the CPI.

Kawachi, who grew up in Japan, believes a predominant consumption culture in the United States exacerbates relative deprivation. “The Japanese have a very strong culture against conspicuous displays of affluence,” he says. “When I was a child growing up in suburban Tokyo, it was very difficult to distinguish, by dress or anything else, rich kids from poor kids—whereas in America, bring it on!”

As further evidence of a correlation between inequality and consumption culture, he points to national spending on advertising as a percentage of gross domestic product (GDP). The top-ranked countries on this measure, according to United Nations (UN) data, are Colombia, Brazil, and Venezuela—countries with inequality levels among the highest in the world—but also Australia, New Zealand, the United Kingdom (U.K.), and the United States, countries with higher inequality than similarly prosperous peers.

Japan comes second only to Denmark in terms of equal-income distribution among its inhabitants, according to United Nations data. And life expectancy at birth for the Japanese is 82.3 years, compared to Americans' 77.9 years, even though per-capita GDP in the United States is about \$10,000 more than in Japan. “It's pretty clear that an egalitarian ethos runs along with the idea of having strong safety nets and protecting the health of the most vulnerable,” says Kawachi, who also directs HSPH's Center for Society and Health. “And that's reflected in national health statistics.”

The United States ranks twenty-first among the 30 nations in the Organization for Economic Cooperation and Development (OECD) in terms of life expectancy, and twenty-fifth in terms of infant mortality. Kawachi and others have found that the U.S. counties with the most income inequality stack up poorly on health measures, and as mortality rates have fallen nationwide, they have fallen most slowly in states where income inequality increased the most—a cause for concern, whatever the explanation.

## AMERICAN EXCEPTION?

ONE WIDELY USED MEASURE OF INEQUALITY is the Gini coefficient, named for Italian statistician Corrado Gini, who first articulated the concept in 1912. The coefficient measures income distribution on a scale from zero (where income is perfectly equally distributed among all members of a society) to one (where a single person possesses all the income). For the United States, the Gini coefficient has risen from .35 in 1965 to .44 today. On the per-capita GDP scale, our neighbors are Sweden, Switzerland, and the U.K.; on the Gini scale, our neighbors include Sri Lanka, Mali, and Russia. (Even with this basic measure of inequality, it is difficult to get comparable data for all countries, and some other sources find a much wider gap between the United States and Russia. For instance, the Luxembourg Income Study ranks Russia at .43 and the United States at .37, and does not even list Sri Lanka and Mali.)

The recent increase in inequality reflects a migration of money upward as salaries have ballooned at the top. In 1965, the average salary for a CEO of a major U.S. company was 25 times the salary of the average worker. Today, the average CEO's pay is more than 250 times the average worker's. At the same time, the government is doing less to redistribute income than it has at times in the past. The current top marginal tax rate—35 percent—is not the lowest it's been—there was no federal income tax at all until 1913—but it is far lower than the 91-percent tax levied on top earners from 1951 to 1963. Meanwhile, forces such as immigration and trade policy have put pressure on wages at the bottom.

Tax policies and employer-pay practices affect income distribution directly. But what governs these pay practices, and why have American voters and politicians chosen the tax policies they have? One answer lies in Americans' unique attitudes toward inequality.

Lisa Berkman

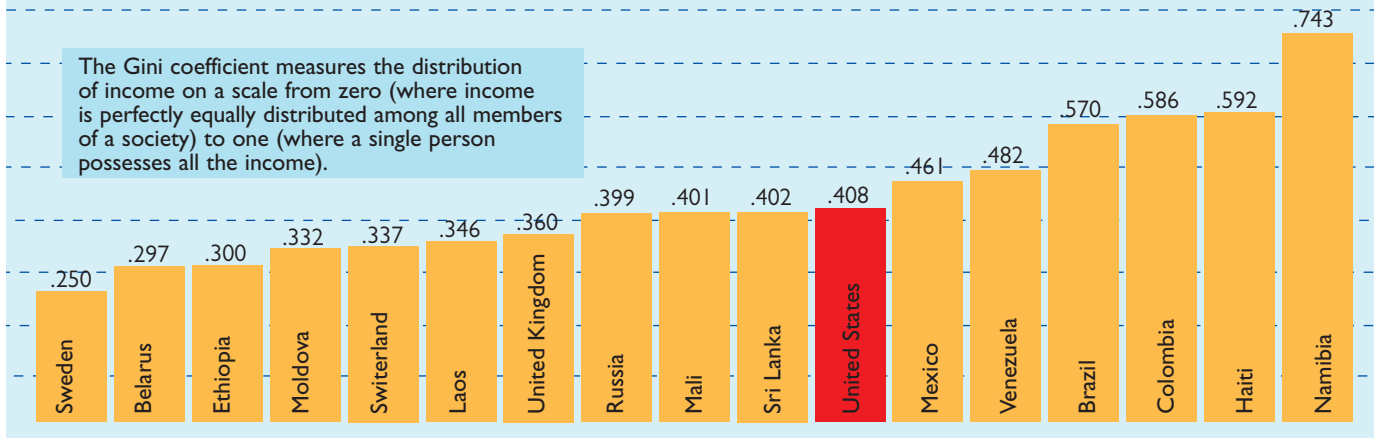


SUZANNE CAMARATA/HARVARD SCHOOL OF PUBLIC HEALTH



## Quantifying Inequality

The Gini coefficient measures the distribution of income on a scale from zero (where income is perfectly equally distributed among all members of a society) to one (where a single person possesses all the income).



Source: United Nations Human Development Report, 2007/08

Asked by the International Social Survey Programme whether they agreed or disagreed with the statement that income differences in their home country are “too large,” 62 percent of Americans agreed; the median response for all 43 countries surveyed—some with a much *lower* degree of inequality—was 85 percent.

Americans and Europeans also tend to disagree about the causes of poverty. In a different survey—the World Values Survey, including 40 countries—American respondents were much more likely than European respondents (71 percent versus 40

left-leaning groups have succeeded at writing in change. By and large, Alesina and Glaeser write, the U.S. Constitution “is still the same document approved by a minority of wealthy white men in 1776.” And the “vestiges of feudalism” in European society make leftist arguments appealing there, whereas American politicians’ rhetoric has emphasized individual agency since the time of George Washington (who wrote in 1783 that if citizens “should not be completely free and happy, the fault will be intirely their own”). The authors cite a 1980s history curriculum for public

Americans are much more likely than Europeans  
to agree with the statement that the poor could  
escape poverty if they worked hard enough.

percent) to agree with the statement that the poor could escape poverty if they worked hard enough. Conversely, 54 percent of European respondents, but only 30 percent of American respondents, agreed with the statement that luck determines income.

It makes intuitive sense that those who view poverty as a personal failing don’t feel compelled to redistribute money from the rich to the poor. Indeed, Ropes professor of political economy Alberto Alesina and Glimp professor of economics Edward L. Glaeser find a strong link between beliefs and tax policy: they find that a 10-percent increase in the share of the population that believes luck determines income is associated with a 3.5-percent increase in the share of GDP a given nation’s government spends on redistribution (see “Down and Out in Paris and Boston,” January-February 2005, page 14).

These attitudes, in turn, are rooted in U.S. history, says Christopher Jencks, whose 1973 book *Inequality* examined social mobility in the United States. Jencks has been studying inequality and social class since the 1960s, and has written dozens of journal articles, essays, and book chapters, as well as four more books, on the subject. He looks back to the Constitution’s framers, who enshrined property rights as sacred and checked the government’s ability to control the national economy. “The founding fathers didn’t want the government to do that much,” he says.

The Constitution is structured in such a way that it is harder to change than the constitutions of Europe’s welfare states, where

schools in California (“hardly the most right-wing of states,” they note) that instructed, “A course should assess the role of optimism and opportunity in a land of work: the belief that energy, initiative, and inventiveness will continue to provide a promising future.”

An alternative, and possibly complementary, explanation points to the United States’s particular place in geography and history. Jencks also finds this persuasive. “The highest levels of inequality are found in the New World and not the Old, for reasons we don’t understand,” he says (see chart above). Societies with higher inequality also tend to have higher crime rates, although it’s not clear which way the causal arrow runs, or if it exists. “These are societies built on conquest, many of them on slavery,” Jencks adds. “A lot of the inequality may just be the legacy of those things.”

Former colonies such as Haiti and Namibia inhabit the top end of the Gini scale, with coefficients of .59 and .74, respectively. But there are exceptions to the pattern: the low end of the scale includes transitional economies that are far from rich (Belarus and Moldova, with coefficients of .30 and .33), and former colonies (Ethiopia and Laos, with coefficients of .30 and .35). For all the scholarly study, consensus on whether the Gini coefficient can, in and of itself, say something good or something bad about a country is still lacking. Still, scholars are using what evidence does exist to ask, and test, whether the United States has things in common with Sri Lanka, Mali, and Russia, as it

undoubtedly does with Sweden, Switzerland, and the U.K.

The excesses of the Gilded Age led, in the decades that followed, to a backlash in the form of the minimum wage and other labor laws to protect workers, business and financial-market regulation to protect consumers, social safety-net programs—Social Security, Medicare, Medicaid—and infrastructure investment to benefit all. But as the United States moves from a period of relatively balanced income distribution back into higher in-

not necessarily the tactics that lift team performance—as opposed to, say, practicing great defense.”

This gets at the ways inequality may affect the fabric of society. Perhaps motivated by inequality and the prospect of getting ahead, Americans work longer hours than their European counterparts—about 200 more hours per year, on average, than the British, and 400 more hours per year than the Swedes. Again, there are counter-examples (the Japanese work almost as much

## Inequality may act on the human psyche to elicit hard work and high achievement—but it also may make us more individualistic.

equality, it remains to be seen whether these twentieth-century developments will enable the country to escape the problems that often accompany high inequality.

### LEFT OUT AT THE BOTTOM

AN ARGUMENT commonly made in inequality's defense is that it serves to motivate. Here, Kawachi cites evidence from the sports world. A 1990 study of golfers found that they performed best in professional tournaments, where the spread in the size of the prize money is widest. Similarly, a study of professional auto racers found that performance improved as the spread in the size of the various prizes widened.

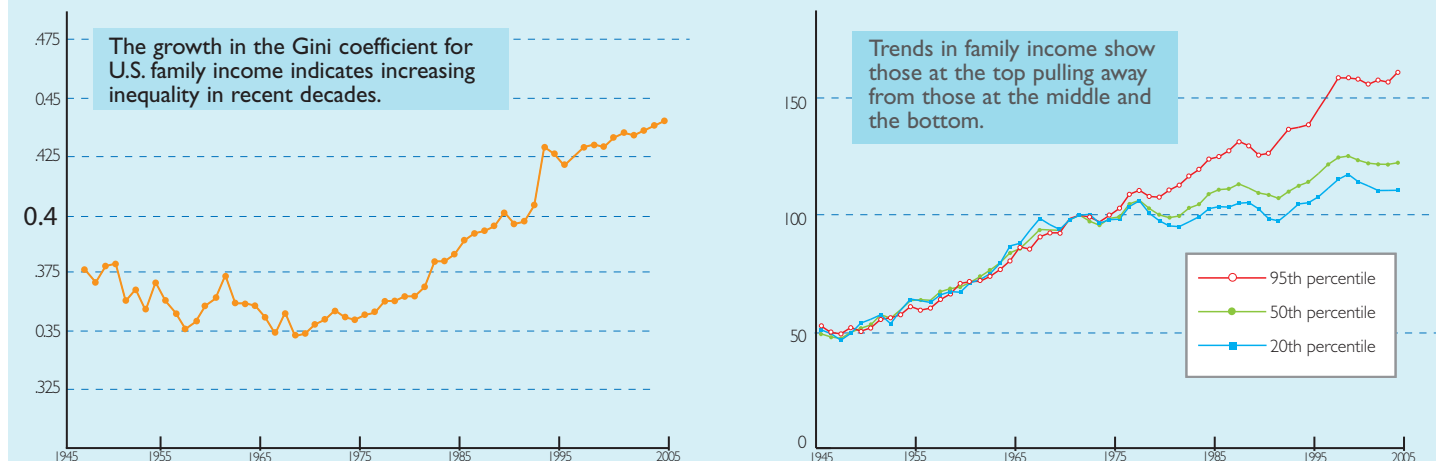
So inequality may act on the human psyche to elicit hard work and high achievement—but it also may make us more individualistic. In a study of baseball players, teams with wider pay dispersion performed more poorly—and so did individual players within those teams. “In a world in which each individual is looking out for themselves, players will tend to concentrate on improving their own performance to the exclusion of team goals, since their own performance is what matters for moving up the pay scale,” Kawachi and Bruce P. Kennedy (a former HSPH professor who passed away this year) wrote in *The Health of Nations: Why Inequality Is Harmful to Your Health*. “Concentrating on trying to hit more home runs or improving one's own hitting average are

as Americans do, just 50 hours less a year), but in any case, time spent at work is time not spent with friends or family, and this has its own implications for health.

As an outreach worker in San Francisco in the 1970s, Lisa Berkman noticed that her clients in the North Beach and Chinatown neighborhoods—poor or working-class, but with the strong social connections typical of immigrant communities—had far better health than her clients in the gritty Tenderloin district, who were much more socially isolated and disconnected from one another. The link between social integration and mortality risk became the subject of Berkman's dissertation at Berkeley, where she earned her Ph.D. in 1977. At the time, the idea that social ties could protect health was radical. Now it is accepted wisdom—and a factor that, Berkman believes, helps to explain the extraordinarily high life expectancy in Spain and Italy.

But the danger of disconnectedness may go beyond being less happy or even less healthy. Kawachi and Kennedy cited a wealth of evidence that increasing income inequality goes hand in hand with a decrease in “social capital,” a concept akin to community involvement that incorporates, among other things, social relationships, trust, reciprocity among friends and neighbors, and civic engagement. (Malkin professor of public policy Robert Putnam made a similar argument in his seminal 2000 book *Bowling Alone*.) Letting social capital atrophy means a less cohesive

### Growing Apart



Source: *The Race between Education and Technology*, by Lawrence F. Katz and Claudia Goldin (Harvard University Press, 2008)



populace that, at the extreme, leaves entire classes of people disadvantaged and excluded. “The big worry,” says Lawrence Katz, “is creating something like a caste society.”

As American neighborhoods have become more integrated along racial lines, they have become more *segregated* along income lines and, some research indicates, with regard to all manner of other factors, including political and religious beliefs. (*The Big Sort*, a new book by journalist Bill Bishop, examines this evidence.) What’s more, even along racial lines, American society is still far from integrated. Sociologist David R. Williams, Norman professor of public health and professor of African and African American studies, has examined racial discrimination and health in the United States and elsewhere, including South Africa, where in 1991, under apartheid, the “segregation index” was 90, meaning that 90 percent of blacks would have had to move to make the distribution even. “In the year 2000,” says Williams, “in most of America’s larger cities—New York City, Detroit, Chicago, Milwaukee—the segregation index was over 80.” Only slightly lower, that is, than under legally sanctioned apartheid.

When a society is starkly divided along racial or ethnic lines, the affluent are less likely to take care of the poor, Glaeser and Alesina have found. Internationally, welfare systems are least generous in countries that are the most ethnically heterogeneous. Those U.S. states with the largest black populations have the least generous welfare systems. And in a nationwide study of people’s preferences for redistribution, Erzo F.P. Luttmer, associate professor of public policy at the Harvard Kennedy School (HKS), found strong evidence for racial loyalty: people who lived near poor people of the same race were likely to support redistribution, and people who lived near poor people of a different race were less likely to do so. Differences in skin color seem to encourage the wealthy to view the poor as fundamentally different, serving as a visual cue against thinking, “There but for the grace of God go I.”

Alesina’s work investigates this cognitive process as an explanation for the high crime rates in less equal societies. Rather than following the common-sense explanation that the poor see what the rich have and covet it, leading to burglary and violent crime, Alesina argues that as the incomes of the rich and poor diverge, so do their interests. Members of a relatively equal society find it relatively easy to reach agreement about what the purpose and priorities of a legal system should be. But if the rich favor protecting property, while the poor care more about preventing and

punishing interpersonal violent crime, the lack of consensus will produce a weak system that fails to meet the desires of either group. In one essay, his colleague Glaeser offers this apocalyptic prediction: “Great gaps between rich and poor may...hurt democracy and rule of law if elites prefer dictators who will protect their interests, or if the disadvantaged turn to a dictator who promises to ignore property rights.”

This doesn’t seem possible in a democracy such as the United States, where each citizen’s vote carries the same weight regardless of income (the electoral-college system notwithstanding). In fact, given the shape of the income distribution, it seems that Americans would elect leaders whose policies favor the poor and middle class. Mean household income in 2004 was \$60,528, but median household income was only \$43,389. More than half of households make less money than average, so, broadly speaking, more than half of voters should favor policies that redistribute income from the top down. Instead, though, nations—and individual states—with high inequality levels tend to favor policies that allow the affluent to hang onto their money.

Filipe R. Campante, an assistant professor of public policy at HKS and a former student of Alesina’s, thinks he’s discovered why. After investigating what drives candidates’ platforms and policy decisions, Campante has concluded that donations are at least as influential a mode of political participation as votes are.

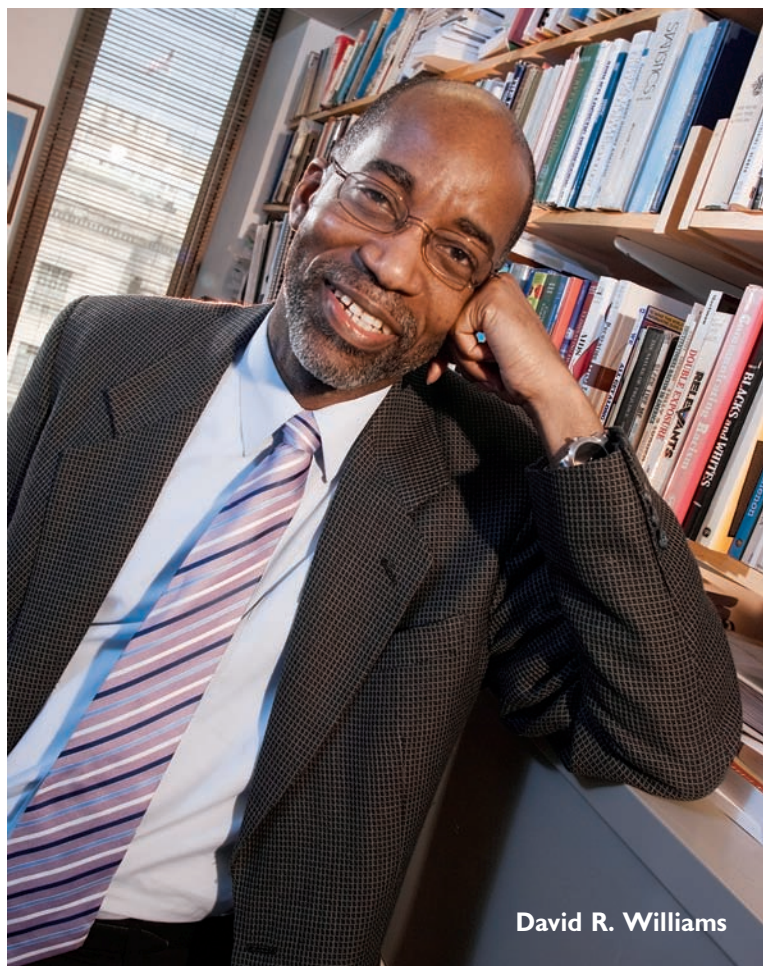
Previous research has shown that voter turnout is low, particularly at the low end of the income spectrum, in societies with high inequality. Again, this is counterintuitive: in unequal places, poor people unhappy with government policies might be expected to turn out *en masse* to vote, but instead they stay home. Campaign contributions may provide the missing link.

Candidates, naturally, target voters with money because they



Ichiro Kawachi

FRED FIELD



JIM HARRISON

need funds for their campaigns. And since the poor gravitate toward parties that favor redistribution and the wealthy align themselves with parties that do not, campaign contributions end up benefiting primarily parties and candidates whose platforms *do not* include redistribution. By the time the election comes around, the only candidates left in the race are those who've shaped their platforms to maximize fundraising; poor voters, says Campante, have already been left out. In a study of campaign contributions in the 2000 U.S. presidential election, he found that higher income inequality at the county level was associated with fewer people contributing to campaigns, but contributing a larger amount on average—so the haves participated, and the have-nots did not.

The solution, he says, is not to scrap the system altogether in favor of full public financing, but to enact contribution limits strict enough to level the playing field. He views contributions not as bribery or buying policy, but as a legitimate form of civic engagement. “The ideal system,” he says, “would be a system where you have a really broad base of contributors that are contributing relatively small amounts....You want parties to be responsive to voters. Donations are a way in which parties are made responsive to voters.”

### BUFFERS AGAINST INEQUALITY

THE EFFECTS OF relative deprivation can come in a form more tangible than stress or low self-esteem. Krieger uses the example of a job interview. In a society where the average person has a cell phone, it can hurt one's job chances not to have one. Wearing old clothes to a job interview might be interpreted as a sign of not

taking the interview seriously, when in fact the problem is inability to afford a new outfit. Bad teeth, which require money to fix, can trigger disgust in prospective employers and even hold people back from making friends. “Your income,” Krieger says, “can decline to a point where you're no longer able to participate meaningfully in society.”

Stress can also make people behave in ways they otherwise wouldn't. David Williams believes that the “hierarchy of needs” framework helps explain why, the poorer people are, the less likely they are to take care of their health. The framework, developed in 1943 by psychologist Abraham Maslow, defines the needs that motivate human behavior and the priority people assign to those needs. Physiological needs (eating, sleeping, breathing) form the foundation; not until those needs are met can people pursue needs in the higher categories (in succession: safety, love/belonging, esteem, and self-actualization). “If people are worried about their basic needs of survival and security and food and shelter,” says Williams, “they cannot worry about the fact that a cigarette, which is providing relief from stress now, is going to cause lung cancer 20 years from now. If you can address the basic needs so people are no longer worried about them, you free them to consider those larger, higher-level needs that have long-term consequences for their well-being.”

Lisa Berkman's latest project aims to let low-wage workers focus on such higher-order needs. In a study of nursing-home employees, Berkman found that nursing assistants, janitors, and kitchen workers had far less flexibility than higher-status workers in terms of being able to leave work if a family member fell ill, and that this lack of flexibility was related to increased risk of heart disease and chronic sleep problems. Now she is following nursing homes and retail establishments to see what happens when they implement more flexible policies. If workers in high-demand, low-wage jobs can spend more time with their families and stop worrying about getting fired if they need to handle an emergency, she says, “workplace policies may have a profound effect on health.”

Improving living conditions in poor neighborhoods is another way to alleviate poverty's ill effects even in the absence of income redistribution, says Williams. The poor are more likely to smoke, to eat poorly, and to lead sedentary lives. These are personal choices—but every choice is made in context, and one's surroundings affect the choices one makes. “When people live in areas where there aren't supermarkets that sell fresh fruits and vegetables, their intake of fresh fruits and vegetables is dramatically lower,” he says. “If people live in areas where there aren't sidewalks, where there aren't safe bike paths and places to walk and playgrounds, or where the rate of crime is so high that it's not safe to go outside, then their level of exercise is much lower and their rates of obesity are higher.” Building parks and sidewalks and bringing farmers' markets to poor neighborhoods, then, makes it easier for residents to make healthy choices.

Another category of initiatives aims at improving living conditions for poor people by giving them vouchers to move to better neighborhoods, but the details are important, says Dolores Acevedo-Garcia, an HSPH associate professor of society, human development, and health. She is helping design the public-health component of one such program. Stemming from a landmark 2005 desegregation court case, it has already enabled about 1,300 former tenants of Baltimore public housing to move



to suburban communities. “What people are expecting,” she says, “is that if people move to a new neighborhood, they’re automatically going to do better. Well, in fact, a lot of this is about connecting people to resources”: for example, helping them find landlords who will rent to them—not the easiest thing in an unfamiliar neighborhood.

The aid doesn’t stop there. Many doctors in affluent communities don’t accept Medicaid; Acevedo-Garcia’s proposal would have case workers help clients find doctors who do, and in some cases persuade doctors to start. “People may be used to doing their shopping at a convenience store or a liquor store,” she says; case workers will tell them which grocery store has good produce at low prices, and where to catch the bus that will take them there. Something as simple as taking the new residents to a park can make a difference, she says: “They may not be used to the idea of exercising outside if they came from a neighborhood that was not safe.”

### UNEQUAL CHANCES

“ADULTS’ ECONOMIC STATUS is positively correlated with their parents’ economic status in every society for which we have data,” write Christopher Jencks and Laura Tach, a doctoral student in sociology and social policy, “but no democratic society is entirely comfortable with this fact.” The prospect of upward mobility forms the very bedrock of the American dream, but analyses indicate that intergenerational mobility is no higher in the

on a hill. But “if anything,” Alesina and Glaeser write, “the American poor seem to be much more ‘trapped’ than their European counterparts,” in the sense that fewer people who start life in the bottom quintile ever make it out.

This is puzzling given American society’s emphasis on fairness and openness. Lee professor of economics Claudia Goldin and Katz detect an explanation in the increasing cost of college tuition. In 1950, the average tuition price at a private college was roughly 14 percent of the U.S. median family income; public college tuition was even lower (only 4 percent). Percentages for both types of institutions fell further in the ensuing decades, bottoming out around 1980, but then rising steeply ever since. In 2005, the cost of attending the average public college was 11 percent of median family income; for private colleges, the average was 45 percent. There is financial aid, but not enough, and the system “can be harder to crack than Fort Knox,” Katz and Goldin write in their new book, *The Race between Education and Technology*.

For most of the twentieth century, the average American exceeded his parents’ education level by a significant margin: between 1900 and 1975, the average American’s educational attainment grew by 6.2 years, or about 10 months per decade. Then, between 1975 and 1990, the authors find that there was “almost no increase at all”; from 1990 to 2000, there was a gain of just six months. Although college graduation rates for women are still rising steadily, for men they have barely increased since the days of the Vietnam draft.

“If people are worried about their basic needs of survival and security and food and shelter, they cannot worry about the fact that a cigarette is going to cause lung cancer 20 years from now.”

United States than in other developed democracies. In fact, a recent Brookings Institution report cites findings that intergenerational mobility is actually significantly *higher* in Norway, Finland, and Denmark—low-inequality countries where birth should be destiny if inequality, as some argue, fuels mobility.

In the United States, the correlation between parents’ income and children’s income is higher than chance: 42 percent of children born to parents in the bottom income quintile were still in the bottom quintile as adults, and 39 percent of children born to parents in the top quintile remained in the top quintile as adults, according to the Brookings analysis. But it is difficult to see whether mobility is increasing or decreasing, because it would require comparing specific individuals’ incomes to their parents’ incomes, against the wider backdrop of income distribution across society at that time. Because data with that level of detail do not exist for earlier periods, scholars can’t say with certainty whether the results represent an increase or a decrease in mobility from other periods in American history.

Americans’ steadfast belief in mobility probably stems from increases in *absolute*, rather than relative, mobility. As the overall economy mushroomed throughout the nation’s history, the majority of people exceeded their parents’ income. Recall Katz’s apartment building analogy; rather than tenants moving from one floor to another, the entire building was shifting ever higher

At the same time, the “college wage premium” has also increased. In 1975, the average college graduate’s hourly wage was 24 percent higher than the average high-school graduate’s. By 2002, that number had risen to 43 percent. Katz and Goldin say this increase indicates higher demand for workers with college degrees, even as computers have eliminated the type of jobs a high-school-diploma recipient or mediocre college graduate would have done 25 years ago: clerical work, basic accounting, middle management. Technology has exerted downward pressure on those workers’ pay, explaining stagnating wages at the middle and bottom of the income distribution.

The United States once led the world in the rate at which its citizens finished college; it now falls in the middle of the OECD pack. It could lead again if Americans made a decision to fund higher education the way they chose to fund universal public high-school education early in the last century. “If you had made people borrow money to go to high school in the early twentieth century,” says Katz, “you wouldn’t have seen the same sort of expansion.” But as technology continues to advance, if Americans do not break down barriers to higher education, the authors foresee an even more acute shortage of highly trained workers—and, other things being equal, a further increase in inequality. ▢

Elizabeth Gudrais ’01 is associate editor of this magazine.





# Eye on the Universe

The cosmic drama,  
as seen from  
a vantage in space

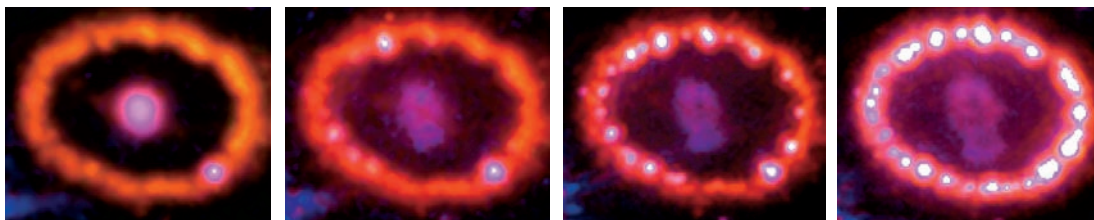
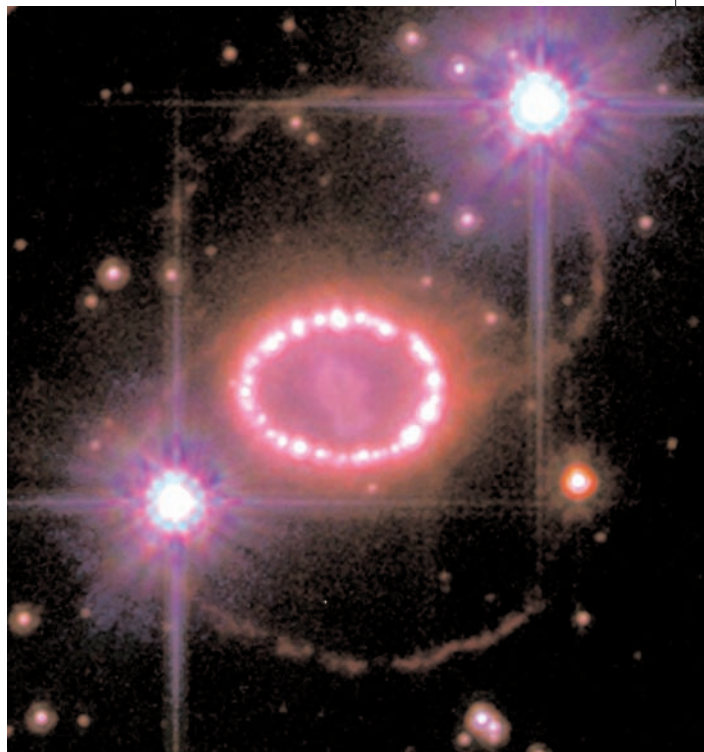


THIS FALL, ASTRONAUTS aboard the space shuttle *Atlantis* will pay a final visit to the Hubble Space Telescope (HST). They will install new instruments enabling it to peer deeper into space than ever before, and replace aging gyroscopes and batteries to keep it running

until at least 2013. For nearly two decades, the orbiting telescope has radioed back to Earth images that have altered our understanding of the universe. The Hubble helped confirm the existence of dark matter: mass that we cannot see, but which nevertheless makes its gravitational influence visible by bending light itself. It proved the existence of black holes, previously a theoretical concept, and enabled the study of star formation and destruction—supernovae—as never before. The Hubble captured the first evidence that planet formation is common during the birth of stars, and has detected life-forming gas on extrasolar planets. It has provided dramatically improved estimates of the age of the universe, and led scientists to the inescapable conclusion that an unknown force—dark energy—is causing the universe to expand at an accelerating rate.

These achievements are remarkable given the telescope's ignominious debut, when a misground mirror seemed destined to be a fatal flaw. Blurred and anomalous images initially made the Hubble project appear a \$1.5-billion boondoggle. But unlike its predecessors, the HST was designed to be serviced in space. A 1993 shuttle mission—including astronaut Jeffrey Hoffman, Ph.D. '93—was able to install compensatory mirrors, carefully calibrated to cancel the error. (Special software had provided a temporary “fix” until then). Since then, images produced by the Hubble have played a key role in helping Harvard astronomers make fundamental discoveries about the cosmos. This magazine asked a few of them to choose their favorite images, photographs that have been important to advancing humanity's scientific understanding of the universe. Many of the selections are also beautiful. Herewith the choices of John Huchra, Doyle professor of cosmology; Christopher W. Stubbs, professor of physics and astronomy; David Aguilar, director of public affairs at the Harvard-Smithsonian Center for Astrophysics (HSCA); HSCA astronomer Peter M. Challis; and postdoctoral fellow Anil Seth of the Harvard College Observatory. Hundreds more Hubble images appear at [www.hubblesite.org](http://www.hubblesite.org).

—JONATHAN SHAW AND JENNIFER CARLING



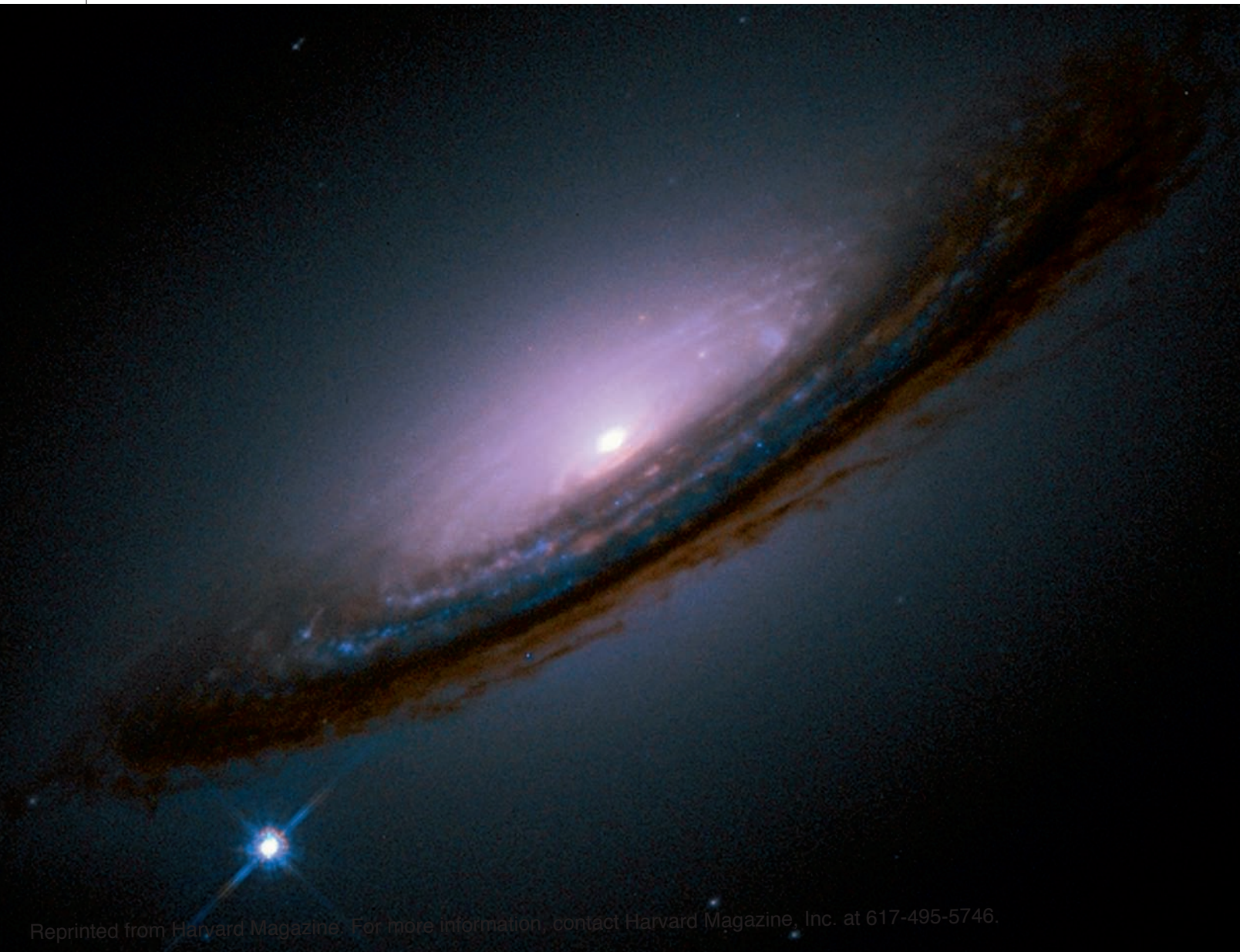
**Top:** In a 2006 image, a shock wave emanating from an exploding star illuminates a ring of gas shed at least 20,000 years earlier. When observers on Earth 21 years ago first spotted Supernova 1987A, it shone with the brightness of a hundred million suns. The Hubble began making a time series of images in 1990 that show the progression of the blast debris through the ring and the dissipation of the core. Images (left to right) taken in 1994, 2001, 2003, and 2006 have helped “rewrite the textbooks on exploding stars,” says Clowes professor of science Robert Kirshner. He and HSCA astronomer Peter M. Challis are part of an international group studying the star's demise.

**Facing page:** One of the most detailed astronomical images ever produced, this panoramic view of the Orion Nebula—just 1,500 light years from our own solar system and on the same spiral arm of the Milky Way galaxy—is a composite made from many exposures over several months. Stars are born in nebulas like this one, as clouds of hydrogen gas coalesce into progressively denser and hotter clusters that eventually ignite in a fusion reaction. More than 3,000 stars appear in this image, including hundreds of young ones, allowing the systematic study of the various stages in this extraordinary process. The Hubble's views of the nebula also enabled astronomers to see protoplanetary disks, the stuff from which planets are thought to form and, for the first time, “brown dwarfs,” failed stars that were not dense or hot enough to sustain fusion.

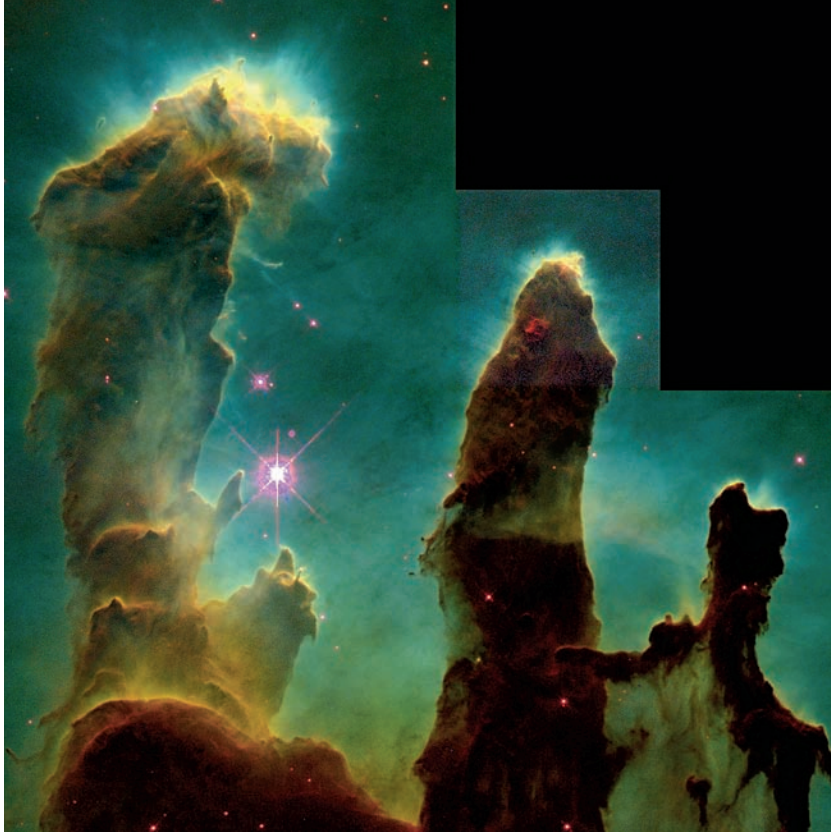


Right: Located in the constellation Circinus about 7,000 light years from Earth, NGC 5315 is the remains of a dying star, the aftermath of stellar apocalypse. "What we are witnessing is the possible future of our own sun," says David Aguilar, of the Harvard-Smithsonian Center for Astrophysics (HSCA). This "planetary nebula"—so called because of its shape, not because it has anything to do with planets—"is a briefly visible cosmic tombstone that will shine for a mere 10,000 years before it disappears."

Below: HSCA's Peter M. Challis captured this supernova (1994D), an exploding star that detonated in the outer regions of the galaxy. "Supernovae," says professor of physics and astronomy Christopher M. Stubbs, "are bright enough to be detected halfway across the visible universe, and serve as beacons with which we can measure the history of the expansion of the cosmos." Hubble observations allowed astronomers to peg the age of the universe at 13.7 billion years, but its images of supernovae also drove them, reluctantly, to an astounding conclusion: the universe is expanding at an increasing rate. A force known as "dark energy," they theorize, exerts a steady, repulsive power. In the early universe, when objects in space were closer together, gravity partly counteracted dark energy's influence, slowing the expansion. But over time, the weakening of gravitational forces is causing the expansion to accelerate.







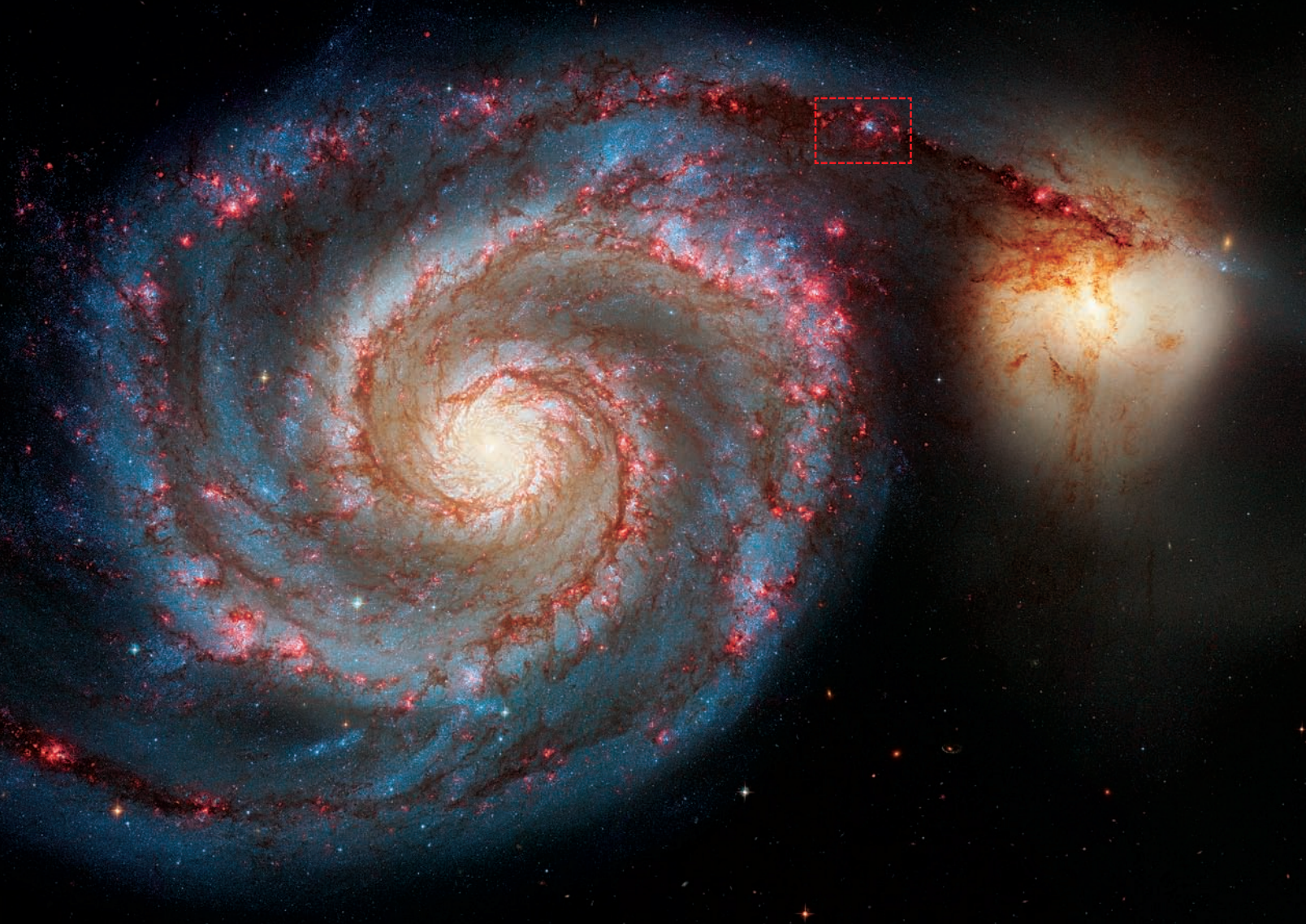
Left: The “Pillars of Creation” may be the most iconic Hubble photograph ever taken. “Located in the Eagle Nebula, the pillars are clouds of molecular hydrogen, light years in length, where new stars are being born,” says Aguilar. “However, recent discoveries indicate these pillars were destroyed by a massive nearby supernova some 6,000 years ago. This is a ghost image of a past cosmic disaster that we won’t see here on Earth for another thousand years or so—and a perfect example of the fact that everything we see in the universe is history.” It was in the Eagle Nebula that protoplanetary disks that only the Hubble telescope’s high-resolution optics can detect, were observed for the first time. (This photograph was stitched together from shots taken by four cameras. One of the cameras takes a magnified view of its quadrant, which—when shrunk to fit the scale of the other three—leaves dark space in the upper right corner.)

Below: Galaxy Cluster Abell 2218. “The arcs in this image arise from background galaxies whose shapes are distorted by gravitational lensing from the cluster of galaxies in the foreground,” says Stubbs. “The strength of this gravitational lens”—which actually bends the path of the light reaching Earth—“allows astronomers to estimate the total mass in the foreground galaxy cluster,” he explains. “The total amount of mass is about a factor of 10 higher than the stars we can see. The composition of the rest—the ‘dark matter’—is one of the major unsolved problems in modern astrophysics.”



The Hubble can detect wavelengths of light far beyond the spectrum visible to the human eye, but it can’t see in color. All Hubble images begin as shades of gray, ranging from black to white. Color is added by taking multiple exposures of the same object, adding a particular hue to each one, and then combining them to create a single composite image. “Natural colors,” based on the actual wavelengths of light emitted, show the object as it would appear to the human eye, as above. “Representative colors” help scientists visualize wavelengths of light they could not normally see, such as the infrared range of the spectrum. “Enhanced colors” are used to help reveal structural details that might otherwise be lost. For example, sulfur and hydrogen atoms in the “Pillars of Creation” both emit red light. Making the hydrogen green distinguishes it from the sulfur.





Above: The Whirlpool Galaxy, M51, and its smaller companion. Interactions between galaxies can lead to mergers and transformations of shape and appearance, says postdoctoral fellow Anil Seth. "Here, the gravitational influence of the smaller galaxy is creating a burst of star formation across the disk of the larger galaxy. The dense gas from which stars are forming is opaque, creating the brownish dust lanes visible across the image. When the stars first form, they light up the gas around them, creating the red nebulae that trace the spiral arms. Recently formed bright stars are mostly found clumped together in beautiful star clusters and associations. The proximity of the Whirlpool Galaxy to us, combined with the amazing resolution provided by the Hubble Space Telescope, allows us to see this burst of star formation in amazing detail."

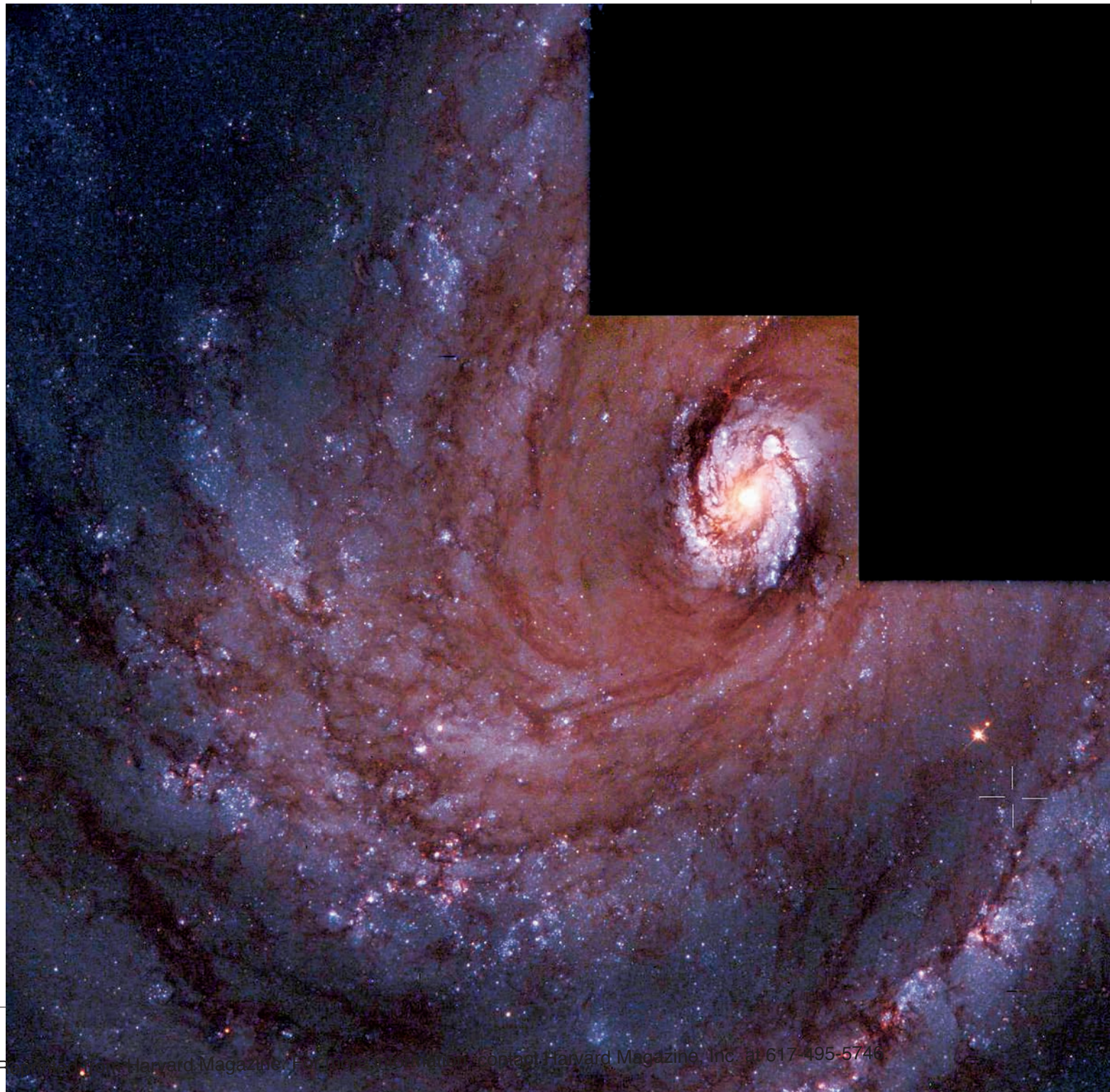
Left: The "grand design" spiral galaxy M81. "Because it is tilted at an oblique angle to our line of sight," says Doyle professor of cosmology John Huchra, who headed the team that took the photograph, "we get a 'birds-eye view' of the spiral structure." The galaxy is similar to our home, the Milky Way, he says, but the angle of view from Earth provides a better picture of the typical "global" architecture of spiral galaxies.





Left: Hubble images contain extraordinary detail. In this enlargement of the boxed area on the opposite page, the formation of star clusters is clearly visible.

Below: This Huchra team image of M100, a galaxy in the Virgo cluster, played a key role in determining the expansion rate of the universe, known as the Hubble Constant. "This was the first real science image taken after the fix of the optics back in 1993," recalls Huchra, "and was the first of a series of images the team took to find Cepheids in order to determine the distance to the galaxy." When astronomers want to know the distance in light-years to a given galaxy, they first look for Cepheids, pulsing stars whose brightness varies predictably with the period of the pulse. Because a Cepheid's period tells scientists what its brightness should be at one light-year's distance, they can compare this known baseline to the star's brightness as it actually appears here on Earth, and thereby calculate the distance to the star. "The HST observations of M100 pinned down the distance to the Virgo cluster"—56 million light years away, far too distant for detection of Cepheids by Earth-based telescopes—"and provided the first solid evidence in the long chain of data that led to our determination of" the Hubble Constant, Huchra says. "It ain't as pretty as some of the later images," he admits, "but it's perhaps the most significant of its kind."





# Maxim Gorky

Brief life of a great enigma: 1868-1936

by DONALD FANGER

FOR MUCH of the early twentieth century, Maxim Gorky was probably the world's most famous writer. His early romantic stories from the 1890s, with heroes drawn from the millions of peasants-turned-tramps then roaming the Russian countryside, marked him as an exciting new force in Russian letters that cut across class lines, blurring the distinction between high and low literature. His 1902 play *The Lower Depths* took his homeland and then Europe by storm. These works and his 1914 autobiographical masterpiece, *Childhood*, found millions of readers, including many Russians who had rarely, if ever, read before.

He appeared out of the blue, a contemporary critic recalled, "an emissary from the anonymous Russian masses." Rejecting with contempt Russian literature's traditional sympathy for "the insulted and injured" along with its glorification of the peasant as a repository of wisdom and national values, he celebrated instead action, will, initiative, creativity. "'Man'—it has a proud ring!" he proclaimed in his most famous line. "Man" was the active center of his optimistic new faith. "Man" could do anything: "He even invented God." Amid a widespread, if inchoate, feeling that an age was ending, Gorky offered a bracing vision of the new and beautiful world that could and should replace it, to be brought about by the harnessing of individual and collective will, the transformative power of culture, and the application of technology.

Gorky's fame arose from his writings, but quickly threatened to transcend them as he became a celebrity in the full modern sense, his image for sale on cigarette boxes and postcards, his movements and opinions of equal interest to the public—whose commitment to revolution he sought to mobilize—and to the repressive tsarist regime. His place in Russian life and letters was unique. A prodigiously gifted autodidact who quit school at 10, he came of a once well-to-do family of artisans that had fallen into poverty; as a result, he spent his formative years in an astonishing variety of jobs before becoming a writer. An archetypal outsider, he fit none of the familiar social and cultural categories and he cultivated that image. It suited his commitment to political activism quite as much as his commitment to literature, and his activism, making good on the implicit urgings of his writing, made him a hero to many.

His was, in sober fact, a fabulous career. A brief summary reveals the fellow-hobo and chronicler of the uprooted peasantry; friend of Lenin and fundraiser for the Bolsheviks; political exile on Capri (1906-1913); outspoken opponent of Lenin's fledgling regime (Petrograd, 1917-1918); savior of thousands of writers and scholars from starvation, and rescuer of many from arrest (Petrograd, 1918-1921); expatriate author of memoirs and dark, quasi-symbolist stories in Germany and Italy (1921-1928); returnee in the early 1930s to Soviet

Russia, hailed as "the great proletarian writer," herald of the revolution, founding father of Soviet literature and inventor of "socialist realism," for whom his native city and Moscow's main thoroughfare, along with hundreds of institutes and enterprises, were renamed; and finally the preacher of merciless class hatred, smothered with state honors but increasingly isolated, in effect the prisoner of Stalin, who may have had him murdered.

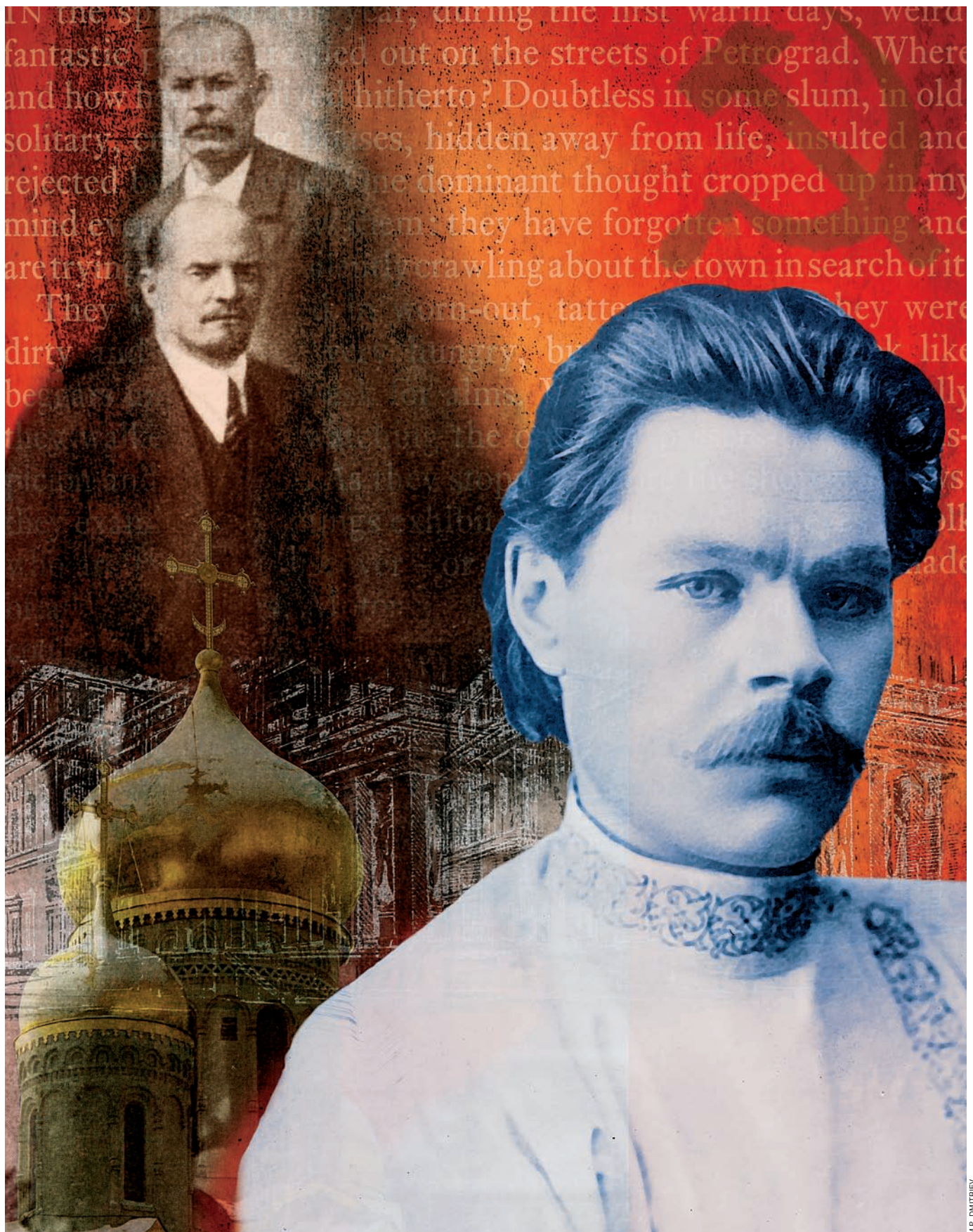
But the life trajectory just described is that of a pseudonym. Gorky was born Alexei Maksimovich Peshkov; he adopted the pen name (*gorky* means "bitter" in Russian) in his late twenties as a kind of public provocation, and it soon took on a life of its own. "A time will come," Anton Chekhov wrote in 1903, "when people will forget Gorky's works, but he himself will hardly be forgotten even in a thousand years." Another contemporary noted, "[M]ore important than anything he says is what he is"—and, we might add, what he was taken to be. With the opening of Russian archives and lifting of longstanding taboos since the fall of the USSR, the ways in which Gorky's public image was formed and propagated are at last available for serious study and reassessment. Recent Russian publications show in new and often surprising detail just how (and how far) he was indeed a key figure—at once absolutely unique and supremely representative—in the history of his times.

And the man behind all the contradictory positions and beliefs, the whole huge but wavering public image? He was notoriously reticent about his personal life, which he professed to dislike except as raw material for his writing, and odd as it may sound, he seems to have taken pains to have as little of one as possible. (The autobiographical *Childhood*, a critic noted, "is about everybody but himself.") His interest in behavior, his own and others', was not accompanied by any interest in analyzing its causes—the "anti-psychologism" of his writing is often noted; hence detailed discussions of his loves and hatreds, his finances, his relations with Bolshevik leaders and with writers of the most varied stripe, have had to wait for the disclosures now coming to light in Russia.

These new materials offer the outlines of an astonishingly broad, complex, and multifaceted personality—highly fallible, on occasion willfully blind, stubborn, passionately inconsistent—that fascinates more deeply with every new revelation. That it continues to elude final definition reminds us that this is precisely what characters in the greatest literature do. There, surely, as Chekhov seems to have sensed, is one earnest of his immortality. ▮

Harry Levin professor of literature emeritus Donald Fanger, Ph.D. '62, is translator and editor of Gorky's *Tolstoy and Other Reminiscences*, recently published by Yale University Press.

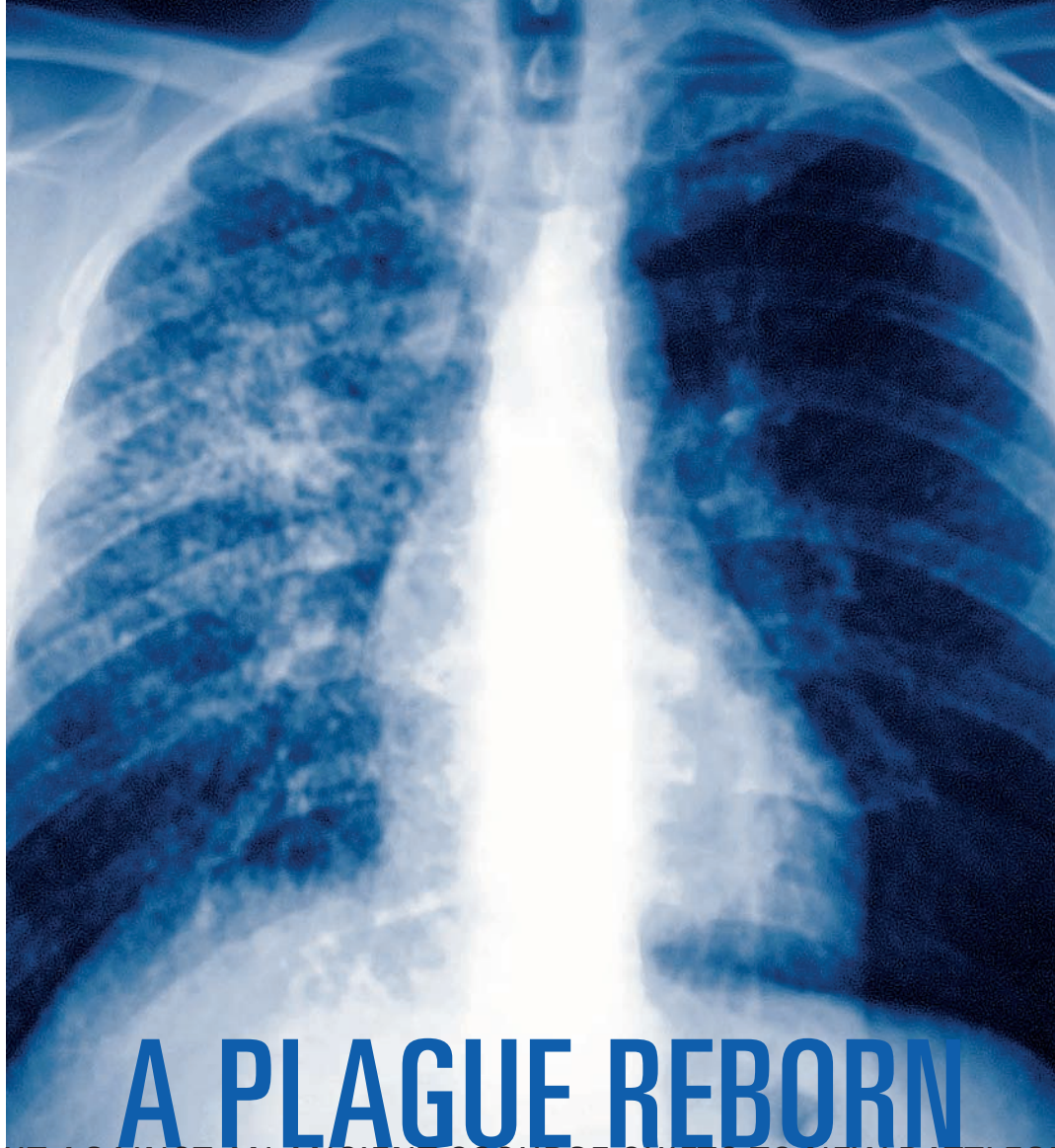




M.P. DMITRIY

A 1901 photograph of Gorky taken in his hometown, Nizhny Novgorod (known as Gorky from 1932 to 1990). Above: Gorky stands behind Lenin in a photograph from the second Communist International (Comintern) Congress, in the summer of 1920. (The background text is from Gorky's 1901 novel "My Diary.") Reprinted from Harvard Magazine. For more information, contact Harvard Magazine, Inc. at 617-495-6746.





# A PLAGUE REBORN

THE FIGHT AGAINST AN ANCIENT SCOURGE SHIFTS TO NEW BATTLEFIELDS.

**T**HERE IS A TENACIOUS LITTLE BUG that infects one in three people worldwide, hiding within their immune cells. Other microbes use the same strategy to evade detection, but this one is unusual because most of the two billion people who carry it don't even know it—and never will. One in 10 carriers, however, will get sick, and require months or years of persistent treatment with simultaneous doses of multiple antibiotics to be cured. A like number will appear healthy until, decades later, they suddenly fall ill of a long-latent and potentially fatal disease. Scientists who study the bacterium can't answer even the most basic biological questions about its life cycle—where does it hide for so long? why is it so hard to eradicate?—even though it has killed more people in human history than any other disease by far: one billion in the last century; two million last year. The microbe is *Mycobacterium tuberculosis*—TB for short—and it has, in the last 15 years, become increasingly resistant to antibiotics.

TB's resurgence as a serious threat to global health has brought together professors from Harvard's public-health, medical, and business schools to tackle the disease. Since the 1998 appointment of Barry Bloom, himself a TB researcher, as dean of the Harvard

School of Public Health (HSPH; see page 64), the University has assembled a deep bench of research scientists focused on the bacterium. And in the field, Harvard works with Partners in Health (PIH), a nonprofit founded to bring Western medicine to partner organizations caring for the world's poor; PIH offers clinical expertise in treatment strategies that have proven effective in even the most difficult circumstances.

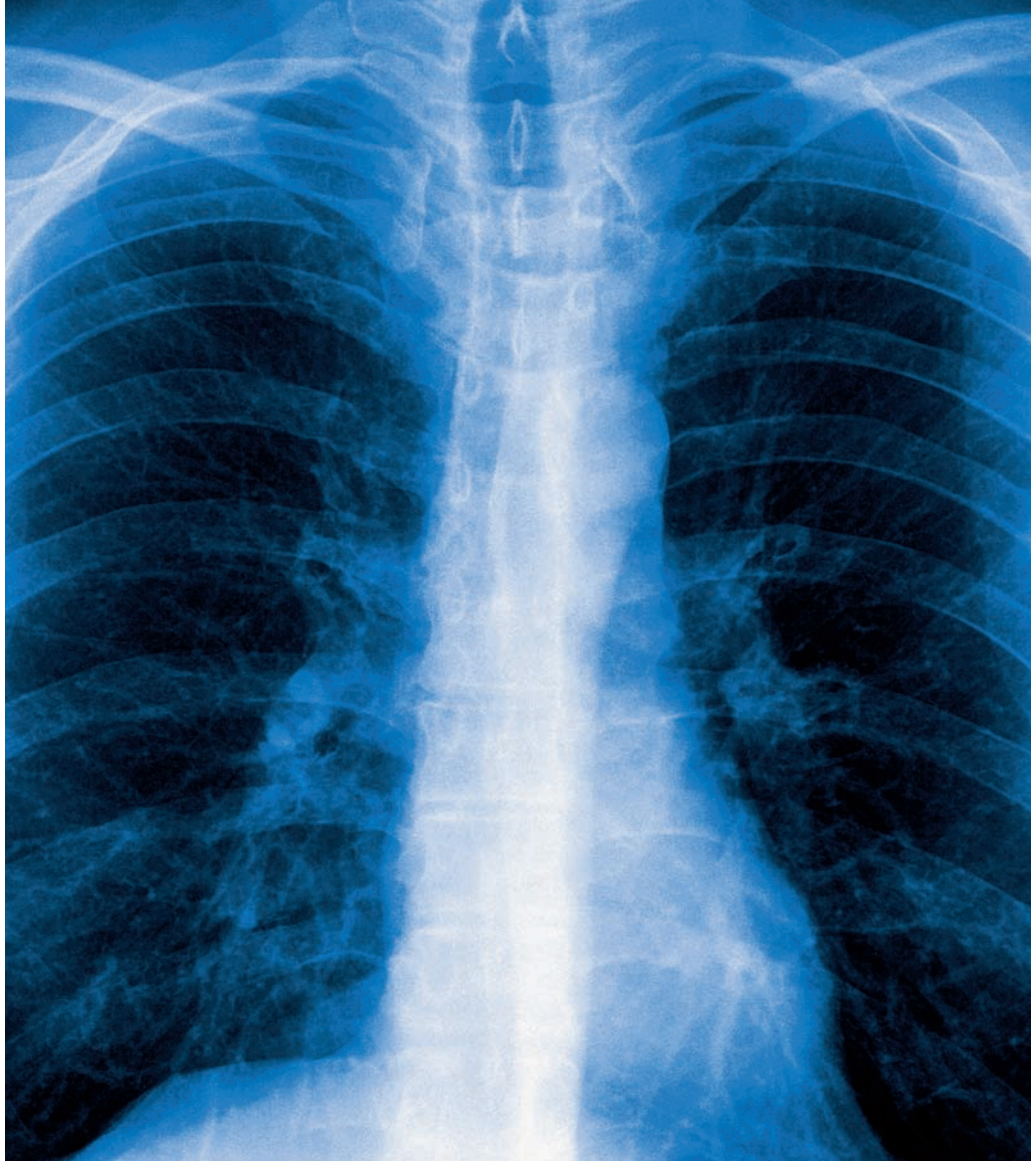
Yet TB presents a host of unsolved problems, ranging from the lack of a basic understanding of the bug's biology, to the absence of a simple way to diagnose infection, to the frustrating pace of vaccine and drug development, to complexities of clinical treatment. To make matters worse, TB synergizes with HIV wherever the two meet: each disease makes its carriers more susceptible to the ravages of the other. The impossibility of treating the two separately has underscored the need for a new way of thinking about the organization and delivery of global healthcare interventions.

## A Contemporary Killer's Reach

IN THE UNITED STATES, TB is often thought of as a nineteenth-century disease. Known then as consumption, in its pulmonary form it led to cavities in the lungs, weight loss, and slow death in 50 percent of cases. But TB can also infect the skin, bones, and other parts of

by JONATHAN SHAW





**Pale blotches on a chest x-ray (opposite) indicate pulmonary tuberculosis. Cavities form within these light areas. Healthy lungs (above) appear clear.**

the body. The hunchback of Notre Dame probably had tuberculosis of the spine. Today, in parts of the world where HIV is prevalent and antibiotics in short supply, the TB mortality rate and the rate at which it awakens from dormancy are soaring, while the number of drugs still effective against it is shrinking. In parts of the former Soviet Union, for example, drug-resistant strains now represent about 20 percent of all new cases.

Transmitted by the simple act of breathing, TB is a social disease whose spread is closely linked to the conditions in which people live and work. "It was the HIV of the 1600s," says Eric Rubin, an HSPH associate professor of immunology and infectious diseases. Poor ventilation, malnutrition, and cramped living and sleeping quarters aid in its transmission. The Industrial Revolution's factories, teeming with workers, brought unprecedented levels of urban density, creating ideal conditions for TB's spread. That pattern is being repeated in different parts of the world today: epidemics rage in China and India.

As living standards improve, however, rates of infection drop. In the United States and Europe, TB rates declined rapidly from the 1870s through the 1920s, even before the discovery of antibiotics. The "sanatorium movement"—the practice of sending patients to clinics in the mountains where they could breathe fresh

air—may have had something to do with that, says HSPH associate professor of epidemiology Megan Murray, in part because it isolated carriers. "But more likely," she adds, "the decline was caused by cultural and socioeconomic change: less crowding or lower vulnerability to infection."

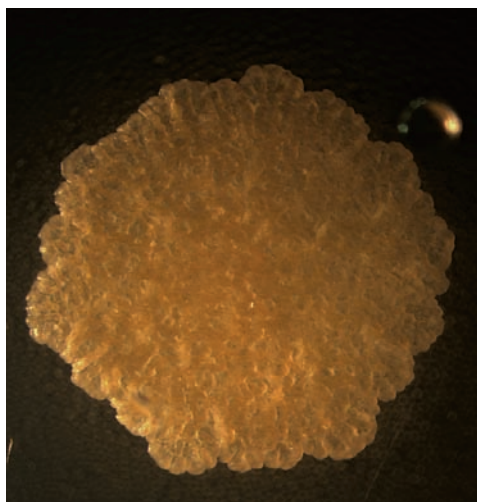
Sunlight can kill the bacteria, making open-air transmission rare. But TB spreads quickly in darkened mines, prisons, and even hospitals without proper infection control. Recent research, on which Bloom collaborated with Robert Modlin of UCLA, suggests that lack of sunlight may also compromise the host immune system's antimicrobial capabilities. Vitamin D, produced when sunlight hits the skin, appears to be a vital link in a chain that promotes secretion of cathelicidin, a powerful microbicide that may prevent TB infection by increasing a person's innate immunity. Lab studies have shown that dark skin pigmentation absorbs ultraviolet light and thus lowers Vitamin D production below the critical threshold level necessary to produce cathelicidin.

HIV makes people more vulnerable to TB infection. The origins of an epidemic that struck New York City in the late 1980s and early 1990s have been linked not only to increasing rates of HIV infection in the prior decade, but to fires. One study showed that as fire stations were closed, surrounding neighborhoods

began to fall into disrepair. An advancing “fireline” that discouraged reinvestment by landlords in these neighborhoods led to the destruction of 150,000 to 200,000 housing units. The consequence was a “vast internal migration”—about 600,000 people over a five-year period—to adjacent neighborhoods. The overcrowding that ensued made the city fertile ground for an epidemic. By the time the outbreak ended in the mid 1990s, the cost to control it had exceeded \$1 billion.

More recently, the ease with which TB can travel internationally overnight was underscored in May 2007 by the Andrew Speaker incident. Speaker, a young American diagnosed with drug-resistant tuberculosis, subsequently took multiple international plane flights as part of his wedding and honeymoon celebration. Although the likelihood of infection due to a single such exposure is low, and the prospect of a U.S. epidemic has seemed unlikely due to this country’s social and economic stability, “If you got on a plane,” points out Murray, “and sat by somebody who had extensively drug-resistant TB and coughed on you and gave you a disease that couldn’t be treated, you wouldn’t be happy about it.”

The average carrier infects 20 other people over the course of a lifetime, which suggests that the risk of transmission at any particular moment is low. But TB can be highly contagious—inhaling a single bacterium is enough to cause infection. In a carefully documented case in the United States, a young man passed the disease widely and rapidly to even the most casual of contacts: co-workers, people who had a meal with him, and even a person who stood near him for a few minutes at a bus stop.

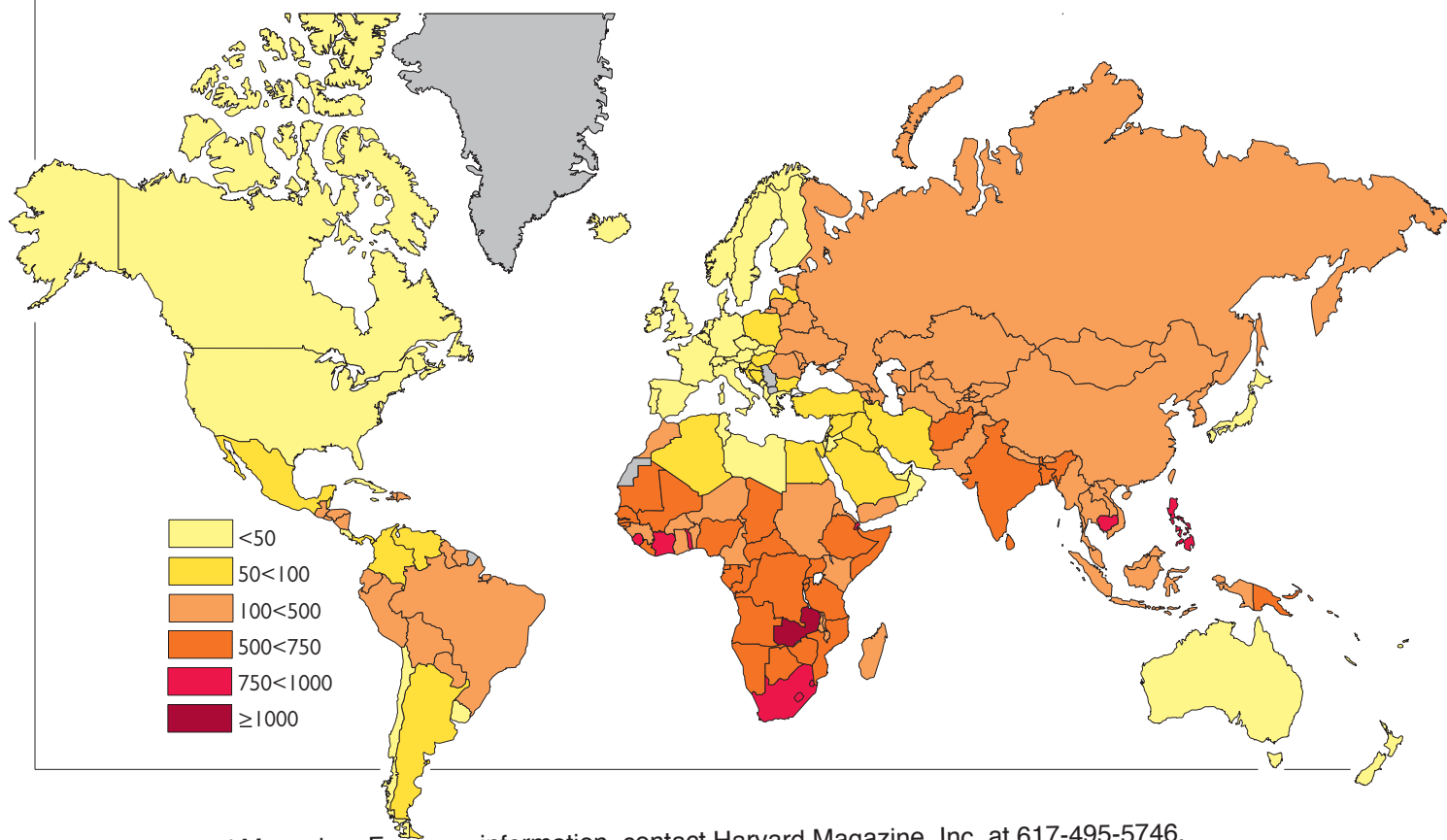


The symptoms at first are easy to ignore. A cough may be the only early sign of active pulmonary disease. Victims often experience fever, night sweats, and loss of appetite that eventually leads to weight loss. They may cough blood and grow fatigued easily, but in some countries, because of the social stigma associated with the disease, they may successfully hide their symptoms. In a quarter of cases, TB spreads from the lungs to infect other parts of the body, causing illnesses like scrofula, characterized by weeping sores of the neck, or Pott’s disease, which

causes a humpback.

Rapid diagnosis of TB infection is made using a skin test. But these tests are poor tools, because they can’t distinguish among active disease, latent infection, and disease that has already been cured with antibiotics. (A vaccine exists that protects children, but less so adults; its effectiveness reportedly varies from country to country for reasons that are not understood. It, too, causes a false positive skin test, so the fact that the vaccine is not used in the United States has proved an advantage in the control of modern TB outbreaks: it is easier to discover who really is infected.) The other diagnostic, the culture of sputum, is not only costly and slow, but even if the patient coughs up sputum, says Murray, “there is a reasonably good chance that the physician won’t actually get any bacilli.”

Treatment, meanwhile, is prolonged, and some of the drugs, particularly those used to treat resistant cases, are not tolerated well. Kidney failure, depression, and psychosis are among the most debilitating side effects.





# AN EVASIVE BACTERIUM

*MYCOBACTERIUM TUBERCULOSIS* REMAINS a black box, and scientists have begun to wonder if it operates by a different set of biological rules than those they are familiar with. Last year, the director of the National Institutes of Health awarded a special “New Innovator” grant to a young Harvard School of Public Health (HSPH) faculty member, Sarah Fortune, to investigate this possibility.

Fortune, an assistant professor of immunology and infectious diseases, asks how TB escapes detection by the immune system—a fundamental question with ramifications that extend all the way to the structure of treatment programs, whose difficulty reflects the complex biology of the bug.

“The canonical model,” she says, “is that TB goes into the macrophage [a form of white blood cell], is sequestered, becomes dormant and drug resistant, and lives there protected forever.” But other bacteria, including those that cause salmonella, legionnaires’ disease, and typhoid fever, have “at least conceptually similar lifestyles in a protective vacuole in a macrophage,” and are treatable. Typhoid, for example, can be cured with ciprofloxacin in three days. With TB, she says, “It takes at least six months—nine if the case is latent.”

Furthermore, a typical macrophage lives only about two years, while latent TB can persist for 30. This implies that the bacteria periodically move on to other cells to escape the host animal’s immune response. “Malaria does something similar on a much smaller time scale,” Fortune explains. “You get waves of disease when the malaria is escaping and replicating, and then it becomes quiescent, whereas with TB, it is not clear that there are real expansions and contractions of populations.” The implication is that a very few bacteria become very adept at surviving in the host across generations.

The grand problem with *that* possibility, Fortune explains, is that it flies in the face of traditional evolutionary theory. Typically, bacteria resist host immune defenses or drug therapies by random mutation within *large* populations. Those few individual bacteria with genetic changes that make them resistant survive these selective pressures and found new populations. If their bacterial progeny face new pressure—a second antibiotic, for example—there is a chance, if they are numerous enough, that one or more will carry an additional mutation conferring resistance to the second antibiotic. But genome sequencing of drug-resistant TB strains carried out at the Broad Institute (in a project co-led by HSPH associate professor of epidemiology Megan Murray) suggests that TB has little genetic plasticity—all strains seem to share a basic blueprint—and doesn’t mutate especially quickly. “Is it mathematically even

possible,” Fortune asks, “that a few bacteria that mutate very slowly could actually develop resistance to eight antibiotics?” (as

strains of extensively drug-resistant TB repeatedly do). This suggests TB may use some other strategy to survive.

One possibility is horizontal gene transfer, in which whole “cassettes” of genes that confer resistance to environmental pressures are exchanged among bacteria. Many bacteria do this, including at least one species of *Mycobacterium*.

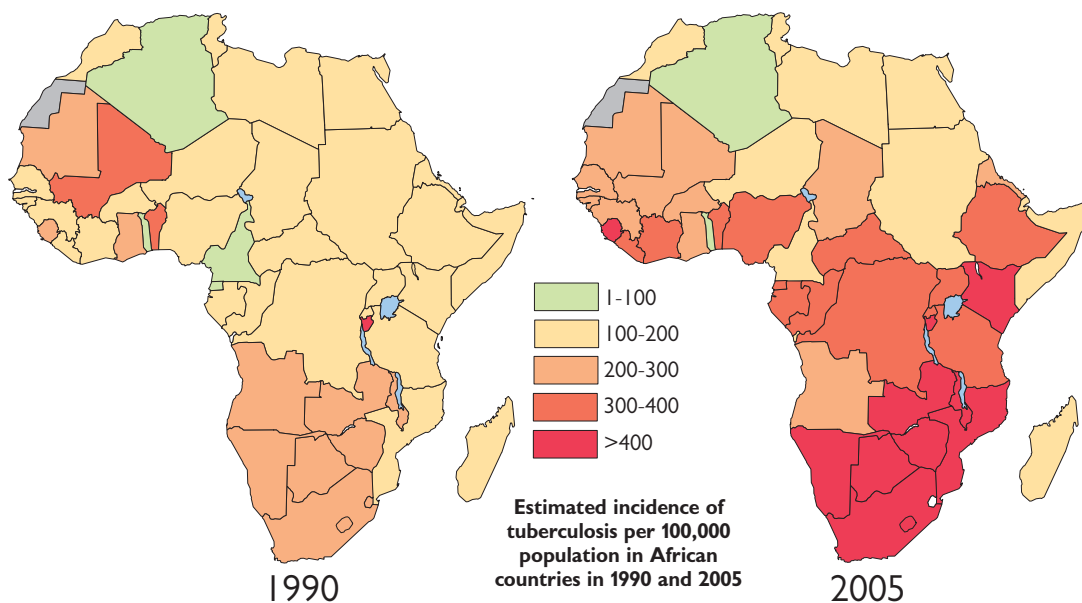
Fortune has chosen to investigate a different possibility. If there are generations of bacteria living in humans that somehow become drug resistant, but their numbers are too small to achieve this through random mutation and selection, she asks whether the ability to adapt to a changed environment can be acquired and then passed from one generation of bacteria to the next in ways that are not genetic. Mechanisms of “post-genetic” inheritance have been described in animals, plants, and fungi, and Fortune hopes to discover if TB uses them, too. That could explain the microbe’s ability to persist latently for decades even in people with healthy immune systems.

—J.S.

Sarah Fortune



“Is it mathematically even possible that a few bacteria that mutate very slowly could actually develop resistance to eight antibiotics?”



### A Recalcitrant, Adaptable Opponent

SIMPLY DOING TB RESEARCH is difficult as well, because there are few good animal models of the disease. Researchers can infect mice, but the disease takes a different course than it does in humans. Only macaques, which cost \$20,000 each, develop latent infection. And although cows get TB (the existing vaccine is based on *Mycobacterium bovis*), genetic studies indicate the bovine strain was contracted from humans thousands of years ago, not the other way around. In fact, it appears that *Homo sapiens* is the animal reservoir of the disease—which makes it harder to study in vivo.

Fortunately, in vitro analysis is thriving. Several Harvard labs are engaged in efforts to identify key components of TB's genetic makeup that could be targets for vaccines or drugs. Eric Rubin is working to establish which genes are critical to TB's survival—he estimates the number at about 800, any one of which could become the target of drugs. He has also discovered that a protein called resuscitation promoting factor, once thought to be a signal that woke TB from latency, is in fact involved in breaking down and making a

new cell wall for the bug when it replicates. These cell walls are a little unusual, he says. "The bacteria are covered by this huge, greasy coat—they're disgusting, and nothing can get in." Colonies of *Mycobacterium smegmatis*, a related mycobacterium, share this trait: in a petri dish they resemble lumps of fat—and smell like Limburger cheese.

"There may be a clue here," says Rubin. Although a thick lipid coating can't confer antibiotic resistance (only a genetic mutation can do that), it may increase the bacteria's tolerance—"meaning that for a certain amount of time, they're not killed by antibiotics, because you have to get drugs into the cell through that waxy coat." Rubin's lab has recently been able to demonstrate that such tolerance seems to originate in a subpopulation of the bacteria.

If scientists better understood the permeability of the cell wall, their drugs might be made more effective at killing the bacteria. "Nobody knows exactly how drugs get into a cell," Rubin notes. But his colleague and collaborator Deborah Hung, an assistant professor of microbiology and molecular genetics at Harvard Medical School (HMS) and a core member of the Broad Institute (a genomics research center), has been trying to define the rules that determine how small molecules (drugs) enter cells.

Taking a chemical biological approach to many of the same questions that Rubin studies, Hung has been testing a range of ideas. Because the mathematical assumptions underlying mutation and selection don't seem to explain TB's rapid acquisition of drug resistance (see "An Evasive Bacterium," page 41), Hung wonders if those assumptions are wrong. Maybe the bacteria mutate at a much higher rate in a host—where there are all kinds of pressures, from drugs or the immune system to lack of food or oxygen—than in a Petri dish. In humans who have been infected but whose immune systems successfully control TB, the bacteria are walled off in tiny nodules in the lungs called granulomas. Research has shown that little if any oxygen gets inside. Mimicking the hypoxic conditions inside a granuloma, Hung

has demonstrated such "hypermutable" in one species of *Mycobacterium* in low-oxygen environments. That, in concert with the protection bestowed by a thick lipid coating, might buy this group of bugs time enough to develop true genetic resistance to antibiotics. While Rubin searches for genetic controls that might switch such hypermutability

**Top: TB spreads easily in crowded prisons like this one in Moscow. Left: In Tomsk, Siberia, a healthcare provider monitors patient adherence to a lengthy, complicated drug treatment regimen through the UN-advocated program of "directly observed therapy." Far left: The emaciated appearance of TB patients gave the disease its nineteenth-century name: consumption.**





on and off, Hung takes an opposite, but complementary, path: she tests libraries of drugs seeking chemical compounds that will affect mutation rates. “Then we can use that,” she says, “to dig into regulatory pathways and mechanisms” that determine the TB organism’s success and life cycle.

But there are other explanations for TB’s adaptability, and Hung hopes to explore those, too. She has generated a lot of excitement advocating the idea that one might disarm a bug with-

### **“The policy argument was that drug-resistant TB might kill people, but it didn’t spread well.”**

out killing it. Antibiotics are a blunt, lethal instrument. Bacterial survivors are resistant. But if a drug targeted only the aspect of a bacterium that triggers disease, and not its survival, resistance to the drug would not be generated, a so-called “anti-virulence strategy.” Drugs would target only “the weapons or toxins that [the bacteria] need in order to cause disease,” rendering them harmless. “We’re covered with bugs that are benign,” Hung points out. “By not selecting for survival, you might not engender resistance in the same way.”

### **The Rise of Drug Resistance**

WITH SUPPORT FROM the Harvard Initiative for Global Health, basic scientists like Hung and Rubin meet monthly for a TB research seminar that draws on about 20 labs in the Boston area. At this year’s annual retreat, says their colleague Sarah Fortune, an HSPH assistant professor of immunology and infectious diseases, the group plans to bring in four or five heads of TB field sites from around the world to foster collaboration: “We are trying to enable the basic community to move ideas into the field and then give field sites access to the Harvard TB research community, advancing the translation of research into practice.”

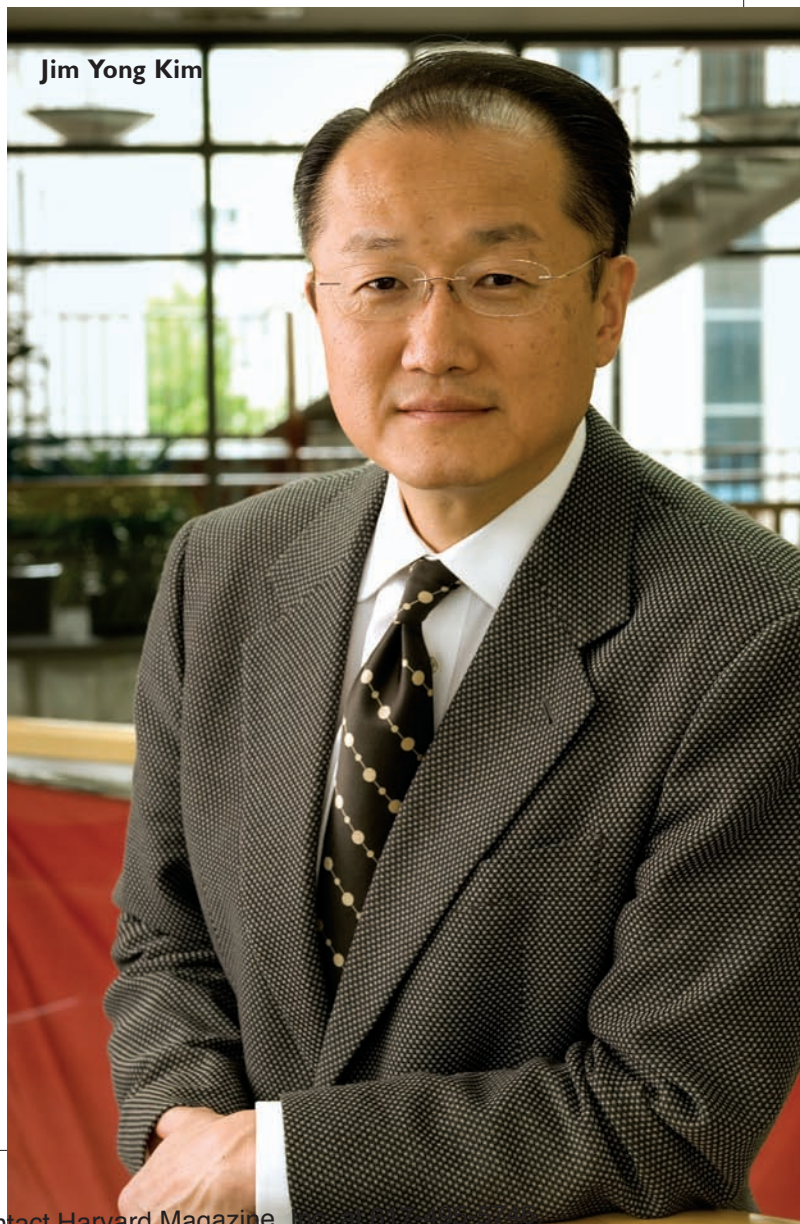
Harvard has deep connections with several of these field programs, the best known of which is Partners in Health (PIH), founded by Paul Farmer, now HMS’s Presley professor of social medicine. PIH treats patients in Haiti, Peru, Russia, Rwanda, Lesotho, and Malawi—and has encountered different strains of TB in each place. A \$14-million National Institutes of Health project led by HSPH’s Megan Murray is combining field studies of transmission in Peru (looking, for example, at the risk factors among people who get sick) with molecular laboratory analysis of the strains and epidemiological study of transmission and interventions. The project’s focus is multidrug-resistant (MDR) and extensively drug-resistant (XDR) TB, which are difficult and costly to treat.

Failure to recognize TB’s growing drug resistance was a hallmark of doomed global efforts to control the disease in the 1990s, and helped fuel the epidemics now raging in China, India, Russia, and Africa (see map of prevalence, page 40). In 1993, the World Health Organization (WHO) began advocating a new strategy for controlling TB worldwide—directly observed therapy-short course, or DOTS—which cut the time required for treatment from one to two years to six to nine months, and mandated that healthcare workers observe patients taking their medicines. By and large, the program’s results were excellent. “This was a good thing to promote,” Murray says, “but it didn’t identify or treat people with drug-resistant (DR) TB.” Simplicity

was an underpinning of the DOTS approach, and treating DR TB was thought to be too complicated and expensive, if not impossible. But the architects of DOTS had little reason to worry: the dogma was that any genetic change that caused drug resistance would also make the organism less fit and unable to propagate. “The policy argument was that drug-resistant TB might kill people, but it didn’t spread well,” Murray says.

The first contrary evidence appeared the very same year, when then-HMS junior faculty members Jim Yong Kim and Paul Farmer, the leaders of Partners in Health, were working on a small childhood-nutrition project in Peru, hoping to expand PIH’s impact beyond its original base in Haiti. The two went at the invitation of a friend, a Catholic priest who had moved to Lima from Roxbury. When he fell ill, they sent him to Boston for treatment, where he died of what turned out to be a drug-resistant strain of tuberculosis.

“At around that time,” says Kim (now professor of social medicine at HMS and Bagnoud professor of health and human rights at HSPH), “in the northern Lima community where he had been living, we started finding people dying of TB—in the middle of what was supposed to be the best TB control program in all of the developing world.” Almost immediately, they thought, “This has



**Jim Yong Kim**

to be drug resistance.” They began going house to house, patting residents on the back and getting them to cough into a cup. Back in the United States, lab analysis of the sputum confirmed their suspicions. This was resistant disease, and clearly, as the death of

## “We started finding people dying of TB—in the middle of what was supposed to be the best TB-control program in all of the developing world.”

their friend proved, it was being transmitted. “The DOTS protocol without question is one of the great public-health achievements of all time,” Kim says. “It took countries from random, chaotic treatment to an organized approach that had much better results. It detected and cured many, many more patients.” But when initial treatments with first-line drugs failed, DOTS called for adding a single additional antibiotic. “The one thing you never do in TB treatment,” says Kim, “is to add a single drug to a failing regimen—never. If you do, the great risk is that you are going to develop resistance to that drug as well.”

At the time, drug-resistant tuberculosis was considered too difficult and too expensive to cure in resource-limited settings. Kim and Farmer’s answer was to increase the pool of resources by making sure the whole world knew what was happening in

Peru. They also developed lower-cost treatment protocols, using mostly community-health workers and nurses, and in their first cohort of 45 patients, achieved a cure rate of more than 80 percent. When they presented their results at the American Academy of Arts and Sciences in 1998, WHO leaders were astounded, and soon adopted a new policy dubbed “DOTS plus” that allowed for treatment of MDR TB.

Still, the cost of the necessary drugs was high, as critics of their “healthcare for all” approach frequently pointed out. In 1999 Kim went a step further, and worked to get TB drugs, all but one of which were off-patent, manufactured inexpensively in China and India. Eli Lilly and Company, which makes two of the most important drugs for MDR TB, made large donations of these drugs, transferred the technology to China, Russia, and Africa, and trained people in those countries to make the drugs, spending \$200 million on the effort—“pure philanthropy,” Kim says. In a single year, the cost of treatment dropped 95 percent, from \$25,000 to as low as \$1,500 per patient. Says Eric Rubin, “Jim, as much as anyone, is responsi-



## TACKLING TB IN THE FIELD

LESOTHO IS A COUNTRY of breathtaking beauty and heart-breaking poverty. The twin epidemics of HIV and drug-resistant tuberculosis may also make it the site of the most devastating pandemic of the twenty-first century.

I am in the capital, Maseru, wearing a face ventilator and standing with Partners in Health (PIH) director Jim Yong Kim—professor of social medicine at Harvard Medical School and François-Xavier Bagnoud professor of health and human rights at the Harvard School of Public Health—outside a new 24-bed hospital devoted to the most serious and infectious of Lesotho’s extensively (XDR) and multidrug-resistant (MDR) TB patients. It is Kim’s first visit in more than a year, and the PIH hospital, four months old and the first in the country with state-of-the-art infection control, bears witness to the devastation of the disease.

Take Molahlehi (not his real name), a patient on the wards who used to work in the South African mines. HIV-positive and now, after intermittent and incompetent treatment for tuberculosis, resistant to all of the most important drugs, he is a classic XDR TB case. The stigma associated with his condition is such that his village won’t have him back, nor would his children when he tried to return home over Christmas. He called PIH to pick him up again when he realized the extent of his isolation. While PIH is caring for his family members (his wife left him) and educating his village about his condition, PIH’s MDR-TB program director, physician Hinda Satti, is praying that he will respond to treatment. The outlook is grim; a cure rate of 50 percent is deemed the highest success.

“These are, hands down, the most complicated patients I’ve

treated in my life,” says Jen Furin, PIH’s country director in Lesotho and a physician at Harvard-affiliated Brigham and Women’s Hospital in Boston. Furin has worked on MDR cases at PIH sites from Haiti to Peru. But in Lesotho, where the incidence of HIV and TB coinfection is among the highest on earth, the patients are far sicker—and far more likely to stay that way.

The challenges extend far beyond clinical treatment of the condition. As patients move from the hospital wards to PIH-run halfway homes, and, finally, back to their villages, community health workers trained and employed by PIH help them navigate their twice-daily drug cocktails—more than 20 pills a day for many, for a minimum of two years—and educate community and family members.

The success thus far has been astonishing. Of the 94 patients who have made their way through the wards since November, Satti says, not one has defaulted on therapy. The hospital is already attracting international attention: a contingent of doctors from the South African province of KwaZulu Natal—doctors who, given their own country’s wealth, medical infrastructure, and history with XDR TB, should be training Basotho (as citizens of Lesotho are called)—were learning from the hospital staff the day I arrived. And Kim, after visiting the newly reno-





ble for driving down the prices of drugs that are required to treat MDR TB—personally responsible—even though he wouldn't take credit for it."

In 2000, with a \$45-million grant from the Bill and Melinda Gates Foundation, Kim and Farmer scaled up PIH's program. Today, the Peruvian government has taken it over and everybody has access to care. "Half the people who have been treated for drug-resistant TB in the developing world have been treated in Peru," says Kim. "That is the one place where we really achieved universal access to MDR TB treatment. It doesn't yet exist in other places."

Yet even as their efforts in Peru were rewarded, a new disaster loomed. In a 2000 report funded by the Soros Foundation, PIH predicted that the problem of drug-resistant tuberculosis was going to explode in two places: "South Africa, where TB and HIV were coming together," Kim recalls, and in the former Soviet Union, "where there were huge prison populations, the health systems had been destroyed, and there was a long history of using single drugs" for treatment. Still, there were some who argued that DR strains would never become a big problem.

Eight years later, the development of clusters of new cases indi-

cating active transmission of rampant drug-resistant disease in both places has essentially settled the matter, and genetic work has confirmed that they do maintain fitness: after a mutation confers drug resistance, some of the resulting strains remain fully capable of reproducing and infecting new patients, while others are enfeebled. The fit strains survive and soon grow to become a significant proportion of cases in a population. At the molecular level, the bugs that acquire mutations conferring drug-resistance *are* weakened at first. They languish and fail to divide and reproduce as well as normal strains. But these sacrifices in function don't appear to last long. Within a few bacterial generations, compensatory mutations at other locations in the genome rescue the bug and restore its vigor. Megan Murray, with the support of HMS professor of systems biology Eric Lander, director of the Broad Institute, and a team of Broad scientists, has been sequencing some of these drug-resistant strains to ascertain what makes them hard to kill.

"Two years ago," Lander says, "the greatest barriers to progress were technology and the lack of communities of young scientists who were committed to these problems. Both of those things are changing, so now it is a question of all of us putting our support behind this generation of visionary scientists." He predicts that "in the next five to 10 years we will understand the processes that TB uses both to infect us and to avoid our immune system and our drugs. That doesn't mean we are going to cure TB, but it is an amazing foundation."



**In Lesotho, Partners in Health (PIH) has set up a modern laboratory and treatment center for the care of patients with drug-resistant TB. Many are also infected with HIV. Clockwise from left: At a rural clinic, PIH's Jen Furin admits a patient with AIDS, TB, and meningitis; a recovering TB patient lives in a home near the hospital where doctors monitor her care; PIH leader Jim Kim (right), with Furin (center), meets Moses Phakis, a local clinic administrator, in Bobete; Kim in the new PIH-affiliated hospital pharmacy in the capital, Maseru.**

vated TB and microbiology lab (which eliminates sending specimens to South Africa for testing), was as excited by its capacity to help Lesotho as by the precedent set for other countries: "I was talking to the director of the TB department at the World Health Organization about your work here," he raved to lab head Mathabo Mareka, "and he is so excited about it."

As important as these TB projects are to PIH's healthcare-de-

livery and capacity-building efforts in Lesotho, they are far from the whole story. Unlike organizations that pursue narrower aims or are restricted in their use of funds, PIH owes some of its success to its commitment to comprehensive care: not just to the most serious XDR cases, but to any patient in need.

I encounter a vivid example on a visit to a patient with Furin. We are idling in our car along a rain-washed road, lost in the sea of shacks and shanties outside Maseru, looking for a six-year-old boy, Molise, whom we saw earlier in the week. HIV-positive and rail-thin, he hasn't been able to walk since dislocating his knee last year. His hands are swollen and elongated from shuffling around, crab-like, on the ground; his leg, permanently skewed to the side, is unusable. If PIH had a mandate, that leg would likely fall outside it. But Furin has a plan to fix not just the leg, but the leg and everything else.

An hour passes before Molise, wearing shorts and a shirt provided on our last visit, crawls excitedly toward us. As Furin examines the boy on her knee, for a moment the hospital wards, the dying Basotho isolated in the mountains, the pandemic quietly sweeping southern Africa—all fade into the humanity of the child's grin. "This [leg]," she says, the lines of exhaustion on her face fading briefly into a smile, "this is actually something, something that's savable." ~SAMUEL BJORK

*Ledecky Undergraduate Fellow Samuel Bjork '09 filed this report from Africa, where he worked in a Botswana AIDS clinic from August 2007 until March 2008.*

## Bringing Management to Global Medicine

IN THE MEANTIME, stopping the spread of resistant strains will require great care. “Ultimately, what drug-resistant TB and HIV are going to force us to do is develop a new field,” says Kim. “[Present] treatment is just too complicated.” Patient care must be coordinated among doctors and across institutions, he believes, in order to achieve the same kind of professionalism in the field of delivery as exists already in research science and clinical medicine.

This conviction has driven him to look beyond medicine and public health for strategic expertise in management. In 2007 he asked Lawrence University Professor Michael Porter of Harvard

**Some doctors “see a problem as a series of patients. Jim’s a doctor, but he sees this as an organizational problem....It’s the non-sexy part of delivering care to people, and TB is full of that.”**

Business School, who has conducted extensive studies of the U.S. healthcare system, for help.

“There are a tremendous number of people who are doing biomedical research,” Porter points out, “including a growing body of people who are focusing on diseases that are most common in poor countries. And that is a very good thing. There is also a lot of clinical research that [looks at] comparative effectiveness.” PIH has been doing this kind of work intensively for the last 10 years: research around the treatment of TB, how it’s spread, how it’s treated, how patients should be managed. But now, what Kim is saying—“and what I completely embrace as well,” Porter says—“is that those things are important, but they are not going to be enough.”

The problem in global health, Kim has persuaded Porter, is much less about medical science and much more about the capacity to think strategically and systemically about how to deliver care in resource-poor settings. “Care is fragmented into hundreds and hundreds of little organizations,” Porter explains, and is focused on interventions that are “not coordinated across diseases and medical conditions.” Success is measured “more in terms of volume—how many tests, how many drugs given—than actual value, [which is] how well the patient did.” “Delivering bed nets,” says Kim, giving an example, “is not the same thing as saying people should be healthy and [free] from malaria over the long run. If your goal is just to deliver a bed net, you could deliver a bed net and everyone could be dead.”

Porter says the key to designing a system is capturing efficiencies and effectiveness. TB is a good example, because it often occurs together with HIV. “What you learn,” he says, “is that you need to treat the two together. You can’t have a separate system for HIV and for TB. You’ll end up dramatically reducing the value that you are delivering. And maternal health can be very closely integrated with HIV/AIDS treatment, increasing the ability to detect cases before the problem starts to proliferate.”

Already, PIH has replicated its success in Peru and Haiti in other countries. In Russia, “we bring the heads of TB programs in prisons and civilian sectors into a single place, and then most of the teaching is done by our colleagues from Siberia,” Kim explains. “After years of working intensely with our own doctors, who themselves learned in Peru, they are now the best teachers of drug-resistant TB management in all of the former Soviet

Union. And they do it in their native language.” PIH’s most recent expansion was into Lesotho, where more than 80 percent of the TB patients they see are coinfecting with HIV (see “Tackling TB in the Field,” page 44). But Rwanda is where Kim hopes PIH, led by Paul Farmer and fellow physician Michael Rich, the country director, can build with Porter’s help a model system for health delivery that could eventually be used anywhere in the world.

Kim sums up the motivation behind this push very simply: development of new drugs and vaccines is great, but “We’re not even delivering the existing products.” In Rwanda, Farmer, Kim, Porter, and Megan Murray are working together to develop a shared delivery infrastructure that will be flexible enough to tackle many problems at once: HIV, TB, malaria, maternal and child health, sexually transmitted infections, and even chronic diseases.

“Jim’s unique genius is management,” says Rubin, the molecular biologist. Some doctors “see a problem as a series of patients. Jim’s a doctor, but he sees this as an organizational problem, and he is right. It’s the non-sexy part of delivering care to people, and TB is full of that. How do you get the drugs to the neighborhood clinics and into people’s hands? How do you make sure there is a continuous supply of it in a place where there’s a war, or no roads? No refrigerators? How do you make sure that it doesn’t age out while sitting on a shelf at 95 degrees?”

Academic institutions have to be involved, Kim argues from experience. From 2003 to 2006, he worked for WHO in Geneva, first as the director-general’s right-hand man, and then as head of the organization’s HIV program. “I really got a sense for the power of the multilateral system,” he says. “When the director-general gets behind something and pushes it—it’s change.”

But the view from the top of WHO also gave him a keen sense of what these kinds of government organizations *can’t* do. “The UN institutions aren’t equipped to take on problems of this complexity,” he says, and management consultants aren’t set up to share and publish and teach what they learn. Working with a debilitated system in Rwanda, where existing institutions were destroyed by war (and where Porter is serving as an economic adviser to the president), Farmer and his local team are trying to build a healthcare delivery system that in some ways could be better than some health systems in the United States. “Harvard is absolutely uniquely placed to do this,” he says. “We have the medical school. We have the school of public health. We have the Kennedy School, and we have the business school. We need people who study systems every day to be side by side with us thinking this through.”

In the struggle against TB, there is a deep connection between what Kim and Farmer are now trying to do and the work of basic scientists. Both groups aspire to improve the lives of many, many people. In the case of “doctors who work with patients,” says Rubin, “their impact is necessarily limited to the people they deal with. Not many people want to do the really boring work, which is setting drug prices and making sure that roads get built. [But] that’s necessary. And that’s only a tiny bit of what Jim and Paul are ultimately interested in, which is having better health as part of an entire societal framework.”

*Jonathan Shaw ’89 is managing editor of this magazine.*



# JOHN HARVARD'S JOURNAL COMMENCEMENT 2008



From the top: Suitably propped are (from right) Joseph Foster Robbins '36 and his wife, Jayne, of Wenham, Massachusetts; Thomas Allen '36 and his wife, Judy Welke, of Newtonville, Massachusetts; Jeremy Gilmore; and the broom-brigade organizer, Gerald Gilmore '36, of South Orleans, Massachusetts. Masters of the theological studies Quardricos Bernard Driskell, of Atlanta, and Elizabeth Siwo-Okundi, a native of Kenya now living in Boston. Ana Vollmar '08, of the veggie-loving Dudley House Co-op and Hamden, Connecticut. President Faust addresses the alumni gathering.

TOP TWO: JIM HARRISON; BOTTOM TWO: STU ROSNER



## University Magic

A NATION AT WAR, an unsettled economy, a lengthy presidential campaign: inevitably, Harvard's 357th Commencement touched on some of these concerns. On Wednesday, June 4, President Drew Faust's remarks at the Reserve Officers' Training Corps com-

missioning ceremony necessarily addressed matters military—as did the graduate English address by Iraq veteran Anthony C. Woods at the morning exercises next day (see pages 53-54). Wednesday afternoon, principal Class Day speaker, Ben S. Bernanke '75, chairman of the Board of Governors of the Federal Reserve System, honored

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J.K. Rowling

his audience with a serious analysis of contemporary inflation, productivity, and monetary policy, even as Harvard Kennedy School's graduation speaker, Ellen Johnson Sirleaf, M.P.A. '71, a pioneering president of Liberia, noted another momentous event: "Who would have thought that a minority, albeit a Harvard graduate,

would change forever the American political landscape?" Barack Obama, J.D. '91, had clinched his party's presidential nomination the night before.

But Commencement at heart is a celebration of Harvard and a festive rite of passage for the students (of diverse ages and disciplines) who have entered to grow in wisdom. So it was this year as well.

Now 372 years old, the University showed its knack for newness in a fistful of firsts. The conferral of degrees began when Michael D. Smith, in his first Commencement as dean of the Faculty of Arts and Sciences, addressed "Madam President, Fellows of Harvard College, Madam President and Members of the Board of Overseers." The first degrees actually conferred by Faust as "Madam President" were to candidates from the School of Engineering and Applied Sciences—the University's newest school, elevated from divisional status just last autumn. (Presenting dean Venkatesh

Narayanamurti's first appearance in the role was also his last; he steps down in September.) Other newcomers included the deans of the Graduate School of Arts and Sciences, Harvard Medical School, the Graduate School of Design, and—in her first week in office—Harvard College (Evelynn M. Hammonds, the first woman and African American to hold the post).

Hinting at things to come, Faust invoked the power of ritual twice during the morning ceremony. She had to admonish the cheering Ph.D. and Kennedy School candidates to wait for their moment, saying to the former, "I'm not done!" and telling the latter, "I have to say the words!" Conferrals of degrees, like magic spells, must be done strictly to form.

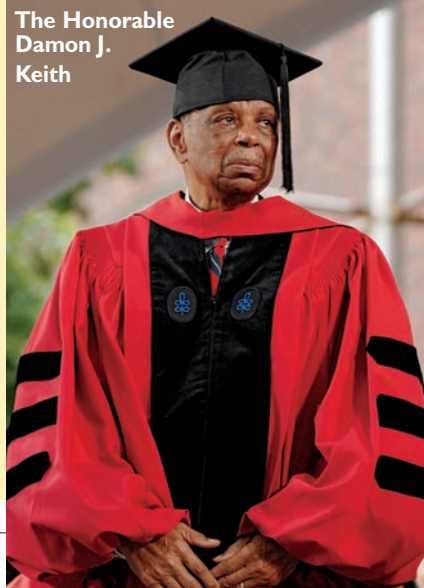
Otherwise, the events proceeded like a finely tuned clock, despite ex-

## Honoris Causa

Three women and seven men received honorary degrees at Commencement. Provost Steven E. Hyman introduced the honorands, and President Drew Faust read the citations, in the order below. At a dinner the evening before, Faust noted that an honorary degree had also been voted to former Faculty of Arts and Sciences dean Jeremy R. Knowles, who died on April 3 (see page 69); she was able to tell him last winter that he had been so recognized. Faust called for a moment of silence and thanksgiving in his memory at the beginning of the morning exercises. She also an-

nounced on both occasions that the University had voted to award a degree to Edward M. Kennedy '54, who had intended to attend the dinner and the morning exercises but could not after undergoing surgery on June 2 for a malignant brain tumor; the degree is to be awarded at a later date. Faust cited Kennedy's 45 years of "able, energetic, and influential" service in the U.S. Senate, particularly his advocacy for education and higher education.

The Honorable  
Damon J.  
Keith



Eric R. Kandel '52. A University Professor at Columbia, he is a pioneering neurobiologist who shared the 2000 Nobel Prize for Physiology or Medicine. Doctor of Science: *In the synapses of sea slugs and the hippocampi of mice and men, he fathoms the mechanisms of memory and illumines the biology of mind.*

Gerda Lerner. The University of Wisconsin's Robinson-Edwards professor of history emerita, she is considered the founder of women's history, and established the first graduate program in the field, at Sarah Lawrence. Doctor of Letters: *Fusing*



Wen C. Fong

life and thought, resilience and brilliance, she has unveiled the deeds of ordinary yet extraordinary women, forever altering the future of the past.

James P. Comer. The Falk professor of child psychiatry at the Yale School of Medicine, he created the School Development Program, which applies principles of child development to advance students' learning and healthy growth in formerly troubled schools. Doctor of Laws: *Eminent expert on child development, he enlists family and community to enhance the culture of education, reshaping schools as new havens of learning.*

Wen C. Fong. Sanford professor of art history emeritus at Princeton, he helped establish the nation's first doctoral program in Chinese art and architecture; its graduates hold leading teaching and curatorial positions worldwide. Doctor of Arts: *Opening the eyes of the West to the art of the East, in the painter's hand he sees the heart's desire, and in the beauty of brushstrokes the breath of life.*

Wen C. Fong. Sanford professor of art history emeritus at Princeton, he helped establish the nation's first doctoral program in Chinese art and architecture; its graduates hold leading teaching and curatorial positions worldwide. Doctor of Arts: *Opening the eyes of the West to the art of the East, in the painter's hand he sees the heart's desire, and in the beauty of brushstrokes the breath of life.*



Exulting are Graduate School of Arts and Sciences class marshals, Dudley House Fellows, and new Ph.D.s Ernesto Martínez of El Centro, California (anthropology), Priscilla Song of Solon, Ohio (anthropology), and Zeba Wunderlich of Princeton, New Jersey (biophysics).

traordinary recognition for two individuals and the awarding of fully 10 honorary degrees (see below). The celebratory peal that regularly booms from the Memorial Church belfry at the end of the morning ceremonies was absent; it's timed for 11:45 A.M., when the exercises have previously ended. This year, relieving the damp and chilly throng, they ended 15 minutes early.

IN HER INSTITUTIONAL ROLE, Faust closed the academic year by reprising a theme from her installation address last October (see "Twenty-eighth, and First," November-December 2007, page 54). Then, she



said, "The essence of a university is that it is uniquely accountable to the past and to the future—not simply, or even primarily, to the present." This Commencement afternoon, she addressed head-on what she called Harvard's "public boundary" and, in particular, "questions about the role and purposes of universities"—as exemplified by congressional queries about academic finances and endowments; lessened federal funding for research; and heightened discussion about the costs of and access to higher education.

Endowments, Faust said, "represent a

concrete embodiment of our accountability to the past and to the future. They derive from our history and the dreams of those who have preceded us; they are in turn the vehicle that enables us to project our own dreams into the future.

"The endowments at Harvard and other great universities," she continued, "have cre-

**John McCarthy.** Professor of computer science at Stanford, he has studied artificial intelligence since 1948, and coined the term itself in 1955. He was awarded the National Medal of Science in 1990. Doctor of Science: *A cardinal scholar of computer science, whose forays logical and algorithmic serve as source code in the quest to make machines think.*

**Janet D. Rowley.** The Blum-Riese Distinguished Service Professor at the University of Chicago, in 1972 she discovered the causal relationship between genetic translocations and cancer. She received the National Medal of Science in 1999. Doctor of Science: *Sage cytogeneticist of the Second City, whose transformative work on chromosomal translocation marks a triumph in translational medicine.*

**The Honorable Damon J. Keith.** U.S. Court of Appeals Judge for the Sixth Circuit since 1977, now on senior status, he has written important decisions on employment discrimination, school desegregation, and civil rights, including the ruling in *United States v. Sinclair*, which prohibited warrantless wiretapping. Doc-

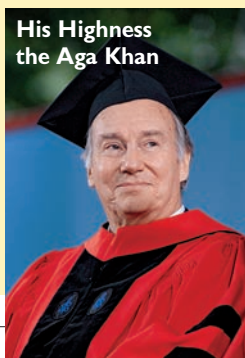
tor of Laws: *Avatar of independence, champion of equal justice under law, a just and humane jurist who has shared and shaped the action and passion of his time.*

**Daniel C. Tosteson '46, M.D. '48.** The Walker Distinguished Professor of cell biology served as dean of Harvard Medical School from 1977 to 1997, transforming the curriculum and advancing fundamental research. Doctor of Science: *Dean of his era's deans of medicine, a pathfinding educator and generative force in research fervently focused on easing the burden of human disease.*

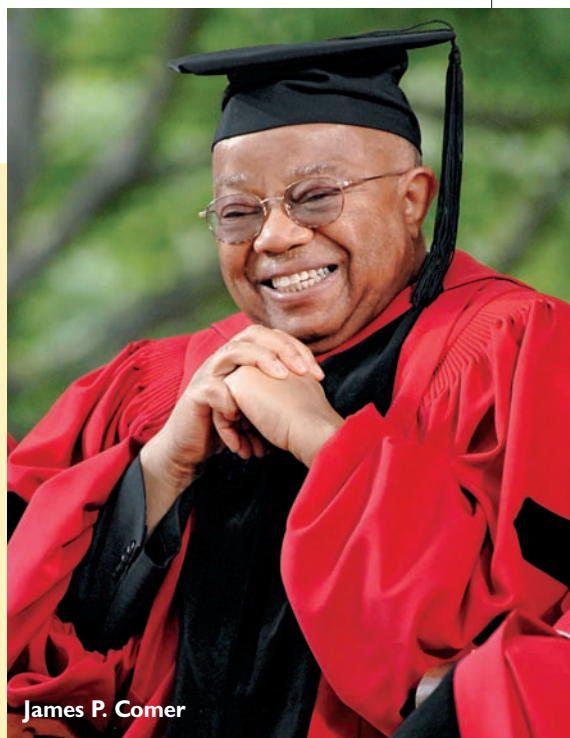


Janet D. Rowley

**His Highness the Aga Khan '58, G '61.** In his junior year, he became the forty-ninth hereditary imam of the Ismaili Muslims. The Aga Khan Development Network has improved living conditions and fostered pluralism and democracy in developing na-



His Highness the Aga Khan



James P. Comer

tions, building bridges between the Islamic world and the West. Doctor of Laws: *Imam of the Ismaili Muslims, visionary exponent of education and development, whose abundant good works and eloquent words create hope for understanding across ancient divides.*

**Joanne Kathleen Rowling.** She is known to and beloved by hundreds of millions of children of all ages, thanks to her seven *Harry Potter* books, now translated into 65 languages. Doctor of Letters: *A wizard with words whose spellbinding tales enchant millions of Muggles with a love for the magic of reading.*



# JOHN HARVARD'S JOURNAL

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ated a system of higher education that is the envy of the world. It has opened doors of opportunity ever more broadly; it has generated powerful new understandings about human nature and the world we inhabit; it has fueled revolutionary advances in science; it has helped drive economic growth and expansion in our nation and the world." Were those resources diminished, she said, "we would have to do less—less research, less teaching, at a lesser level of quality—or we would have to generate more income from other sources—tuition increases or external funding." Now, when "knowledge is increasingly important, our accountability to the future challenges us to do not less, but ever more..." (The speech appears at [www.harvardmag.com/-commencement](http://www.harvardmag.com/-commencement); for more on these issues, see page 65.)

FAUST HAD AD-LIBBED that she was "the warm-up act," referring to her successor at the lectern, J.K. Rowling. And indeed, the *Harry Potter* author cast her spell over Harvard—although perhaps not as her fans expected.

The University had prepared for her arrival. The Wednesday banquet for honorands in Annenberg Hall usually features dozens of small tables; this time, guests dined in long rows—a bow to Hogwarts. When it came time for her to speak on behalf of the other honorary-degree recipients, Rowling said, "I never dreamed that Harvard would feel so familiar." She said that Harry Potter's magic broom had carried her around the world to unexpected places, but that this honor was "the greatest and most intimidating"—a disarming admission. (Asked the next morning about the unfolding graduation scene, Rowling replied, "It's a little better organized than Hogwarts, I'd say.")

Much of the week's best rhetoric focused on a potentially hackneyed subject: what sort of people the privileged new graduates would become. Faust had fresh things to say in her Baccalaureate talk on Tuesday afternoon, and Bernanke ended his academic text on a personal note, addressing the same concerns (see pages 54-55).

But Rowling, to whom both unimaginable wealth and celebrity had come unex-

pectedly, seemed to model the matter even more directly. At the chief marshal's Commencement luncheon, she recalled that when filmmaker David Heyman '83 (whose firm produces the *Harry Potter* movies) approached her on Harvard's behalf to offer an honorary degree, she asked for a week to think it over. That she had accepted meant "I was more honored than terrified." Three hours later,



**Celebrants (from top right):** Theresa Cheng of Myrtle Beach, South Carolina, and Matthew "Hezzy" Smith of Mountainside, New Jersey, both of Quincy House; Maliheh Paryavi of Shiraz, Iran, who earned an M.P.A. in international development from the Kennedy School; and M.B.A. candidates Reagan Grabner (left), of Bickleton, Washington, and Davidson Severn, of Yakima, Washington.

Rowling won over the Tercentenary Theatre crowd, confessing, "I have wracked my mind and heart for what I ought to say to you today."

It is Rowling's gift (see page 55) to draw universal life lessons from her own discoveries—of personal failure "on an epic scale," and, from a day job at Amnesty International, "evidence about the evils humankind will inflict on their fellow humans, to gain or maintain power." And yet, "I also learned more about human goodness...than I had ever known before." Of those who "prefer not to exercise their imaginations at all," who "choose to remain comfortably within the bounds of their own experience," Rowling said, "I do not think they have any fewer nightmares than I do....I think the willfully unimaginative see more monsters."

Quoting Plutarch, she said, "What we achieve inwardly will change outer reality." In a final challenge, the 42-year-old Rowling—seeming too young and too slight for



JIM HARRISON



STU ROSNER

the weight of her words—told the graduates, "If you choose to use your status and influence to raise your voice on behalf of those who have no voice; if you choose to identify not only with the powerful, but with the powerless; if you retain the ability to imagine yourself into the lives of those who do not have your advantages, then it will not only be your proud families who celebrate your existence, but thousands and millions of people whose reality you have helped transform for the better. We do not need magic to change the world, we carry all the power we need inside ourselves already: we have the power to imagine better."

In honoring Rowling for igniting in millions the passion to read, Harvard discovered that it had also welcomed a teacher beyond compare.



# Commencement Confetti

*An omnium-gatherum of notes and statistics, vital and otherwise*

## HARVARD HUMOR

Self-deprecation was much in style this year. Dampening the spirits of already drenched seniors on Class Day, Ben S. Bernanke '75, Federal Reserve Board chairman, recalled, "Our speaker in 1975 was Dick Gregory, the social critic and comedian, who was inclined toward the sharp-edged and satiric. Central bankers don't do satire as a rule, so I am going to have to strive for 'kind of interesting.'" Honorand J.K. Rowling told the afternoon exercises audience, "Not only has Harvard given me an extraordinary honour, but 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!" (In a comment for the Facebook generation, she also said about her college friends, "At our graduation we were bound by enormous affection...and, of course, by the knowledge that we held certain photographic evidence that would be exceptionally valuable if any of us ran for Prime Minister.")

## FUN PROHIBITED

The College class of 1983 reunion committee issued this advice to members planning to return to Cambridge: "While we understand that children are excited about the presence of J.K. Rowling on campus, we discourage strongly their attendance at the afternoon Annual Meeting of the Harvard Alumni Association. It will not be a child-oriented event and there will be no one-on-one time with the author of any kind. Most of us with children will be keeping



JIM HARRISON

**WARMING WARNING:** At the fiftieth-reunion symposium on societal and climate change, professor of biological oceanography James J. McCarthy illustrated his remarks with this polar-bear perspective on what is in store.

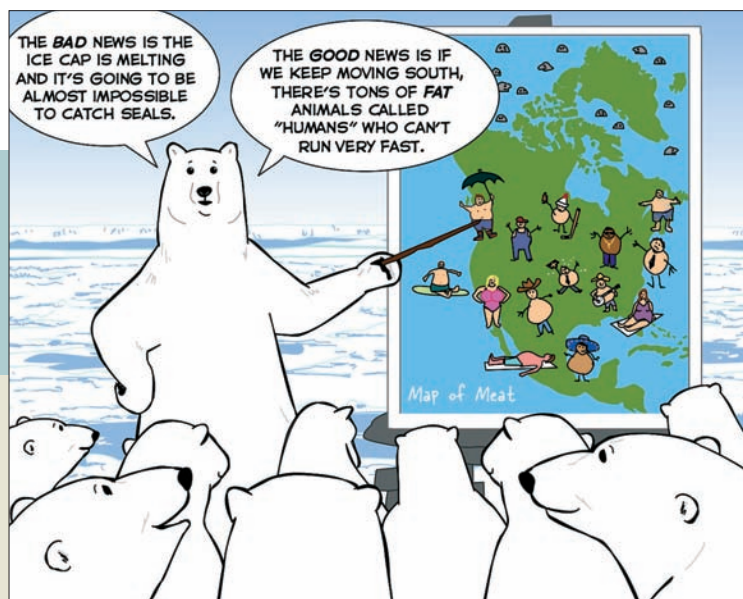
our kids in the superb children's program during the afternoon...." In light of the "focus on reflections on adult life" at the evening talent show, children were discouraged from attending that, too.

## INSIDER ORATORY

Chairman Bernanke's was the first known Class Day address with references (including a paper from the *German Economic Review*) and footnotes; note 7 identified "Harvard's introductory course in principles of economics" for the uninitiated. In a Baccalaureate twofer, President Faust assumed knowledge on her audience's part, alluding to

magic in its American aspect, and to a regular, raunchy undergraduate party: "Here I am in a pulpit, dressed like a Puritan minister—an apparition that would have horrified many of my distinguished forebears and perhaps rededicated some of them to the extirpation of witches. This moment would

**EVERY 343 YEARS:** Tobias Vanderhoop, M.P.A. '08, said he was the first Aquinnah Wampanoag man since Caleb Cheeshahteaumuck, A.B. 1665, to earn a degree from Harvard (see page 80; the two men are related.) He's a member of the tribal council and is returning to Martha's Vineyard to work for the tribe.



have propelled Increase and Cotton into a true 'Mather Lather.'"

## METEOROLOGY REPORT, U.K. STYLE

A late spring left campus lawns lush, with flowering things (rhododendrons and kousa dogwoods, honey locust



**WET WEAR:** Gathering on the Widener steps for their picture on June 4, members of the class of 1958 made good use of their reunion umbrellas—until they had to be furled so the photographer could capture the faces underneath.

trees and the yellowwoods specially planted in Tercentenary Theatre to blossom for Commencement) still abloom. The downside, of course, was late-spring weather: soaking rain on Wednesday, showers on Friday. Amid the gloom of Commencement day, as temperatures fell to 58 degrees, an observer remarked on the "English" mist, perhaps in honor of the principal speaker? A resident and a visiting

Briton promptly corrected that the weather was "Irish" or "Scottish."

NITROZAC AND SNAGGY



# JOHN HARVARD'S JOURNAL

## COMMENCEMENT 2008



STU ROSNER

**COVER BOY:** David C. Denison '75 and Gretchen Friesinger '75, then an associate editor of this magazine, lent their son to illustrate a wildly popular January-February 1991 article on college admissions. Now that Tom is A.B. 2008, he gets his own subscription.

### AN EXILE'S COMPLAINT

Twenty-fifth reunioner Marie Bellantoni, of Baltimore, an endocrinologist, revealed a flaw in her

Harvard housing: "I was in Hurlbut my first year, and now they've stuck me in Greenough! I would have killed to be in the Yard. They better put me there for my fiftieth or I'll never give to Harvard again."

### "THE GREAT" ONES

Members of the fiftieth reunion class wore white hats emblazoned with the words "The Great 58" in red. James R. Houghton '58, M.B.A. '62, Senior Fellow of Harvard College, wore his hat as he marched into Tercentenary Theatre with classmates in the afternoon parade. "It feels very good," he said, to be processing—instead of standing on the steps of

Widener with his fellow Corporation members, greeting the reunion ranks.

### SECULAR EXERCISES

The Orator at the Phi Beta Kappa literary exercises, on June 3, was Steven Weinberg, Higgins profes-

sor of physics from 1973 to 1982, co-winner of the 1979 Nobel Prize, and now of the University of Texas. Given his title, "Without God," the exercises were conducted without benefit of clergy; the chaplain is expected to return next year. In a richly literary argument, Weinberg said that religious faith had weakened as science explained formerly "mysterious phe-

nomena," "cast increasing doubt on the special role of man, as an actor created by God," and sought authority not in an "infallible leader...or...a body of sacred writings" but in improvable expertise. He talked about "how it is possible to live without God," directing listeners to the beauties and pleasures of nature ("[W]hen bread and wine are no longer sacraments, they will still be bread and wine"), of art, and of humor.

### FEISTY FIRST BASEWOMAN

From Radcliffe Institute dean Barbara J. Grosz's introduction of Donna E. Shalala, president of the University of Miami and this year's Radcliffe Institute Medalist, on June 6: "A 2005 article in *U.S. News & World Report*... recalls another episode from her youth. 'When, in the summer of 1951, the college student who was coaching the local Annie Oakleys softball team wouldn't let Donna play first base, she bugged him until he gave in. 'What she lacked in size,' recalls the coach, one George Steinbrenner, 'she made up for in feistiness.'"

**TECH TALK:** As the Federal Reserve chairman delivered potentially market-moving remarks on inflation and interest rates during Class Day, they were immediately reported on the *Wall Street Journal* website (shown here) and other financial news sources. And in a bit of Web-address product placement, Harvard Graduate School of Education students, who in previous years waved children's books, this year flashed placards touting [www.EDin08.com](http://www.EDin08.com)—a school-improvement advocacy group backed by Rockefeller, Gates, and Broad philanthropies.



on the Yahoo! search to reveal a companywide severance plan. (Icahn's letter) 3:35 p.m.

### Bernanke Sees No Repeat of 1970s

Bernanke said that while he sees some echoes of the 1970s in "sharply" higher commodity and food prices mixed with subpar growth, a repeat of that decade is unlikely. (Remarks) 3:59 p.m.

- Video: WSJ's Ip on Bernanke's dollar comments
- Econ Blog: Bernanke's 'Kind of Interesting' Speech
- OECD Again Cuts U.S. Outlook

### Calif. Court Won't Stay Gay Marriage

California's highest court refused to



JUSTIN IDEHARVARD NEWS OFFICE

**THE OTHER FIFTIETH REUNION:** On May 31, more than 80 former residents, plus family, friends, and current residents attended the golden anniversary of the Dudley Co-op, the residence for undergraduates who seek a more informal living experience and prefer home cooking to House dining halls. Among those present was Adam Abroms '85, of San Luis Obispo, California—the first to paint above 3 Sacramento Street's entryway the designation "Center for High Energy Metaphysics."

### MISCELLANY

Harvard conferred 6,966 degrees and 104 certificates, among them 1,564 degrees to undergraduates completing their work in the College, 907 M.B.A.s, 588 J.D.s, and 542 Ph.D.s....President Faust got as well as gave degrees this graduation season: she received honorary doctorates from Penn, her alma mater, and Yale....With construction in Allston just begun (see page 61), Allston Development Group chief operating officer Christopher M. Gordon was already looking *beyond* the next half-century: he told a fiftieth-reunion panel that after an initial two-decade burst of accelerated building, Harvard would resume its normal rate of physical growth, using up the capacity to expand within 50 years.

STU ROSNER



JIM HARRISON

Steven Weinberg





## Talk, Part I: On Service to Country

AMERICA IS FIGHTING two wars. Related issues arose twice during the formal Commencement-week activities. President Drew Faust, addressing her first Reserve Officers' Training Corps commissioning ceremony on June 4, delivered a nuanced, historical analysis of the values guiding the University and the military—and the remaining division between them: the “don't ask, don't tell” policy that prohibits service by acknowledged homosexuals. In his graduate English address during the morning exercises the next day, Anthony C. Woods explained the effects of his personal journey from Iraq to the Harvard Kennedy School, from which he subsequently received his M.P.P. degree. Excerpts follow; complete texts and audio recordings appear at [www.harvardmag.com/commencement](http://www.harvardmag.com/commencement).

### “Principles We Must Strive to Extend”

*From an address by Drew Faust*

YOU HAVE OUR RESPECT for your choices, our admiration for your commitment, and our deep gratitude for your willingness to confront dangers on the nation's behalf in the months and years to come.

You are part of a glorious and long tradition of military service at Harvard. We are surrounded by memorials to Harvard's soldiers and officers. Memorial Hall commemorates those who lost their lives fighting for the Union in the Civil War—136 of them, honored on the plaques in its transept....Memorial Church, just behind us, was built in memory of the hundreds who died in World War I, including three Radcliffe women, out of the some 11,000 from Harvard who served with the Allied forces, and we have since added memorials to those who sacrificed their lives in World War II, Korea, and Vietnam. Harvard students and graduates continue to serve as leaders in our nation's military, still exhibiting courage and self sacrifice, in Iraq, Afghanistan, and around the world. And



At the ROTC ceremony, from left to right: U.S. Air Force second lieutenants Roberto A. Guerra and Michael J. Arth, U.S. Navy ensign John D. Reed, President Faust, and U.S. Army second lieutenants Jason M. Scherer and J. Danielle Williams.

perhaps few people know that Harvard established one of the very first ROTC programs in the country, formed during World War I....More than 1,000 students joined, and marched through Boston in a show of national “preparedness.”

I celebrate you on this important day, as you join these traditions and vow to support and defend the United States Constitution. The freedoms we enjoy depend vitally on the service you and your forebears have undertaken in our behalf. Indeed, I wish that there were more of you. I believe that every Harvard student should have the opportunity to serve in the military, as you do, and as those honored in the past have done.

Universities like Harvard are special places, places not just where minds can flourish but where hearts are nourished as well—by commitment to the pursuit of truth, to the availability of opportunity based on merit, to the full inclusion of all in our hopes and possibilities.

The United States has long turned to education to nurture the equality fundamental to our national purposes. In 1779, for example, Thomas Jefferson called for a national aristocracy of talent chosen, as he put it, “without regard to wealth, birth or other accidental condition or circumstance,” and “rendered by liberal educa-

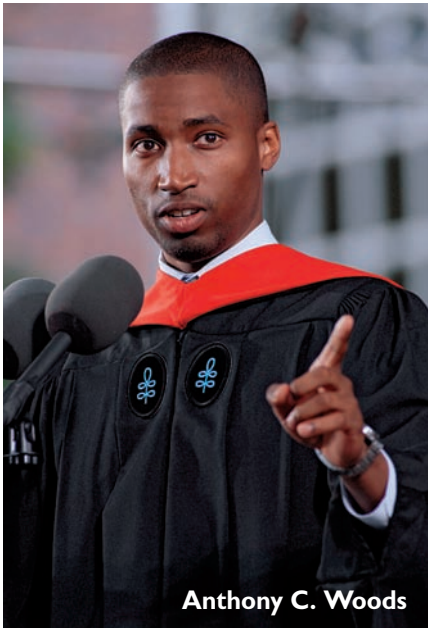
tion....able to guard the sacred deposit of rights and liberties of their fellow citizens.” Education has enlisted the talented—“without regard...to condition or circumstance”—in the service of broader purposes of nation and community.

So too has the military served as a foundation for citizenship and a pathway to full participation in American life. Thousands of immigrants have achieved citizenship as a result of national service....And it is no accident that Lincoln's Emancipation Proclamation guaranteed both freedom and the right to military service. As a convention of African-American veterans declared in 1865 as they petitioned for the right to vote, “What higher order of citizen is there than the soldier? Or who has a greater trust confided to his hands?”

As women claimed the full rights and obligations of citizenship in the course of the twentieth century—the right to vote, the right to serve on juries—so too they sought full inclusion in the military. That there is a woman here about to be commissioned as an officer today [Second Lieutenant J. Danielle Williams, U.S. Army]—that I am here as president to address you—is because of the inexorable logic of those principles of inclusion operating “without regard to...accidental condition or circumstance.” These are the principles that have made Harvard what it is, that have made the American military what it is; these are the principles that have made our nation what it is. These are principles we must continue to honor and strive to extend.

#### COMMENCEMENT 2008 ONLINE

Texts of principal Commencement speeches, and audio and video recordings, are available at the Commencement 2008 section at [www.harvardmagazine.com](http://www.harvardmagazine.com).



## “Q&A”

*From an address by Anthony C. Woods*

WE ALL TRAVELED different paths to Harvard. My journey began in the desert heat of Iraq. Months after graduating as a lieutenant from West Point, I took charge of 17 soldiers and led them to that war-torn country. It didn't take long for me to confirm that my three hours of Arabic language training weren't going to get me very far.

Like many of you, I had very serious questions about the legitimacy of this war. These questions grew louder on days when tedium and toil turned into chaos and tragedy.

I remember the 27th of July 2004. Earlier that day, I spoke with 24-year-old Sergeant Deforest Talbert about his two-year-old son. Three hours later, I stood next to his lifeless body and questioned why he made this sacrifice....

On the 11th of October 2005, my men and I responded to the scene of a suicide bomber who violently ended his life and the lives of 40 others at a local market. I wondered if the media would portray the victims as individuals with families like Sergeant Talbert, or would their fate be presented as a cold statistic?

Harvard is a very long way from Iraq. The army sent me to the Kennedy School in the summer of 2006, and I welcomed the break from the battlefields of the Middle East. At Harvard I found my-

self engaged in a battlefield of ideas.

Questions shifted from my personal experiences to the universal. Will we reverse the tide of global climate change? Why do we turn a blind eye to genocide and human suffering? Why don't we commit more resources to scientific research? Why are corporate boardrooms so prone to corruption? Why do we send so many of our children to crumbling schools?

I'm not afraid to admit that I felt helpless in the face of these questions....But something inspiring happened for me at Harvard. As the list of questions grew, I met more and more talented individuals from all across this University—from all around the world—who were also asking difficult questions. I soon realized that Harvard chose us because we know these questions don't have easy answers.

These reflections reminded me of the words of a member of Harvard's class of 1940. John F. Kennedy said, “No problem of human destiny is beyond human beings. Man's reason and spirit have often solved the seemingly unsolvable, and [I] believe [we] can do it again.”...

Many who came before us...looked upon the world and could have found reason to despair. But, instead of losing hope, they chose to act.

Let us remember the abolitionists. Their legacy calls on us to end slavery and human trafficking in our own time.

Let us remember the scientists. Their eradication of polio and smallpox inspires our effort to cure cancer and HIV/AIDS.

Let us remember those who ended apartheid in South Africa. Their struggle shows us how to stand up for human rights for the citizens of Tibet.

And let us also remember the students who came before us. They fought to end the war in Vietnam and hoped the United States would never again wage a war of choice.

What made all of these generations special was their ability to redefine “Q & A.” Instead of responding to questions with answers, they responded with actions. They left a legacy that calls on us to do the same—we have no choice but to follow their example. And so...fellow students of the class of 2008, I ask one final question: will you take action to respond to the challenges of our day?

## Talk, Part 2: “Life Is Not a Check-list”

IN SEPARATE WAYS, in the Baccalaureate and Commencement afternoon speeches, on June 3 and June 5, respectively, President Drew Faust and *Harry Potter* author J.K. Rowling addressed students' drive for success and fear of failure—a fear that can divert them from fulfilling lives. (The second half of Rowling's powerfully personal speech, titled “The Fringe Benefits of Failure, and the Importance of Imagination,” revealed how her work at Amnesty International illuminated the human capacity for empathy.) At the end of his Class Day speech, on America's economy during his graduation year and today, Ben S. Bernanke '75, chairman of the Board of Governors of the Federal Reserve System, touched on the same subject. Excerpts follow; complete texts and audio recordings appear at [www.harvardmag.com/commencement](http://www.harvardmag.com/commencement).

## “You Won't Know Till You Try”

*From an address by Drew Faust*

(Faust described hearing from students that they were torn by the choice many of them are making to pursue careers in finance.)

BUT MANY OF YOU are now wondering how these commitments fit with a career choice. Is it necessary to decide between remunerative work and meaningful work? If it were to be either/or, which would you choose? Is there a way to have both?

You are asking me and yourselves fundamental questions about values, about trying to reconcile potentially competing goods, about recognizing that it may not be possible to have it all. You are at a moment of transition that requires making choices. And selecting one option—a job, a career, a graduate program—means not selecting others. Every decision means loss as well as gain—possibilities forgone as well as possibilities embraced. Your question to me is partly about that—about loss of roads not taken.

Finance, Wall Street, “recruiting” have become the symbol of this dilemma, representing a set of issues that is much broader and deeper than just one career



path. These are issues that in one way or another will at some point face you all—as you graduate from medical school and choose a specialty—family practice or dermatology, as you decide whether to use your law degree to work for a corporate firm or as a public defender, as you decide whether to stay in teaching after your two years with Teach for America. You are worried because you want to have both a meaningful life and a successful one; you know you were educated to make a difference not just for yourself, for your own comfort and satisfaction, but for the world around you. And now you have to figure out the way to make that possible....

As I have listened to you talk about the choices ahead of you, I have heard you articulate your worries about the relationship of success and happiness—perhaps,

more accurately, how to define success so that it yields and encompasses real happiness, not just money and prestige. The most remunerative choice, you fear, may not be the most meaningful and the most satisfying. But you wonder how you would ever survive as an artist or an actor or a public servant or a high-school teacher? How would you ever figure out a path by which to make your way in journalism? Would you ever find a job as an English professor after you finished who knows how many years of graduate school and dissertation writing?

The answer is: you won't know till you try. But if you don't try to do what you love—whether it is painting or biology or finance—if you don't pursue what you think will be most meaningful, you will regret it. Life is long. There is always time for Plan B. But don't begin with it.

...[W]hat is ultimately most important here is that you are asking the question—not just of me but of yourselves. You are choosing roads and at the same time challenging your own choices. You have a notion of what you want your life to be and you are not sure the road you are taking is going to get you there. This is the best news. And it is also, I hope, to some degree, our fault. Noticing your life, reflecting upon it, considering how you can live it well, wondering how you can do good: These are perhaps the most valuable things that a liberal-arts education has equipped you to do. A liberal education demands that you live self-consciously. It prepares you to seek and define the meaning inherent in all you do. It has made you an analyst and critic of yourself, a person in this way supremely equipped to take charge of your life and how it unfolds. It is in this sense that the liberal arts are liberal—as in *liberare*—to free. They empower you with the possibility of exercising agency, of discovering meaning, of making choices. The surest way to have a meaningful, happy life is to commit yourself to striving for it. Don't settle. Be prepared to change routes.

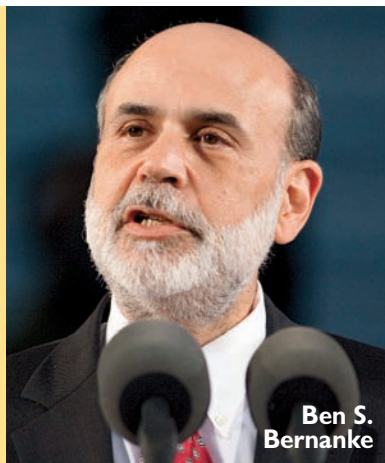
## “Your Greatest Asset”

*From an address by Ben S. Bernanke*

I WILL CLOSE by shifting from the topic of education in general to your education specifically. Through effort, talent, and doubtless some luck, you have succeeded in acquiring an excellent education. Your education—more precisely, your ability to think critically and creatively—is your greatest asset. And unlike many assets, the more you draw on it, the faster it grows. Put it to good use.

The poor forecasting record of economists is legendary, but I will make a forecast in which I am very confident: Whatever you expect your life and work to be like 10, 20, or 30 years from now, the reality will be quite different. In looking over the thirtieth anniversary report on my own class, I was struck by the great diversity of vocations and avocations that have engaged my classmates. To be sure, the volume was full of attorneys and physicians and professors as well as architects, engineers, editors, bankers, and even a few economists. Many listed the title “vice president,” and, not a few, “president.” But the class of 1975 also includes those who listed their occupations as composer, environmental advocate, musician, playwright, rabbi, conflict-resolution coach, painter, community organizer, and essayist. And even for those of us with the more conventional job descriptions, the nature of our daily work and its relationship to the economy and society is, I am sure, very different from what we might have guessed in 1975. My point is only that you cannot predict your path. You can only try to be as prepared as possible for the opportunities, as well as the disappointments, that will come your way. For people, as for economies, adaptability and flexibility count for a great deal.

Wherever your path leads, I hope you use your considerable talents and energy in endeavors that engage and excite you and benefit not only yourselves, but also in some measure your country and your world.



## “A Stripping Away of the Inessential”

*From an address by J.K. Rowling*

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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....

Looking back at the 21-year-old that I was at graduation, is a slightly uncomfortable experience for the 42-year-old that she has become. Half my lifetime ago, I was striking an uneasy balance between the ambition I had for myself, and what those closest to me expected of me.

I was convinced that the only thing I wanted to do, ever, was to write novels. However, my parents, both of whom came from impoverished backgrounds and neither of whom had been to college, took the view that my overactive imagination was an amusing personal quirk that would never pay a mortgage, or secure a pension....

They had hoped that I would take a voca-

tional degree; I wanted to study English Literature. A compromise was reached that in retrospect satisfied nobody, and I went up to study Modern Languages. Hardly had my parents' car rounded the corner at the end of the road than I ditched German and scuttled off down the Classics corridor.

...Of all subjects on this planet, I think they would have been hard put to name one less useful than Greek mythology when it came to securing the keys to an executive bathroom.

I would like to make it clear, in parenthesis, that I do not blame my parents for their point of view. There is an expiry date on blaming your parents for steering you in the wrong direction; the moment you are old enough to take the wheel, responsibility lies with you. What is more, I cannot criticise my parents for hoping that I would never experience poverty. They had been poor themselves, and I have since been poor, and I quite agree with them that it is not an ennobling experience. Poverty entails fear, and stress, and sometimes depression; it means a thousand petty humiliations and hardships....[P]overty itself is romanticised only by fools.

What I feared most for myself at your age was not poverty, but failure.

At your age, in spite of a distinct lack of motivation at university...I had a knack for passing examinations, and that, for years, had been the measure of success in my life and that of my peers.

Now, I am not dull enough to suppose that because you are young, gifted, and well-educated, you have never known hardship or heartbreak....I do not for a moment suppose that everyone here has enjoyed an existence of unruffled privilege and contentment.

However, the fact that you are graduating from Harvard suggests that you are not very well acquainted with failure. You might be driven by a fear of failure quite as

J.K. Rowling



much as a desire for success. Indeed, your conception of failure might not be too far from the average person's idea of success, so high have you already flown.

...[B]y any conventional measure, a mere seven years after my graduation day, I had failed on an epic scale. An exceptionally short-lived marriage had imploded, and I was jobless, a lone parent, and as poor as it is possible to be in modern Britain, without being homeless. The fears my parents

**"It is impossible to live without failing at something, unless you live so cautiously that you might as well not have lived at all—in which case, you fail by default."**

had had for me, and that I had had for myself, had both come to pass....

...That period of my life was a dark one, and I had no idea that there was going to be what the press has since represented as a kind of fairy-tale resolution....

So why do I talk about the benefits of failure? Simply because failure meant a

stripping away of the inessential. I stopped pretending to myself that I was anything other than what I was, and began to direct all my energy into finishing the only work that mattered to me. Had I really succeeded at anything else, I might never have found the determination to succeed in the one arena where I believed I truly belonged. I was set free, because my greatest fear had been realised, and I was still alive, and I still had a daughter

whom I adored, and I had an old typewriter and a big idea. And so rock bottom became the solid foundation on which I rebuilt my life.

You might never fail on the scale I did, but some failure in life is inevitable. It is impossible to live without failing at something, unless you live so cautiously that you might as well not have lived at all—in which case, you fail by default.

Failure gave me an inner security that I had never attained by passing examinations. Failure taught me things about myself that I could have learned no other way. I discovered that I had a strong will, and more discipline than I had suspected; I also found out that I had friends whose value was truly above the price of rubies.

The knowledge that you have emerged wiser and stronger from setbacks means that you are, ever after, secure in your ability to survive. You will never truly know yourself, or the strength of your relationships, until both have been tested by adversity....

Given a Time-Turner, I would tell my 21-year-old self that personal happiness lies in knowing that life is not a check-list of acquisition or achievement. Your qualifications, your CV, are not your life, though you will meet many people of my age and older who confuse the two. Life is difficult, and complicated, and beyond anyone's total control, and the humility to know that will enable you to survive its vicissitudes.





## A Giant's Gift

DAVID ROCKEFELLER '36, G '37, LL.D. '69, has made a \$100-million gift to Harvard, the largest by an alumnus in University history. Reflecting the convergence of his own lifelong interests and current Harvard priorities, the gift will support two broad initiatives. The first is international experiences for students—in particular, aiding undergraduates venturing abroad, and underwriting innovative faculty-developed classroom and other programs with an international component. Rockefeller has designated \$70 million for these purposes. The second is the arts—particularly engagement with visual arts, in the form of the Harvard Art Museum's new study centers that will be created during the wholesale remaking of the Fogg complex. Some \$30 million is devoted to this project and related arts programming, as a task force appointed by President Drew Faust explores the place of the arts in the curriculum and across the institution. (On the Fogg renovation, a multihundred-million-dollar renovation expected to begin in 2009, see page 58 and "Art of the Future?" May-June, page 60; for the task force's mission, see "Approaching the Arts Anew," January-February, page 59.)

The gift was announced on April 25, in time for a dinner meeting of the Committee on University Resources—Harvard's leading philanthropic supporters and fundraising volunteers. It also coincided with pre-frosh weekend, when students admitted to the class of 2012 visited campus before deciding what college to attend; news of added funding for international travel and the arts could hardly be discouraging.

In the news release announcing the gift, Rockefeller said, "Harvard opened my eyes and my mind to the world....Harvard provided me with an intellectual framework to understand what I was seeing and experiencing that has stayed with me for my entire life....I hope my gift will help enable future Harvard undergraduates to experience similar opportunities to learn about the world in which they live."

Faust praised Rockefeller for a "magnificent act of generosity from an extraordinary friend of Harvard....Harvard has had occasion to thank David Rocke-

feller many times before, but never more so than today, for his profound commitment to learning experiences that hold the promise to transform people's lives."

The news release ([www.news.harvard.edu/gazette/2008/05.01/99-donor.html](http://www.news.harvard.edu/gazette/2008/05.01/99-donor.html)) also noted that Rockefeller has previously given \$40 million in gifts to Harvard, including \$25 million to create the David Rockefeller Center for Latin American Studies (DRCLAS, [www.drclas.harvard.edu](http://www.drclas.harvard.edu); he provided the initial grant in 1994 and, most recently, another \$10 million in May 2006). The former chairman, president, and CEO of Chase Manhattan Bank and chairman of the Rockefeller Group served on Harvard's Board of Overseers from 1954 to 1966, and as the board's president from 1966 to 1968.

Faust welcomed Rockefeller to Massachusetts Hall late that afternoon, noting "just how much it means to have David devoted to this institution for such a long time." In a brief conversation, he recalled the genesis of his support for the Latin American center in a luncheon conversation with Neil L. Rudenstine, Harvard's then newly appointed president, in which they concurred that it was "rather shocking" the University had done so little scholarly work on the region. They agreed to create the center and, Rockefeller said, "I'm awfully glad we did," citing its "astounding" progress. He attributed its programmatic growth—for example, in providing student experiences abroad—to the involvement of "excellent people" on campus and in the center's Latin American offices. Faust noted that the discretionary innovation funds Rockefeller is providing would enable her to work with faculties across the University, many of them already engaged around the world, to see "what kinds of undergraduate opportunities could be built in" to their programs—for which he expressed great enthusiasm.

The arts, he said, are "another area of special interest to me," dating from his childhood. As an undergraduate, he noted, he spent much time at the Fogg; its director, Paul Sachs, played a vital role in his



David Rockefeller

mother's creation and staffing of the Museum of Modern Art (MoMA).

AS ROCKEFELLER explained in his *Memoirs* (2002), his engagements with Harvard, with the world, and with art have been constant themes throughout his life. "Mother strongly influenced my choice of colleges," he wrote. "[She]...wanted one of us to go to Harvard," the school of her favorite brother, Winthrop Aldrich, A.B. 1907, LL.B. 1910. "I was her last hope"—a hope fulfilled when he enrolled in 1932. By that time, he had seen more of the world than most Americans, including a 1927 trip to France and a 1929 family journey to the Middle East. During the summer following his freshman year, Rockefeller studied abroad, living in Munich to master German (one of the two modern languages he needed to fulfill Harvard requirements at the time)—and so got his first glimpse of Nazism. His host family took him on weekend outings to study Bavarian art and architecture, further developing an interest already influenced by his father's collections and his mother's role in founding MoMA.

In the book, Rockefeller devoted one chapter to "my lifetime pursuits as an internationalist" ("globalization" had not yet joined the popular vocabulary), and another to his lifelong involvement in the

world "South of the Border." That exposure, he wrote, has ranged from a second honeymoon in Mexico in 1946 to high-level work as a banker and policymaker promoting economic development and cultural interchanges as Latin America experienced decades of political turmoil and debt-fueled growth and financial upheaval, followed by democratization and private-sector expansion, and today's uncertain prospects. He also examined the region through the lens of brother Nelson's "Good Neighbor" programs (at the behest of President Franklin D. Roosevelt) and fellow Overseer John F. Kennedy's Alliance for Progress. His own work with intermediary institutions has extended from recommending new economic strategies that local governments might adopt, to helping introduce Americans to

"the diversity, beauty, and sophistication of Latin American artists, musicians, and writers" (for example, subsidizing the English translation of Gabriel García Márquez's *One Hundred Years of Solitude*).

So it was that Rockefeller found himself agreeing with Rudenstine in 1991 that "the vast majority of Americans knew little about their closest neighbors, and relatively few American universities provided their students with much more than a superficial introduction to Latin American history and culture." From that meeting came the idea for a focused University-wide center. Rockefeller provided both initial funding and models for engaging regional leaders to invest their own time, energies, and resources—and at Rudenstine's suggestion, the center bears his name. Among the many institutions he

has created or led, Rockefeller has since cited it as the one whose progress he has found most satisfying.

In the April 25 news release, Rudenstine said of this first University-wide center of its kind, "The goal was to involve Harvard faculty and students from all the professional schools—as well as the Faculty of Arts and Sciences[FAS]—to collaborate with colleagues and students throughout Latin America on a wide range of new initiatives...in research and education, as well as a full program of lectures, conferences, cultural events, and other activities." (A University source said DRCLAS had catalyzed other donors' large gifts to centers focused on Europe, Asia, and elsewhere.)

The center has also fostered the growth of experiences abroad, particularly among College students—a priority since the beginning of this decade, when FAS began actively encouraging some sort of international experience as a universal goal for undergraduates. During the 2006-2007 academic year, for example, about 1,500 undergraduates pursued internships, re-

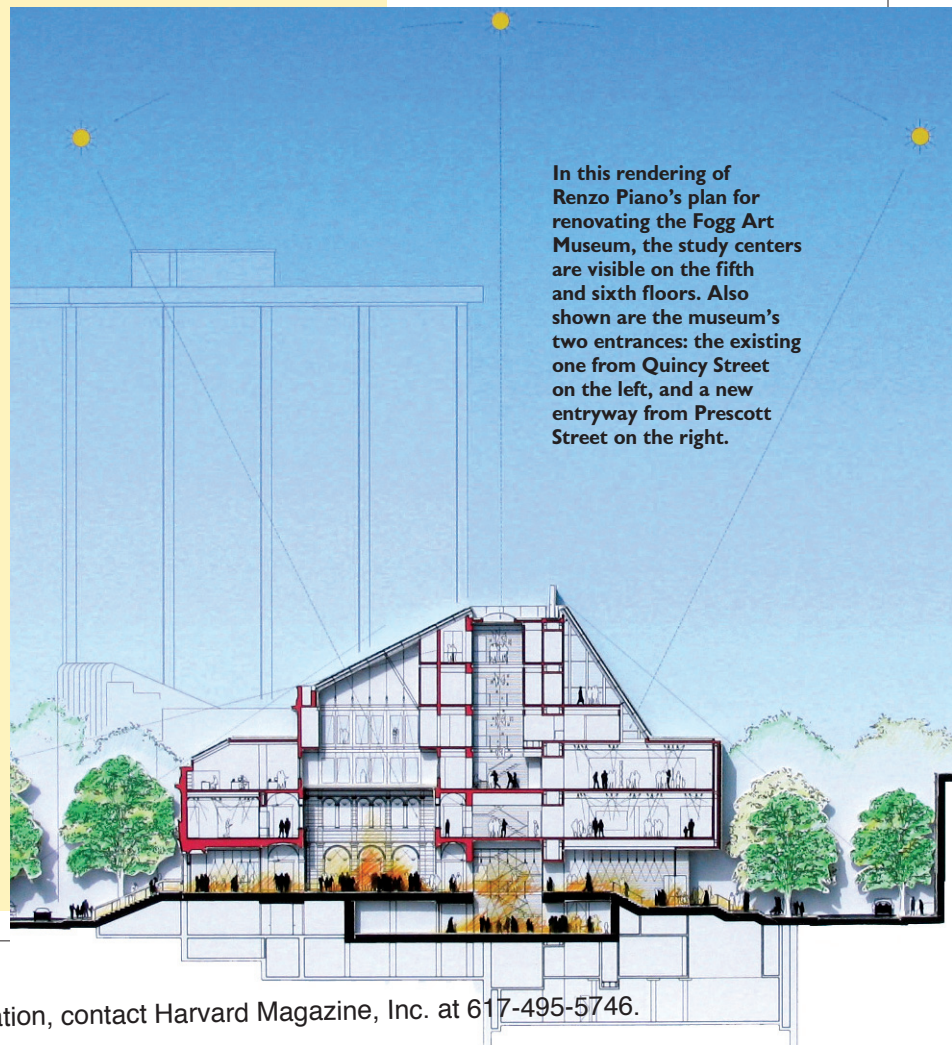
## Open Access to Art

**Of the \$30 million that David Rockefeller has donated to arts education, \$25 million will underwrite study centers on the fifth and sixth floors of the new Harvard Art Museum. These three rooms (one for each of the named collections) will allow students and faculty members to request artworks from storage and study them at close quarters.**

The present study centers, in the Mongan Center of the Fogg Museum and on the third floor of the Busch-Reisinger Museum, are primarily for works on paper. The new rooms will offer not only access to more of Harvard's collection (though some pieces, such as large paintings, will probably remain off-limits), but also a chance for visitors to compare works of art from all three museums in a single room. "It's almost like people can come in and curate their own little show," says Emily Hankle, a study-room supervisor in the Mongan Center.

Thomas W. Lentz, Cabot director of the Harvard Art Museum, describes the study centers as integral to the museum's educational mission, on a footing with the gallery space itself. "The prominence we're giving study centers is going to make this museum different," he says. Lentz knows from experience just how valuable the opportunity to see art up close can be. As a Harvard doctoral student in the early 1980s, he decided to specialize in Persian art in part because, on visits to the Islamic department, he was able to scrutinize the paintings he studied. He kept those experiences in mind when planning the new museum. "With great works of art, and through great works of art," he explains, "we can teach in ways that others can't."

**Of the \$30 million that David Rockefeller has donated to arts education, \$25 million will underwrite study centers on the fifth and sixth floors of the new Harvard Art Museum.**





search, public service, or term-time or summer-school studies abroad—more than double the number four years earlier.

DRCLAS placed 128 students, mostly undergraduates, in study-abroad and “experiential-learning” programs in Argentina, Bolivia, Brazil, Chile, Cuba, and Peru in the 2006-2007 academic year. Several dozen now visit those countries each summer for eight-week internships. Assisted by resident staff in Santiago and, more recently, São Paulo, and in Cambridge, they have found appropriate placements and local families to live with, gaining the sort of cultural immersion the College intends (see “Tying Knots: Glimpsing Global Harvard in Chile,” May-June 2004, page 65, and on Brazil, “Global Gains,” January-February, page 64.)

Thesis-research fellowships and University grants support some of this travel, but many of the programs cost up to several thousand dollars, even as participants lose earnings from summer jobs that might help defray other expenses. Rockefeller’s new gift makes international experience need blind, as are College admissions and financial aid during the academic year, supporting as many as several hundred international student experiences annually.

Other elements of the Rockefeller gift will help fund professors in developing courses that meld students’ classwork with travel to relevant international sites, and support the infrastructure—the Office of International Programs ([www.fas.harvard.edu/-oip](http://www.fas.harvard.edu/-oip)) and the Office of Career Services—that undergirds productive international opportunities, and the placement and care of students pursuing them.

ROCKEFELLER HAS also written of his immersion in art. During a 1935 summer auto tour of Europe, he and a classmate took in 30 museums in six countries. Reflecting on a life of increasingly bold collecting, and of administrative and financial leadership at an ever-expanding MoMA, he recalled how his mother taught him and his siblings how works of art “might provide a challenging or reassuring glimpse of the world around us. It was often a deeply enthralling experience.” He also detailed how he recoiled

## HARVARD PORTRAIT



Joanna Aizenberg

**When Joanna Aizenberg** looks at the skeleton of a sea sponge lying on her desk, she sees more than an oddly shaped tube. “The sponge makes this nearly perfect glass structure,” she says. “Almost every construction principle that we use is used by nature here, but on a scale 1,000 times smaller.” The McKay professor of materials science and professor of chemistry and chemical biology puts the design principles she sees in nature—in sponges, rocks, and sea urchins—to human ends. For instance, the brittle star (a relative of the starfish) can change the pigment of its crystal optical lens like a pair of light-sensitive sunglasses. By mimicking its design, Aizenberg invented a synthetic lens that she could tune to certain wavelengths of light. Her research draws on chemistry, biology, engineering, and math, the last of which she has excelled at since childhood. While growing up in Russia, she won mathematical Olympiads and precociously sent problems of her own devising to a popular science magazine. Unfortunately, the Russian educational system discouraged exploration beyond her chosen field of physical chemistry. She found more freedom while earning her Ph.D. in structural biology at the Weizmann Institute of Science in Israel—where her fascination with crystalline structures in sea life began—and as a postdoctoral student at Harvard. She returned to Harvard in 2007 after several years at Bell Labs, where working with students serving summer fellowships convinced her that she wanted to teach full time. She has also lectured at the New York School of Design, where she tells students that they can find everything they study in nature. Even in a sea sponge.

from some of the most disturbing modern works—“[s]trange videos, distorted and grotesque paintings, graffiti, and perverse photography”—but came to accept that “Perhaps...this latest generation of ‘modern’ artists had more to offer than I was giving them credit for. I know that would have been my mother’s reaction.”

Fittingly, the second element of his gift is a major boost to the Fogg renovation and the reconfiguration of the University’s three art museums—one of the nation’s largest collections, and pre-eminent teach-

**David Rockefeller with the Brazil staff of his eponymous Latin American Studies center, during a visit to the São Paulo office in 2006**

ing institutions as well. The new study centers and seminar rooms will be the centerpiece of the museums’ efforts to bring students and their teachers into direct contact with important works of art. Rockefeller’s support is the first announced for what promises to be an expensive, intricate effort expected to take as long as five years.



A smaller fund will support implementation of future recommendations by the president’s arts task force, possibly involving fellowships for student artists, expanding visits by performers to campus, and longer artistic residencies at Harvard.

DORCLAS BRAZIL OFFICE STAFF

## English Evolves—and Reverts

**At the Faculty of Arts and Sciences** meeting on April 8, Gurney professor of English literature and professor of comparative literature James Engell, speaking on behalf of the department he chairs, moved that it shed its current title (English and American literature and language) in favor of a streamlined one (English). The change, Engell explained, represented a reversion to earlier practice, before the department adopted the current, longer name to reflect a daring scholarly advance: American literature would be elevated to “worth-reading” status, alongside British works.

Engell did not read aloud an accompanying written statement explaining the rationale for the name change in much greater detail. Lest it be lost to the historical record, we quote it at length:

There are several reasons why this proposed change is at once timely and important, but the key reason has to do with the evolution of our field. The current name, by using the two terms English and American, necessarily implies that “English” refers to the literature and language of England. That is somewhat awkward, of course, in relation to Scotland, Ireland, and Wales, but the real problem lies in the explosion of English as a world literature and a world language. To cite a single example, the influential *Norton Anthology of English Literature* (8th edition, 2006) includes works by Claude McKay (b. Jamaica), Louise Bennett (b. Jamaica), Kamau Brathwaite (b. Barbados), Wole Soyinka (b. Nigeria), Ngugi Wa Thiong’o (b. Kenya), Salman Rushdie (b. India), Nadine Gordimer (b. South Africa), A.K. Ramanujan (b. India), Derek Walcott (b. Santa Lucia), Chinua Achebe (b. Nigeria), Alice Munro (b. Canada), V.S. Naipaul (b. Trinidad), Les Murray (b. Australia), J.M. Coetzee (b. South Africa), Anne Carson (b. Canada), and many other distinguished writers who do not by any means fit into the national boundaries suggested by “English and American” literature. But they all very much belong in a Department of English—indeed they are among the most exciting figures in such a department....

The proposed change simplifies our department’s name, brings it in line with comparable departments at other universities, and avoids misleading parallels. But above all it accurately reflects the state of our field and brings us into the 21st century.

Indeed, Engell noted, the department’s sole junior-faculty search for the coming academic year seeks to attract a scholar of “transnational anglophone” works.

The measure passed unanimously. A separate proposal, to reduce the quorum necessary to conduct faculty business, also passed. But as the April 8 meeting itself lacked a quorum, both pieces of legislation had to be presented to the subsequent meeting on May 6 to secure formal adoption.

ROCKEFELLER’S pledge to Harvard equals two other pledges he has announced in recent years; \$100 million each to Rockefeller University, the scientific research institute in Manhattan, and to the Museum of Modern Art. All are testamentary gifts, to be funded in full upon his death; unusually, he is also providing each institution with annual cash payments now, so they can begin implementing the programs he wants to support before the endowment and current-use elements of his philanthropies are actually transferred.

The Rockefeller family has long been associated with the first two institutions. In a way, David Rockefeller’s landmark \$100-million gift to Harvard puts his signature on another institution—where the tradition of family engagement began squarely with him.

In his memoir, he described himself as a B student at Harvard, the result of diligent application in spite of what he deemed lackluster academic preparation. Socially, the transition was harder. Had he gone to boarding school, as did many classmates who were the sons of wealthy parents, “my life at Harvard would have been more immediately pleasurable and certainly very different from what it was,” he wrote. “Upon reflection almost 70 years later, however, I do not believe the rest of my life would have been as interesting or constructive as it has been. Having to deal with my early insecurities at Harvard and to struggle for academic achievement and social acceptance made me a more open-minded and tolerant person.”

For that contribution toward what he called “a wonderful life,” Rockefeller has now made a remarkable repayment.



## On the University's Agenda

AS THE ACADEMIC YEAR ended, University leaders in various forums outlined Harvard priorities and impending business concerning Allston, a new science initiative, and the University's international aims. Expect further developments on these and other items on the agenda when campus resumes its busier autumn tempo.

•Allston. In a briefing for the Faculty of Arts and Sciences (FAS) at its May 6 meeting, President Drew Faust described the land assembled in Allston not as an end in itself, but rather as a "place to dream for Harvard." Accordingly, to guide where and how the University should grow during the next several decades—in Cambridge, Longwood, and Allston—she has broadened the Allston advisory group to include her entire council of deans, not just those from schools most directly affected by a likely move to the new campus (such as education and public health). Their work must be integrated, she noted, with Harvard's financial plans, with the logistical details of what the University can manage, and with the desires of the communities adjoining the new development in Boston, Allston, and Brighton.

She noted that work on the initial science building in Allston was under way, with completion scheduled in 2011, and that Harvard's long-term master plan for the area was being revised for submission to Boston late this year.

Christopher M. Gordon, chief operating officer of the Allston Development Group ([www.allston.harvard.edu](http://www.allston.harvard.edu)), then reminded the faculty that the current "framework" plan for Allston (see "Harvard's 50-Year Plan," March-April 2007, page 58), filed in early 2007, had evolved during four years of internal and community consultation (and with the assistance of Cooper, Robertson & Partners). That overall scheme, which depicted 10 million square feet of potential development, is now being refined, he said, with Ayers/Saint/Gross, who specialize in campus planning. Working within the 2007

framework—which allowed for new athletic facilities south of the current ones, undergraduate Houses by the Charles River and, if desired in the future, east of the core Harvard Business School (HBS) campus, professional schools in the middle, a "culture zone" perhaps where the Charlesview apartments are now sited, science and academic buildings south of Western Avenue, and perimeter graduate-student housing and a conference center—the planners are envisioning the space in finer detail, block by block.

Among the refinements Gordon sketched—all subject to debate and further revision in coming months—were:

*Landscaping Western Avenue* as a green twenty-first-century "Yard."

*Envisioning Barry's Corner* (at North Harvard Street and Western Avenue) as a mini Harvard Square—minus the T stop, of course—with restaurants and stores.

*Breaking down "superblocks"* with more roadways and smaller buildings, to make the developed campus more permeable.

*Extending Rena Park.* The 2007 plan envisioned a new park well within the campus development. Now planners are exploring the possibility of reconfiguring it to stretch to the Charles River, providing a second green corridor, walkway, and perhaps a waterway and more natural plantings, the length of the campus.

*Reorienting sight lines* throughout the campus; designing the new development to extend the business school's radial orientation—it spreads out from a center point at the Eliot

**Construction begins for the first Allston science building—future home of the department of stem cell and regenerative biology; a bioengineering program; and the department of systems biology.**

House cupola—would maintain views of the Cambridge campus from well within the Allston development.

*Melding physical plans and pedagogy*, perhaps by arranging buildings from different schools (business, education, public health, laboratories) around a common green, as did Thomas Jefferson's plan for the University of Virginia, to promote interdisciplinary connections.

Gordon noted that the Allston Development Group had detailed plans for how to resite the athletic facilities, and was working with the museums and FAS dean Michael Smith, respectively, on plans for the cultural district and new residential houses. Detailed program plans and anticipated costs were nearly done for the Graduate School of Education, and were about half done for the Harvard School of Public Health (HSPH) facilities, he said, with the School of Engineering and Applied Sciences (SEAS) newly interested in exploring whether to locate in Allston. Provision has also been made, Gordon said, for HBS expansion on the parking lots south of its current structures.

Construction of the first science complex, he said, began last November; excavation is proceeding, with the workforce on the five-acre site expected to number 1,000 by year end, and twice that next summer. The four



Pamela Silver

STEPHANIE MITCHELL/HARVARD NEWS OFFICE

Photograph by Stu Rosner

linked buildings include amenities and support facilities—a conference center, retail and cafeteria spaces, a fitness center, and even a rooftop “function room”—that Faust noted would ultimately serve other Harvard buildings as they arise nearby.

• **Bioengineering.** One tenant for that science facility may be a new, University-wide bioengineering initiative. The committee charged with designing it delivered a preliminary report to the deans of Harvard Medical School (HMS) and SEAS in early May. According to co-chairs Pamela Silver, professor of systems biology, and Joanna Aizenberg, McKay professor of materials science (see page 59), the recommendations include undergraduate and graduate curricular components and a research program. Aizenberg said students find bioengineering appealing “because it

is so easy to relate to the existing problems of society—healthcare problems, energy problems.”

The principal intellectual challenge is defining a whole new field. A number of peer institutions have bioengineering departments, but most focus on biomedical subjects. The Harvard planners envision biomedical engineering as just one component among many others, including computational biology, synthetic biology, biomimetics, and what is known as “predictable biology”—application of principles learned from engineering disciplines (including computer science) to create new living materials or genetically engineered machines. Harvard has all the ingredients it needs to create a world-leading program in the field, Silver and Aizenberg said, including HMS, HSPH,

HBS, SEAS (which operates without departmental boundaries), and the Law School. Following review by the Harvard University Science and Engineering Committee, the bioengineering task force hoped to issue a final report by June 30.

• **International Harvard.** Much farther afield, addressing alumni at the HAA meeting in Shanghai on March 29, and the advisory committee meeting of the David Rockefeller Center for Latin American Studies in Cambridge on May 10, President Faust posed a sweeping series of questions about the University’s global opportunities. Drawing on the data collected by Jorge I. Domínguez in his still-nascent position as vice provost for international affairs, Faust cited many strengths: existing regional and international study centers; 4,000 international

## University People

### Finance Farewell

On April 15, vice president for finance Elizabeth Mora, Harvard’s chief financial officer, “announced her intention to step down” as of mid May, at the conclusion of budgeting for the next fiscal year, according to an unusually plain news release. “I



Elizabeth Mora

will miss all of my colleagues and will count my years at Harvard as a very important part of my career,” Mora was quoted as saying. President Drew Faust was quoted as offering “our thanks for all she has done to advance the sound workings of Harvard’s internal economy,” and treasurer James F. Rothenberg cited her “diligence and skill” in enhancing Harvard’s financial management and accountability. No further comment was forthcoming from anyone. Mora joined Harvard in 1997, from a career in public accounting, and had served in her current post since 2006. Of late, she has worked

on financial planning for Allston development, the search (recently concluded) for Harvard Management Company’s new president, and endowment-spending policies. She has been succeeded on an acting basis by Dan Shore, director of budgets and financial planning.

### Social Sciences Dean

Lindsley professor of psychology Stephen M. Kosslyn, chair of the psychology department, has been appointed divisional dean for the social sciences within the Faculty of Arts and Sciences (FAS), effective July 1. He succeeds Eckstein professor of applied economics David Cutler, the first person to serve in that capacity, who has concluded a five-year term. Kosslyn’s research interests focus on visual mental imagery and the design of visual displays (he has written a popular book on effective PowerPoint presentations). He assumes the divisional deanship as FAS dean Michael D. Smith has invested the position with significant new responsibilities for hiring and resource allocation (see “A ‘Pause’ and Progress in FAS,” page 68).



Stephen M. Kosslyn

### FAS’s Faculty Facilitator

Nina Zipser, Ph.D. ’00, has been appointed dean for faculty affairs in the

Faculty of Arts and Sciences. The newly defined position encompasses the office for faculty affairs (responsible for faculty appointments and promotions), plus data collection and assess-



Nina Zipser

ment—a function created by FAS dean Michael D. Smith. Zipser will be familiar with the latter tasks, having run the University’s institutional research function until now. She will also assist the divisional deans with their new responsibilities for working with research centers and institutes.

### Law Library Leader

John G. Palfrey ’94, J.D. ’01, who had been clinical professor of law and executive director of the Berkman Center for Internet & Society, was appointed professor of law and associate dean of library and information resources at Harvard Law School (see “Born Digital,”



John G. Palfrey

March-April, page 11, on his current research). Palfrey, who remains Berkman Center faculty director, succeeds Harry S. Martin, Ess librarian and professor of law, who directed the law library for 27 years.



students enrolled in degree programs; numerous courses with international content; and the upsurge in students having some international experience during their Harvard years (see “A Giant’s Gift,” page 57). She wondered what might be wrought if all those activities were examined strategically, throughout Harvard.

That she pledged to do as one of the priorities of the council of deans, beginning this summer. Should Harvard launch international operations—and if so, where and of what kind? Should it establish alliances or partnerships? How would it engage with truly global issues (the environment, public health) while remaining a *university*, focused on education and research, as opposed to a consulting firm or a nongovernmental organization delivering social services? How would it engage with different cultures while maintaining its academic values and principles? (A new website—[www.worldwide.harvard.edu](http://www.worldwide.harvard.edu)—prepared by Domínguez’s office gives an overview of Harvard’s international activities.)

The answers to those questions, Faust said, would illuminate much about the future work of faculty members and students, whose lives will increasingly be “lived internationally.”

## Running Radcliffe

PRESIDENT Drew Faust on April 28 appointed Higgins professor of natural sciences Barbara J. Grosz to the deanship of the Radcliffe Institute for Advanced Study (RIAS). Grosz, a computer scientist who has been a Harvard faculty member since 1986 ([www.radcliffe.edu/about/222\\_228.aspx](http://www.radcliffe.edu/about/222_228.aspx)), has been serving as interim dean since July 1, 2007; she now becomes the regular successor in that post to Faust, who was dean until her selection as the University’s president last year. In a statement announcing the appointment, Faust cited Grosz’s “leadership, and her lively mind, her scholarly distinction, her deep sense of institutional commitment, and her talent for creating intellectual communities and connections.” She noted that Grosz “has been one of the institute’s principal architects from its beginnings,” and, because of her responsibilities there, “is exception-

ally well positioned both to guide its next phase and to strengthen its bonds with other parts of Harvard across a wide span of fields.” (For the text of the announcement, see [www.news.harvard.edu/gazette/2008/05.01/99-grosz.html](http://www.news.harvard.edu/gazette/2008/05.01/99-grosz.html).)

At a reception that afternoon at Greenleaf House, the Radcliffe dean’s Brattle Street residence, with several other deans and Harvard Corporation Senior Fellow James R. Houghton in attendance, Faust also noted that Grosz was “extremely accomplished in the realm of gender and women,” referring to her many efforts to encourage the success of women in science (see “Engineering Equity,” July-August 2005), and said, “The gender mission of Radcliffe is very well served” by the new dean. “I’m going to be thrilled to have her as a colleague in the council of deans,” Faust said (alluding to her senior academic advisory group), and pointed out the natural fit between the institute’s emphasis on a fellowship of scholars and the council’s focus on pursuing intellectual opportunities across disciplinary boundaries among Harvard schools.

Grosz’s appointment came at a symbolically important time, as the renovation of Byerly Hall neared completion in Radcliffe Yard. This fall, RIAS fellows’ offices and studios are scheduled to be brought together on campus there for the first time—a tangible sign of the institution’s ambitions to foster its distinctive brand of high-level, interdisciplinary advanced study closer than ever to the center of Harvard.

GROSZ, who was recently elected to membership in the National Academy of Engineering, first deeply engaged in the institute’s leadership as the RIAS dean of science, beginning in 2001. In that position, she made it possible for laboratory-based researchers to assume Radcliffe fellowships. Clusters of fellows in related fields—cosmology, for instance, or computer modeling of music in this past academic year—were appointed, to enable them to work together fruitfully during their residencies.

At the reception, Grosz spoke of an “extraordinary” year as interim dean, during which she broadened her work with all the RIAS fellows and participated in selecting



the coming year’s class. She became actively involved in acquisition committee meetings at the Schlesinger Library, and now cites one of its fundamental principles—that, as library director Nancy Cott puts it, “whenever history is written, women are a central part of the story”—as a paradigm for one of Radcliffe’s roles: helping to ensure the presence of women at the frontiers of scholarship. And she plunged into other activities that were “eye-opening and greatly rewarding intellectually”—several of them detailed in an interview at Fay House a week later.

- Next year’s gender conference. The planned theme, gender and law, will be explored widely by experts from around the world: judges, lawyers, social scientists, humanities and legal scholars.

- Policy studies. Radcliffe has now provided some 400 fellowships, and involved scores of Harvard faculty members in exploratory and advanced seminars—limited-duration working groups that probe new research opportunities. From those contacts, Grosz said, it is conceivable that RIAS could find areas of policy where its flexibility, neutrality, and convening power could usefully be employed to bring academic and policy leaders together to research, set an agenda for, and prompt action on important but under-examined issues. She said an advisory group drawing on several professional schools and the Faculty of Arts and Sciences (FAS) has helped her imagine mul-

## Public Health Horizons

**When Barry Bloom** looks around at the Harvard School of Public Health (HSPH), he sees an institution that is more internationally engaged, more generous to its students, and home to more prizewinning researchers than when he arrived 10 years ago. Each of these has been a priority for Bloom during his tenure as dean, which will end when a yet-to-be-named successor takes the reins.

The school has new initiatives in bioinformatics and the gene-environment relationship. It has major and growing presences in China and India. And when Cyprus joined the European Union in 2004, the country's government asked HSPH to help bring the country in line with EU environmental regulations; that endeavor grew into a permanent institute that offers educational courses and conferences. Bloom says something even more profound than public-health education happens there: the place brings together people whose paths would never cross otherwise. "Cyprus is one of the few places that people from every country in the Middle East will go to," he says. "In three years, 3,000 people from the Mediterranean-Middle East region have come through."

Bloom says this points to the potential for public health, as a field, to surmount differences through a focus on common problems. This also happens at HSPH itself, where more than a third of students come from outside the United States—up from 22 percent when he arrived. That, in turn, has necessitated increasing financial aid. "The largest contingent is from China," he notes. "We have 10 students here from Nigeria this year. We have an important role in training leadership, but many of those students require a full ride, or close to it."

The school went from offering financial aid to 32 percent of its students in 1999 to 61 percent today, and the average financial-aid package now covers 45 percent of a student's costs, up from just 6 percent in 1999. Still, says Bloom, "It's not anywhere near where it should be."

That will be one item on the to-do list for his successor. Another will be Allston. "It is not formally decided that the School of Public Health will be an anchor tenant" of the new

campus, says Bloom, "but people have been talking that way for the last six years." It would be a welcome change for a faculty currently spread among more than 30 buildings—and for the student body as well. "If you come here at 10 o'clock at night," he says, "you'll see students with their computers sitting in the cafeteria because there's no other place for them to congregate."

During those six years, the faculty has had ample time to ponder how it might benefit from closer proximity to other Harvard schools—business, education, law, and government, for instance. Bloom foresees collaborations on health policy, the economics of health, environmental law, and the role of health in early-childhood education: "We see ourselves as a connector between a presumably heavily science-oriented place in Allston and the rest of the University."

Bloom, the Jacobson professor of public health (soon to be University Distinguished Service Professor), will continue to teach and conduct research in his lab, which focuses on the immune system's response to tuberculosis and mechanisms of vaccine delivery (see page 38). And he hopes to see a renaissance at the Harvard Initiative for Global Health (HIGH), which has been working to generate new momentum since its founding director, Christopher Murray, left for the University of Washington in 2007. Bloom envisions a focus on educational activities—

"Every country in the world needs people who understand health systems"—that complement HSPH efforts, such as its work with the federal PEPFAR program (the President's Emergency Plan for AIDS Relief), through which HSPH partners have opened 23 testing labs in Nigeria alone and trained 18,000 health professionals in Botswana, Tanzania, and Nigeria. Those workers have, in turn, treated 123,000 AIDS patients and distributed anti-retroviral drugs to 78,000 people in the same three countries. This work, more applied than academic science, "worries the hell out of the University," Bloom says, "but my view is—this is the biggest threat to the health of the world since the 1918 flu epidemic. If you want to be a great school of public health, you have to deal with the great public-health problems in the world."



Barry Bloom



Visit [harvard-mag.com/extras](http://harvard-mag.com/extras) to hear clips from the interview with Dean Bloom



tiyear programs on potential topics such as access to clean water (involving science and social science, humanitarian aid, culture, and gender), or the institutions and processes for determining the safety of pharmaceuticals. She and executive dean Louise Richardson, a social scientist (who departs at year's end to become principal of the University of St. Andrews), are beginning to consult with Harvard deans to identify complementary projects, and hope to pick a topic and identify faculty leaders for the first one this year.

• Extending the institute's reach. Grosz said she envisions systematically extending RIAS's impact in several ways. Having funded short-term visiting scholars to complement formal clusters of fellows, she sees doing the same to support fellows whose year in residence yields spontaneous, informal collaborations. She expects

such visitors to augment the exploratory and advanced seminars in similar ways. (Such visitors and temporary collaborators can be given work spaces in the institute's offices on Concord Avenue, once the fellows relocate to Byerly, so there is plenty of capacity.) RIAS is also increasing opportunities for undergraduates to meet with visiting lecturers and to work with fellows, and, Grosz hopes, enhancing its dissertation support for doctoral students.

The institute's inclusion of creative artists among its fellows' ranks—a feature unique among American institutes for advanced study—is a model for recommendations that the University task force on the arts, expected to report to President Faust this fall, may wish to make. (Grosz noted that Christine Dakin, a principal dancer with the Martha Graham Dance Company and a 2007-2008 fellow, was deeply engaged

with students and staged a production with undergraduates.) And because Faust has reconstituted the Allston advisory group to include the entire council of deans, Grosz will be able to bring RIAS's interdisciplinary perspective, and its knowledge of working artists and their facilities needs, directly into the Allston campus planning process.

In all, Grosz said, Radcliffe is in a strong position to build on "one of the premier fellows' programs in the world." (The applicant pool remains strong, with nearly 800 people seeking the 50 available positions each year.) With the Byerly project on track, the institute can "take a breather" from its extensive, multiyear program of renovation. That makes room, she said, for RIAS to focus its capabilities "in many different ways on connecting even more with what's going on at Harvard."

## Endowments— Under a Tax?

THE RISING VALUE of endowments belonging to private institutions of higher education is attracting critical political attention—a special challenge for Harvard, whose \$34.9-billion endowment is much the largest. In late February, the University and dozens of other institutions responded to a U.S. Senate Finance Committee request for information on tuition and financial aid; the size, performance, and management of the endowment; and policies governing its use.

In late April, Steven T. Miller, the Internal Revenue Service commissioner of tax-exempt and government entities, told a Georgetown Law Center seminar that his colleagues would study the application of the agency's "commensurate test"—an enforceable standard that seeks to ensure organizations "spend in line with their resources"—to colleges and universities, but would not necessarily "devise inflexible rules" about spending.

State governments have been mulling their own actions. Late in April, a Massachusetts legislator proposed a 2.5 percent tax annually on endowment assets to generate revenue for the Commonwealth.

Even within higher education—where

most private institutions have minimal endowments, and public schools fight for scant or diminishing resources—the frustration shows. Writing in the May/June issue of *Currents*, the magazine of the Council for Advancement and Support of Education (the trade organization for education fundraising professionals), Donald J. Farish, Ph.D. '70, president of Rowan University in New Jersey, critiqued Harvard's enhanced financial aid for students from upper-middle-income families, announced last December (see "Boosting College Financial Aid," March-April, page 54). Focusing only on that budget item (not on graduate and professional education, research costs, etc.), and on the strong endowment investment returns in a single year, Farish wrote of the aid initiative's \$22-million annual cost, "Harvard's endowment increased by \$6 billion during the past year. A 5 percent spending mandate [see below] would require Harvard to spend \$300 million of that increase.... One might ask Harvard what its plans are for the remaining \$278 million."

He proposed a 15 percent capital-gains tax on universities' investment income, the proceeds to be "dedicated to federal need-based programs for qualified students at institutions with endowments that amount to less than, say, \$10,000 per student."

None of these proposals appears likely to advance soon, but they suggest broader public concerns, and Harvard administrators are eager to address such issues. Associate vice president for government, community, and public affairs Kevin Casey, the lead spokesman so far, noted that Senator Charles Grassley (R-Iowa) "has been focusing on...issues relating to endowments of the top universities for a while." That interest grew from an investigation of foundations and other philanthropic organizations (tax exempt, but without operations, personnel, or budgets comparable to those of a college or university), where instances of abusive spending and slight charitable work have surfaced.

Because the finance committee is involved in oversight of financial-aid tax credits—and because, as Casey said, the tuition costs associated with higher education have been "a populist issue for some time for good reason"—Grassley and Senator Max Baucus (D-Montana) became interested in affordability and the use of endowments in that regard. (Even before the recent round of "robust" financial-aid enhancements, Casey said, Harvard, Yale, other universities, and education associations were able to convince interested senators that "the highest-endowed institutions are actually doing the *most* on financial aid.")

## What Makes (and Remakes) a House

The Faculty of Arts and Sciences (FAS), in planning a major renovation of the 12 undergraduate residential Houses, has appointed a House Program Planning Committee “to examine the mission and purpose of House life and to develop an architectural space plan for the House system.” The committee’s work will guide the massive renovation project that is expected to begin in the fall of 2011, take 12 years to complete, and require the sequential closure of at least 11 of the Houses. (In a parallel process, the condition of four Houses—the modern Mather and Leverett and the Neo-Georgian Dunster and Lowell—has been assessed by consultants Einhorn Yaffee Prescott [EYP], which recently completed a similar project at Princeton; Harvard’s remaining eight Houses will be evaluated during the next year and a half.)

Three distinct subgroups will tackle the planning committee’s charge, says Harvard College associate dean for residential life Suzy M. Nelson. The first, she explains, will study House life: “What’s the mission, what’s the purpose, how do we renew and preserve this cherished tradition that we have?” Chaired by Gray professor of systematic botany and dean of the Harvard Summer School Donald Pfister, a former master of Kirkland House, the group will examine how the Houses can integrate the academic and social spheres of student lives, exploring the roles and responsibilities of masters, deans, tutors, staff, and senior common-room members, as well as the services and resources a House should provide.

Two other subcommittees will focus on physical space. A group chaired by Quincy House master Lee Gehrke, a professor of health sciences and technology as well as of microbiology and molecular genetics, will examine how public spaces factor into students’ academic and social growth. As they review libraries and study rooms, technology labs, theatre and recreational spaces, for example, committee members will determine which are essential to every House and which can be shared among groups of Houses.

The third group, chaired by Pforzheimer House master James McCarthy, Agassiz professor of biological oceanography, will look instead at how residential living spaces enhance students’ learning, health, and well-being. What types of room and suite designs (singles? doubles?) will help build community among students and tutors? The committee will suggest floor plans, including the location of study spaces, bedrooms, common rooms, and bathrooms, and look at the way suites are clustered. “Should there be entryways, as there are now,” asks Nelson, “or should groups of suites be more horizontal [grouped on corridors] than vertical?”



Dunster House

The subgroups’ recommendations will be used to draft guidelines and principles for the planning and architecture of the renovations. Architects will then determine the feasibility of the proposed programs, and the resulting strategic and financial plan will probably be presented to the president and Corporation in December.

The role of the Houses has not been thoroughly reexamined since the first seven were built during a three-year span in the 1930s. Many of the individual buildings predate the House system itself—the oldest are about 120 years old—and EYP’s analysis already indicates that aging mechanical systems, including plumbing, ventilation, and electricity, will need to be replaced. Elevators and other reconfigurations will bring the buildings up to modern accessibility requirements: 100 percent of the suites, and 5 percent of the bedrooms, will be made accessible.

Originally designed to accommodate 3,900 students, the Houses now hold 4,900. That means 700 students live in what were intended as common rooms, Nelson says, and 260 (drawn from four nearby Houses), live in an apartment building on DeWolfe Street. Although each House suite has two means of egress, as fire-safety codes require, some of the escape routes require passage through multiple fire doors and other rooms (including bedrooms) to reach a second stairwell. Privacy is also a concern. Many suites have bathrooms that can be reached only by passing through a bedroom. By reconfiguring them to include corridors, for example, planners believe they can address all these problems and, by making more efficient use of existing space, house all of Harvard’s undergraduates more comfortably—and, with systems-efficiency improvements, more sustainably.

“The House system is a hallmark of the undergraduate experience at Harvard,” says FAS dean Michael D. Smith. “It is vital that these buildings support the intellectual, cultural, and social programming of the Houses, and allow these communities to flourish as models for the integration of the academic and the residential experience.”

Planners expect to undertake the renovations one House at a time, given the need to provide rooms for all the students who will be displaced by the work. (Finding sufficient “swing space” before renovations begin in the fall of 2011 will be a major challenge.) Each house will take 15 months to complete: an academic year and a summer. Construction of a thirteenth house in Allston, something under consideration separately, will not happen (if it happens at all) before the renovations begin. Unless more swing space becomes available, the entire project will be completed in 2023.



Leverett House



That prompted broader queries into endowments and spending policies, associated with some Senate discussion of a mandated rate of distribution from endowments, perhaps like the 5 percent per year required of nonprofit foundations. (Harvard has apparently reached that level only once in the past decade, even when including both distributions for operating expenses and extra or unusual distributions for purposes such as financing Allston development or a recent \$100-million sum for Faculty of Arts and Sciences construction expenses. For details, see Harvard's response to the Senate committee at [www.hno.harvard.edu/press/pressdoc/supplements/baucus\\_grassley.pdf](http://www.hno.harvard.edu/press/pressdoc/supplements/baucus_grassley.pdf).) The committee members were "impressed" by the institutions' filings, Casey said, and now appear to view the assets more broadly—not just as support for undergraduate education, but also for research, the arts, and university operations as a whole.

Of states' interest in private endowments, Casey said, "They're all in tough budget times." The Massachusetts proposal would tax the nine institutions with \$1 billion or more in such assets. Yet "Outside the purview of this discussion," he noted, such institutions have always been seen as "the great asset of Massachusetts"—in research potential, employment, and associated economic impacts.

State budget problems can, of course, exacerbate pressure on public higher-education institutions—even flagship research universities, which find themselves battling to match private peers' balance sheets as they try to finance student aid and pay faculty members. The percentage of such institutions' funds coming from state coffers has been declining over time, Casey said. "In an era when most scientific publications arise through collaboration among people from multiple institutions, it's in the national interest to foster strong public and private universities. State budget stresses are challenging public universities in ways we should all be concerned about."

Harvard has a responsibility to contribute to the wider discussion about support for education, Casey added. "It is really important for

## Yesterday's News

From the pages of the *Harvard Alumni Bulletin* and *Harvard Magazine*

**1943** Harvard's 308th academic year opens July 6 with an enrollment of 1,782 civilian students (rather than the normal 8,000) and nearly 6,000 army and navy trainees.

**1953** The Harvard Corporation sets aside \$250,000 from the Allston Burr bequest to begin construction of an outdoor ice rink and artificial ice plant on Soldiers Field. The Working Friends of Harvard Hockey, a group of alumni consisting mostly of former Harvard hockey players, plans to raise the estimated additional \$350,000 necessary to put a roof on the rink and equip the building.

**1958** Harvard's brand new telephone center, handling calls from the University's 1,700 stations, goes into operation.

**1963** The University comptroller's office shifts from a card-processing system to a card-and-magnetic-tape system that can add 200,000 eight-digit numbers a minute instead of 150.

**1968** The editors report that no more than a dozen of Harvard's 30-odd traveling-fellowship winners will actually

be traveling, as a number of the would-be itinerant scholars "have been told no by their local draft boards."

**1978** Exiled Russian writer Alexander Solzhenitsyn is awarded an honorary degree at Commencement. That afternoon, in his speech to the meeting of the Associated Harvard Alumni, he warns his audience that "the Western world is losing its courage and spiritual direction."

\* \* \*

President Derek Bok tells the Senate Select Committee on Intelligence that Congress must make clear that U.S. intelligence agencies cannot interfere as they please with university life, but must follow rules governing their activity. Harvard's own guidelines are the first of their kind in the country.

**1988** Harvard Business School has instituted a mandatory three-week, ungraded course in corporate responsibility and ethical issues for all entering M.B.A. students. "Decision Making and Ethical Values: An Introduction" is intended to signal early on that these issues are important to the school.



Illustration by Mark Steele

these institutions to come together to make a coherent argument—not just Harvard and Yale but Wisconsin and Michigan—as to why these are national assets.” The recent public attention has made edu-

cation leaders aware that they cannot “take for granted that the public understands how important these institutions can be.”

How to proceed in this conversation, he said, has become a concern at the highest

level of the University. As the administration seeks a new vice president for government, community, and public affairs, such issues will no doubt loom large in the discussion.

## A “Pause” and Progress in FAS

DURING SPRING faculty meetings, dean Michael D. Smith explained his approach to leading the Faculty of Arts and Sciences (FAS), with important implications for the growth of professorial ranks. And the faculty progressed in rolling out the new general-education curriculum, the most consequential development now on the agenda for undergraduates’ academic experience at Harvard—and perhaps an unforeseen enhancement in graduate students’ education as well. (Smith also discussed his retrospective report on FAS’s activities from late 2006 through this past winter at the May 20 faculty meeting; see [www.fas.harvard.edu/~home](http://www.fas.harvard.edu/~home)).

allocate space; tie together FAS and departmental academic and strategic plans; and oversee research centers, institutes, museums, and other formerly autonomous units.

Smith also described a thorough academic planning process that would enable him to “allocate resources” and to align them with the faculty’s “aspirations.” “The worst outcome,” he wrote in a handout to the faculty, “would be to undertake a planning exercise and have no resource ‘headroom’ at the end of the exercise to implement our plans.”

Accordingly, he said, the faculty would “pause to plan.” With the faculty ranks having risen 19 percent (from 596 positions to 712) between mid 1997 and mid 2007, and continued growth in 2007–2008, he proposed in his text “arresting our growth” for 2008–2009, an abrupt shift. During the past decade, according to his handout, the number of professors grew in all academic divisions, but only the engineering and applied sciences division expanded in relative size (see table). Smith asked the faculty whether it wished to put more effort into certain fields—as FAS’s enormous investments in science laboratories strongly imply—and said that it had not done so in the recent past. The “pause” he proposed suggests a different path of hiring to be defined in the run-up to the next University capital campaign, and implemented as the resulting resources become available.

• General education. Work continues to develop new courses for the successor to the undergraduate Core curriculum, as Wolfson professor of Jewish studies Jay M. Harris reported to the faculty on May 6. (Harris, master of Cabot House, directs the effort.) A “preview year” will begin this fall, he said, with perhaps three dozen courses offered (see [www.generaleducation.fas.harvard.edu](http://www.generaleducation.fas.harvard.edu)); the full program begins in the fall of 2009, as the general-education requirement for the class of 2013. Harris said the committee was examining

both course content and pedagogical design: opportunities for faculty-student interaction, use of technological tools and University museum collections, and integration of writing and speaking in class requirements and aims.

Graduate School of Arts and Sciences dean Allan M. Brandt then told the faculty about new graduate seminars in general education: a series of for-credit working groups in which faculty members planning the new courses engage their graduate students to review the field, examine pertinent pedagogies, and contribute to the design. Brandt subsequently described a process of bringing graduate students and faculty members together to “critically assess appropriate readings, primary materials, laboratory work, and other methodological skills as well as theoretical themes that will be pursued” in general-education classes. Further, he said, participants will “consider alternative pedagogic strategies, teaching techniques, and technologies,” as well as development of applicable research, writing, and evaluation skills.

The immediate hope is that the graduate students involved will become especially adept teaching fellows when the courses debut in the fall of 2009—a far cry from handing a teaching fellow a syllabus and asking her to run a section. Brandt hopes six to eight such seminars will operate each year. Among those organized for 2008–2009 are sessions on international human rights, Asia in the making of the modern world, probability, ethics and aesthetics, the literature and art of the American Civil War, and food in America (from the starvation at Jamestown to present concerns about obesity).

Longer term, if effective, the experiment would yield fresh courses with up-to-date content, while providing graduate students with much richer teaching skills when they pursue academic careers—an unexpected payoff from revising the undergraduate curriculum.

### Faculty Growth and Composition

	1997	2007
Arts & Humanities	177 (29.7%)	210 (29.5%)
Social Sciences	216 (36.2%)	252 (35.4%)
Engineering	50 ( 8.4%)	70 ( 9.8%)
Life Sciences	76 (12.8%)	91 (12.8%)
Physical Sciences	77 (12.9%)	89 (12.5%)
Total	<b>596 (100%)</b>	<b>712 (100%)</b>

Addressing his colleagues on April 8, Smith outlined changes in administrative processes, responsibilities, and personnel. Most visibly, the divisional deans—a position created earlier this decade, to provide coordinating and oversight roles for the arts and humanities, social sciences, and the sciences—will be significantly empowered. Beyond their current advisory roles, Smith’s divisional deans will authorize faculty searches, recruitment, and leaves; appoint department chairs, set salaries, and approve office and laboratory renovations;



## A Dominant Dean

In an afternoon conversation in Wadsworth House, where he had an office between his two terms of service as dean of the Faculty of Arts and Sciences (FAS), Jeremy R. Knowles once offered three metrics for assessing any Harvard dean's performance. Were the professorial ranks stronger? Had students' education improved? Were the financial underpinnings of the research and teaching sound?

Knowles judged that he had helped FAS fare well during his principal tour in University Hall, from mid 1991 to mid 2002—from the beginning of Neil L. Rudenstine's presidency through the first year of Lawrence H. Summers's. The faculty ranks, constant for more than three decades, began growing. The faculty reviewed the undergraduate concentrations and updated the Core curriculum. By beginning as a "wet-weather dean," he had eliminated FAS's persistent deficits while renovating essential facilities (the Yard dorms, Widener Library), putting the faculty in position late in the decade to make good use of the fruits of the University Campaign and strong endowment investment returns: new structures progressed, to house newly appointed professors in new fields, from genomics to engineering and the applied sciences. (See "A Dean for All Weathers," May-June 2002, page 48.)

When Knowles resumed the deanship in 2006, at the request of Derek Bok, both men aimed mainly to maintain University business during their interim terms of service. Neither disclosed that Knowles was battling the prostate cancer that would force him to step down in the spring of 2007, and that ended his life this past April 3.

In the years since his own precise accounting of his leadership (as befit the Houghton professor of chemistry and biochemistry), Knowles's FAS service has come to seem much more consequential in the eyes of his colleagues, hundreds of whom turned out at an enormous service held at Memorial Church on May 30, just before the events of Commencement.

In perspective, the faculty's 20-plus-percent growth during the past 11 years is rooted in that earlier financial discipline and then growing confidence in an expanding intellectual agenda. The revision of the whole undergraduate curriculum initiated by Dean William C. Kirby built on the committees, processes, and College decanal structure Knowles put in place—all involving more faculty engagement in education and student life. The new science buildings now being occupied, and the vision for Allston as a community, not an academic enclave, all reflect his thorough involvement in academic planning and physical design.

At a family memorial service held on April 12 at Mount Auburn Cemetery, surrounded by Harvard friends (Jane Knowles retired as Radcliffe archivist in 2007), the Reverend Peter J. Gomes said, "[D]eans come and deans go, but some deans endure, and he was one of the enduring deans." Knowles, he said, "brought to a lofty and often mechanical office a kind of



Jeremy R. Knowles

generosity of spirit and liveliness of imagination, indeed, a nimbleness that made it fun to try to keep up with him."

Sebastian Knowles '83 remembered his father in a way that recalled both his fierce work ethic and his dry British humor. During a summer vacation in Rhode Island, Sebastian said,

Jeremy had fallen sick: he was always doing this on holidays—that's how he was able to put in such long hours at work. So we left him in bed and played in the sun, until the telephone rang in the main house. This was 1976, when a phone ringing in a summer house was still something of a novelty. Dubiously, I lifted the receiver, to discover one of Dad's graduate students on the line. He sounded excited. "Is Jeremy there?" "He's sick." "Could I speak with him?" "He can't come to the phone, he's too ill." Pause. "This is his laboratory. Could you tell him that we've found retention in alkaline phosphatase?" I was 14, and had no idea what this meant—I still don't. But I put down the receiver, raced outside to the little house where Jeremy lay, and clattered up the narrow stairs, shouting, "Dad! Dad! There's been retention in alkaline phosphatase!" I was so pleased to be able to deliver this piece of incomprehensibly good news. He rolled his head towards me, fixed me with a baleful look, and whispered: "What percent?"

Sebastian's brothers Julius and Timothy, Ed.D. '02, also spoke. The latter summed up their father's accomplished research on enzymes, distinguished leadership of the faculty, and role within his family—all characterized by helping enable others to fulfill themselves—as driven by the pursuit of "catalytic perfection." Following the service, Jeremy Knowles was laid to rest on a hillside affording a panoramic view of Harvard—a community that appears genuinely grateful for his commitment to catalytic perfection on its behalf.



## A Communal Campus?

PRESIDENT DREW FAUST on April 24 appointed a University steering committee to explore improvements to Harvard's Cambridge campus, with the aim of making better use of existing spaces to foster faculty-student interaction, social life, and artistic and cultural performances. The goal is to effect improvements in the areas near Harvard Yard, even as planning proceeds for the long-term development of the academic facilities in Allston. (For the news release on the steering committee, and its members, see [www.news.harvard.edu/gazette/2008/05.01/99-openspaces.html](http://www.news.harvard.edu/gazette/2008/05.01/99-openspaces.html).)

The task force co-chairs are Lizabeth Cohen, Jones professor of American studies, whose scholarship and teaching are deeply involved with American urban design and physical planning (see her home



page and c.v. at [www.courses.fas.harvard.edu/-history/facultyPage.cgi?id=9](http://www.courses.fas.harvard.edu/-history/facultyPage.cgi?id=9)), and Mohsen Mostafavi, dean of the Graduate School of Design, who is professor of architecture (see "A New Dean Designs without Borders," November-December 2007, page 70).

The steering committee will work with the University Planning Office to identify sites capable of being improved physically and put to new programmatic uses. Among the spaces that come to mind are the plazas in front of the Science Center and those to the front and rear of Holyoke Center; there is also extensive space south of Malkin Athletic Center, facing Kirkland, Eliot, and Winthrop Houses.

The initiative will also complement the



Faculty of Arts and Sciences' current planning for wholesale renovation of the undergraduate residential houses during the next decade or so (see page 66); that effort includes evaluation of what new kinds of uses and spaces should be accommodated within the residences, and what should be shared among them. Faust has also commissioned a task force on the arts at Harvard, scheduled to report this autumn (see "Approaching the Arts Anew," January-February, page 51); its recommendations could obviously contribute to fresh thinking about enhancing spaces for performance uses.

In her charge to the committee, Faust wrote, "Our goal is to provide spaces that will draw people together for work or pleasure in a spontaneous and informal way." She cited a desire to create "visible, attractive, and inviting campus 'focal points' that will improve our Cambridge campus and create a sense of place that is distinctly Harvard's, yet open to the city and surrounding communities," and to recommend programs complementary to the spaces, resulting in "gathering places that are open and inviting to everyone, so that undergraduates, graduate students, faculty, staff, alumni, and visitors see them as appealing spaces to meet, talk, sit, read, work, reflect, or rest." (Forward suggestions to [commonsplaces@harvard.edu](mailto:commonsplaces@harvard.edu).)

The committee's interim recommendations are expected by this winter, with detailed feasibility studies (prepared by the planning office) completed by the fall of 2009. If that timing holds, the recommendations could be incorporated into the goals for a forthcoming University capital campaign, expected to take shape by the end of the decade.



**Sites that might be improved include (top right and top) the front and rear Holyoke Center plazas and (clockwise, from above), the Science Center plaza; the new quadrangle framed by the Music Building, LISE, and McKay; the south side of the Malkin Athletic Center; and the courtyard formed by the Bauer, Fairchild, and Converse laboratories.**



## Harvard College Professors

Faculty of Arts and Sciences dean Michael D. Smith has named six colleagues Harvard College Professors, recognizing excellence in undergraduate teaching: professor of Romance languages and literatures



Virginie Greene

Virginie Greene; professor of economics David Laibson; Cabot professor of the natural sciences Douglas Melton;



John Shaw

Johnstone Family professor of psychology Steven Pinker; Dudley professor of structural and economic geology John Shaw; and Loker professor of English James Simpson. The five-year appointments provide funding for further professional development,

through either research support or supplemental summer salaries. Separately, Smith recognized two junior faculty members for their teaching, conferring the Abramson Award on Lisa Brooks, assistant professor of history and literature and of folklore and mythology, and David Parkes, Loeb associate professor of the natural sciences.

## ART Alumna

Diane Paulus '87 has been appointed artistic director of the American Repertory Theatre. She will begin working this fall on planning the 2009-2010 season. A social studies concentrator at Harvard, Paulus received an M.F.A. in directing from Columbia; she has been teaching at Barnard/Columbia and the Yale School of Drama. Her directing credits include plays, musical theater, and numerous opera productions.



Diane Paulus

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and numerous opera productions.

## Undergraduates Overhead

Massachusetts Hall—Harvard's oldest building, home to the president and her senior staff—will once again house College freshmen on its upper floors. The

# Brevia



**ENDOWMENT EXPERT.** Jane Mendillo has been appointed president and chief executive officer of Harvard Management Company (HMC), effective July 1, succeeding interim CEO Robert S. Kaplan. HMC oversees investment of the endowment and other University assets. Mendillo has served as chief investment officer at Wellesley College since early 2002. From 1987 to 2002 she was a senior investment officer at HMC, ultimately overseeing external assets then totaling roughly one-third of the total funds under management. University treasurer James F. Rothenberg cited her investment and leadership skills, knowledge of Harvard, and devotion to higher education. In her recent roles, Mendillo has had broad responsibility for asset allocation, perhaps the most important task for HMC's senior officer. Although fiscal year 2008 results will not be reported until this autumn, there are indications as Mendillo arrives that, despite turbulent financial markets, Harvard's diversified portfolio again yielded positive investment returns.

building was sold by the Faculty of Arts and Sciences (FAS) to the central administration in 2006, and was taken out of service for housing during the past academic year. Beginning this fall, however, FAS has rented the unoccupied space back, and 14 entering freshmen are expected to room there during each of the next two years. Undergraduate housing is a scarce

commodity—apparently a factor in the decision not to admit any transfer students for the next two years. On the other hand, given the difficulties in judging student preferences in the first year when the College did *not* offer early action but *did* substantially increase financial aid, Harvard offered fewer students regular admission than in years past, and then, atypically, went well into its waiting list to fill out the class of 2012.

## Nota Bene

**MUSEUMS MAKEOVER.** The Harvard University Art Museums (the Fogg, Busch-Reisinger, and Sackler) and associated research centers have renamed themselves as a single entity—the Harvard Art Museum—with graphic devices meant to indicate the continuing identity of the constituent parts.

**NATIONAL ACADEMY NOTABLES.** Eight faculty members have been elected members



Ronald S. Kessler

of the National Academy of Sciences: Lars E. Hernquist, professor of astronomy; Eric N. Jacobsen, Emery professor of chemistry; Lisa J. Randall, professor of physics; Theda Skocpol, Thomas

professor of government and sociology, and past dean of the Graduate School of Arts and Sciences; and from Harvard Medical School, Michael E. Greenberg, professor of neurology; Ronald S. Kessler, professor of health care policy; Anjana Rao, professor of pathology; and Gary Ruvkun, professor of genetics.



Gary Ruvkun

**GUGGENHEIM FELLOWS.** The Guggenheim Foundation has awarded fellowships for 2008 to: Torben Iversen, Burbank professor of political economy (on the representation of economic interests); Nicholas Watson, professor of English and American literature and language (vernacular theology and the secularization of England, 1050-1550); and Harvard Kennedy

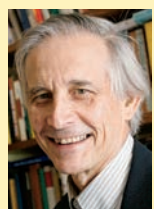
School's John G. Ruggie, Kirkpatrick professor of international affairs (multinational corporations and human rights).



**Susan Athey**

AMERICAN ACADEMY HONORANDS. A bumper crop of faculty members has been elected fellows of the American Academy of Arts and Sciences: Susan Athey, professor of economics; Mahzarin Banaji, Cabot professor of social ethics and Pforzheimer professor at the Radcliffe Institute; Janet Browne, Aramont professor of the history of science; Benjamin Buchloh, Mellon professor of modern art; Lawrence Buell, Cabot professor of American literature; Nancy F. Cott, Trumbull professor of American history and Pforzheimer Foundation director of the Schlesinger Library at the Radcliffe Institute; Daniel Gilbert, professor of psychology; Gulru Necipoglu-Kafadan, Aga Khan professor of Islamic art; Jeremy Stein, Safra professor of economics; William J. Stuntz, Friendly professor of law; Elizabeth Warren, Gottlieb professor of law; and Xiaoliang Sunney Xie, professor of chemistry and chemical biology.

Newly elected Harvard Medical School faculty members include: Jerome Groopman, Recanati professor of medicine; Rakesh K. Jain, Cook professor of radiation oncology (tumor biology); Judy Lieberman, professor of pediatrics; Timothy J. Mitchison, Sabbagh professor of systems biology; Norbert Perrimon, professor of genetics; Kevin Struhl, Gaiser professor of biological chemistry and molecular pharmacology; and Leonard Ira Zon, Grousbeck professor of pediatrics.



**Lawrence Buell**



**Daniel Gilbert**

ON OTHER CAMPUSES. Like Harvard Law School, which has waived third-year tuition for students who commit to public service, and Harvard Medical School, which eliminated parental tuition payments for students whose families earn less than \$120,000 per year, their Yale counterparts are acting, too—building on the wave of more generous undergraduate financial aid launched last December by Harvard. Yale Law School has liberalized income limits for loan forgiveness and increased funding for public-service opportunities. Yale Medical School eliminated family tuition contributions below the \$100,000 level. And Tufts University has extended the principle of loan forgiveness to alumni and forthcoming graduates of all its schools (including its undergraduate program) who pursue nonprofit or

**BRIDGE TO CITIZENSHIP.** The Harvard Bridge Program, begun in 1999, offers University service workers instruction in subjects ranging from English as a second language to college-preparation and career-development skills. Some 550 service employees now participate, and those who are preparing to take the citizenship examination receive tutoring from undergraduate volunteers involved in the Institute of Politics at the Kennedy School. A ceremony this April celebrated 24 newly minted United States citizens from the program. Shown here are 13 of the celebrants. Standing (left to right) are Santos Molina, Secundina Alvarez, Ines Da Silva, Juan Gonzalez, Doris Lopera, Brenda Quant, Vanessa Delleville, Julius Kubai, and Blanca Hurtado; seated (left to right) are Tananya Deus, Ruth Melgar, Maria Andrade, and Vincenta Aleman.



public-service careers, not just of graduates from certain professional schools—the practice at Harvard and other universities. And the California Institute for Regenerative Medicine began making grants for 12 campus stem-cell research facilities; Stanford received the largest award, \$44 million, toward a planned \$200-million center.

MISCELLANY. Rabb professor of anthropology Arthur Kleinman, who is also professor of medical anthropology and psychiatry, has been appointed director of the University Asia Center ([www.fas.harvard.edu/-asiactr](http://www.fas.harvard.edu/-asiactr)), effective July 1, succeeding Daewoo professor of international affairs Anthony Saich. Kleinman has conducted medical, mental-health, and anthropological research in Taiwan and China for three decades....Cogan University Professor Stephen Greenblatt has been elected to the American Academy of Arts and Letters. The second edition of *The Norton Shakespeare*, for which he serves as general editor, will be published in September. Also elected was Robert A. Caro, NF '66, biographer of Robert Moses and Lyndon B. Johnson....McCue professor in architecture Preston Scott Cohen has been appointed chair of the Graduate School of Design's department of architecture,



**Arthur Kleinman**



**Preston Scott Cohen**

succeeding Toshiko Mori, Hubbard professor in the practice of architecture. Cohen designed several buildings now under construction in China and Israel....Following the lead of the Faculty of Arts and Sciences (see "Open Access," May-June, page 61), the Harvard Law School faculty has voted to make professors' scholarly articles available on line for free.



# Education by Office Hour

by SAMUEL BJORK '09

THE HARVARD I know today began in the most unlikely of ways: with a cup of tea, served loose-leaf in a ceramic mug, as I sat at a table littered with books and papers, impossibly squeezed between the bookshelves and free-standing chalkboard of a narrow Semitic Museum office. I had come to interview for a spot in the wildly popular freshman seminar of James Russell, Mashtots professor of Armenian studies and unlikely champion of the “Great Books” education I so desired my first year. What was supposed to be a 15-minute chat had somehow stretched over three hours, but the four other students in the office and I remained enthralled by the same thought: I came to Harvard to be a student, and here, two weeks in, I have found a teacher.

At least, I hoped I had, as I finally found it in me to ask for a coveted place in Russell’s seminar.

“Oh, that,” he said with a smile, apparently surprised it was the seminar, and not the complexities of Nabokov’s *Pale Fire*, that was on my mind. “Yes, you may do the reading for Tuesday, if you like.”

So my Harvard began, quite fortuitously, with office hours, the weekly periods during which professors forgo their other, doubtless more pressing, duties to meet with students. It was in and through these informal encounters—with professors I admired, and who, for some strange reason, seemed to take me and my education seriously—that I came into my own at the College.

The purpose of the office hour (and it is, despite the common use of the plural, frequently only an hour) is obvious: to provide an opportunity for student-faculty interactions outside the seminar room or lecture hall. The practice is common at many other schools, but Harvard’s take on it is peculiar, if only because it reflects a deeper problem with campus life.

“In an ideal world, we wouldn’t need to have office hours,” says Lino Pertile, Harvard College Professor and Pescosolido professor of Romance languages and literatures, who is also the master of Eliot House. Students would interact with professors as they would with friends: casually in departmental centers, over dinner, after class. But on the whole, this doesn’t happen. Students, for their part, are more keen to avoid their professors than to engage them; professors, or so the conventional wisdom goes, are more focused on their research than their teaching. As it is, Pertile says, these officially sanctioned

longstanding, and today, as ever, there is some degree of truth to it: at any university as large at Harvard—especially one where the scholarly output of faculty members is so highly valued in tenure decisions—there are bound to be some professors overly devoted to their own specialized field, committed to the training of their graduate students, and limited in the amount of time they can spend on their undergraduates.

For every Harvard College Professor—a competitive appointment awarded only to select faculty members with a demonstrated commitment to un-



periods of interaction “are symptomatic of the incomplete relationship that exists between undergraduates and professors—office hours themselves are an attempt to respond to a need for interaction that is not satisfied in the day-to-day exchange between student and professor.”

At the heart of this fraught relationship is the widespread perception among students that the Harvard professoriat is distant and inaccessible. The belief is nothing if not

dergraduate teaching—there are many others overwhelmed by crowded lectures for Core and other introductory classes; that a student-professor gulf exists in such impersonal environments is only to be expected. Of course, there are also some instructors who simply don’t care: the English professor who stares blankly when asked the simplest of queries; the mathematics professor who asks impossibly and embarrassingly difficult questions

to those brave enough to open his door; the economics professor who requires that students submit specific questions through his assistant before scheduling, or not scheduling, an "office hour" session.

What these alleged cases of professorial neglect conceal, however, are the countless professors who *do* want students to come meet with them. All too often, students cling to the tenuous myth of the distant Harvard professor to vindicate their own inaction; when they do, the myth perpetuates itself, breeding a widespread passivity among students that further frays the student-faculty bond. "At Harvard there is this sort of myth that undergraduates don't have access to professors," Pertile notes, "and so often undergraduates don't even try, and office hours go unused."

Even when students do try, the results can be less than perfect. They were for me, numerous times in my freshman year. Awed by the mellifluous lectures of an English professor, I ventured one day to his office to discuss a poem that we hadn't had time to cover in class. Expecting him to wax poetic while I reclined, I withered at his request that I first provide my own interpretation. He listened to my bumbling far longer than I would have liked before commenting dryly, gently: "It is advisable to consider such things *before* knocking, don't you think?"

Then came the smaller failures: the mispronounced names, the books I pretended to have read, the little intellectual performances I put on to impress. They all failed, as well they should have; the office hour is not a recital, and feigned intelligence can never really be improved.

Narrating these mishaps today, I see them for how inconsequential—and how instructive, in a way—they really were. That I found them so crushing, however, sheds light on what is perhaps the primary reason for the student-faculty gulf: the unending unease of undergraduates with themselves. "Students are always afraid that any conversation with their professors will become an exam, or interrogation, or a test of knowledge," says Pertile, "and they are wrong to think in those terms, to be constantly afraid of being judged."

HARVARD STUDENTS, for all our blustering confidence, are as neurotic as they

come: profoundly insecure, self-critical to a fault, making it even worse for the few who *aren't* those things. It is part of the reason why most of us are here; it also explains both why formal institutions like office hours are necessary, and why they aren't fully successful. The learning that can take place during these hours—and they form one of the most valuable opportunities to learn at Harvard—can never really happen without some degree of vulnerability, a vulnerability most students are loathe to embrace.

The utility of office hours rests on this delicate balance between the legitimate worry that professors may, in fact, have better things to do with their time and the self-limiting insecurity on the part of students. Says James Kloppenberg, Kemper professor of American history and another Harvard College Professor, "I think students are justifiably concerned about wasting their professors' time for no purpose. That's understandable." But, he adds, "if you come to office hours with an honest question, or a real interest in discussing an issue, I think you are likely to find your professor heartened by your presence and willing to help you come to a clearer understanding."

OF COURSE, there are always exceptions—always some students, like Paris Spies-Gans '09, who have managed to meld the opportunities of office hours into an essential part of both academic and extracurricular life, largely free of the difficulties experienced by their peers. When Cogan University Professor Stephen Greenblatt invited students from his Humanities 27 course ("Travel and Transformation on the High Seas: An Imaginary Journey in the Early Seventeenth Century") to periodic lunches throughout the term, Spies-Gans put aside her slight anxiety and joined him. Their conversations led her to his office hours, and Greenblatt was soon helping to assemble a curriculum for her junior tutorial in history and literature, and offering advice about her extracurricular work with Harvard's museums.

Spies-Gans attributes the ease of this transition in part to her relatively small, more personal concentration, in which the focus is geared toward "having ques-

tions, not answers," and in which casual interactions with faculty are far more likely to occur than in some of the larger concentrations. "I had no idea there were people who were intimidated [enough] by professors [to avoid them]. It never even occurred to me," she says. "Teachers chose academia with the knowledge that there would be students involved, and I would hope that they would want to make that part of their job."

Professors have *always* intimidated me. Even so, finding those who do want to make students part of their job has been one of the most meaningful parts of my university life. My own experiences support not just the possibility, but the indispensability, of interacting with faculty members.

Office hours, in all their various forms from course to course, have been largely responsible for facilitating those interactions. Such sessions in one of my most formative courses—Alison Simmons's "Introduction to Early Modern Philosophy"—were engaging semi-salons; those of Eric Jacobsen's organic chemistry course were fast-paced chalkboard affairs, packed with premedical types and aspiring chemists alike; and Howard Georgi's famous first-year physics course moved the "office hour" to the dining hall, stretching it far past 3 A.M. to aid us in our agonizing problem sets. These are the moments that have stayed with me: not the long lectures, however engaging they may have been, nor the forced section discussions, but my interactions with professors whose attention and concern has, in some way, validated my presence at Harvard, and whatever aspirations I might have for the future.

Soon enough I'll move on, into a world beyond the Semitic Museum and Emerson Hall, beyond office hours and the often irrelevant preoccupations of academic life. There will be much I'll miss, I'm sure, but nothing more than the chance to call that strange creature known as "Professor" a friend. ▢

*After spending most of the academic year in Africa, Berta Greenwald Ledecy Undergraduate Fellow Samuel Bjork '09 will soon be, again, a chemical and physical biology concentrator living in Eliot House.*



## SPORTS

# What Next for Ivy League Sports?

*Ivy League executive director Jeff Orleans to retire*

**W**HAT IS THE PLACE of the scholar-athlete in Ivy League colleges today? First among the Ivy League's statement of principles is the ideal that "intercollegiate athletics ought to be maintained within a perspective that holds paramount the academic programs of the institution and the academic and personal growth of the student athlete." In practice, that means different rules than the rest of the National Collegiate Athletic Association (NCAA), such as 49 in-term days without athletic activity or expectation, and shorter "nontraditional" practice seasons. The goal, says Jeff Orleans, the League's executive director, is to tell student athletes that "we have high expectations and high hopes for you in all kinds of both athletic and nonathletic ways. We are asking you to take time away from athletics to be sure that you have an opportunity to do all the other things that are available to you as an Ivy student."

When he stops working for the Council of Ivy Group Presidents in June 2009, Orleans will conclude a quarter century as the steward of this ideal. In that time, the Ivy League has experienced tremendous growth, both in number of championship sports—there are now 33—and in staff. When he was hired in 1984, the organization was being run part-time by a Princeton professor with a part-time secretary. Today, Orleans oversees a nine-person staff that handles officiating, scheduling, television rights and licensing, as well as enforcement of NCAA and Ivy rules and eligibility requirements for what is the largest conference in the country.

In the early 1980s, Orleans explains, "Because the league didn't have a full-time dedicated director, the presidents individually, and some of their senior staff, had

begun to spend a lot of time on athletics." They were working with presidents of other colleges to expand competition in football through a new conference (now known as the Patriot League) where the players are also academically representative of the institutions to which they are admitted; in addition, they were changing the structure of Ivy League ice hockey and moving it into the Eastern Collegiate Athletic Conference, and, increasingly, dealing with compliance issues and the NCAA. Eventually, the presidents "realized they needed someone working for them full time who understood and was enthusiastic about athletics, but whose commitment to their values they could trust."

They chose Orleans, a 1967 graduate of Yale, and later of its law school, whose experience spanned three years as a civil-rights attorney at the United States Department of Health, Education, and Welfare—where he helped draft regulations for the Title IX legislation—and nine years at the University of North Carolina (UNC), where he worked on desegregation and faculty governance as a special assistant to the president.

Orleans says he has drawn on his experiences at both jobs in running the Ivy League. The civil-rights work, he says, "helped me understand the way in which individual activities on a campus, if they are done well, can change people's lives and open opportunities to them." He points in particular to the League's openness to women—not just on the field, but in athletic administration, where the Ivy League was one of the first conferences to give women a senior role in governance—as well as its broad geographic, socioeconomic, and ethnic variety, which can be sampled at [ivyleaguesports.com](http://ivyleaguesports.com) in features such as "Black History" and "Ivy@-



Jeff Orleans

50." The public Division One athletic program at UNC gave him an understanding of the pressures of the larger world in which Ivy athletes and coaches compete. That has helped him as liaison between the Ivy presidents and their athletic directors—who "sometimes wish that the presidents would have, at least in their eyes, a more athletic perspective." At the same time, he says, "I hope that the presidents know that I believe in what they are trying to do, so I think that I can be an honest broker in that respect."

Orleans believes most people don't understand and therefore don't appreciate the complexity of the presidents' goals: to provide, in his words, "a really sophisticated combination of personal and academic opportunity. Athletic partisans sometimes don't see the opportunity that athletes have to do all kinds of other things throughout the institution." Because athletic culture in America "tells you, 'You are going to be an athlete first,' sometimes our students really first wake up when they get to our schools and see not just the opportunity, but the expectation, that they'll take advantage of [that option] by stepping outside their major noncurricular focus."

HIS OWN INTEREST in sports, Orleans reports—he claims no athletic talent—began as a fan growing up in the Bronx, when he could walk to New York Giant and Yankee games. At Yale, he says, he came to appreciate the kind of effort Ivy League athletes put in after rooming with a varsity swimmer.

He acknowledges that balancing the educational goals articulated by the Ivy presidents with the competitive demands of a Division 1 conference is not always easy.

## Spring Sports Wrap

### Men's Tennis

The netmen (15-6, 7-0 Ivy) clinched the Ivy League championship for the twenty-seventh time with a sweep of Dartmouth at Beren Tennis Center. It was the Crimson's third sweep of the year, but their first championship since 2004.

### Women's Golf

The Harvard women's golf team, top ranked in the Northeast region, won its first-ever Ivy League championship this spring, besting defending champion Columbia by an impressive 10 strokes in a three-round tournament at the Atlantic City Country Club.

"The key task," he says, "is to make athletics something that promotes the growth and development of the people who compete," while making athletics in general a part of campus life.

In admissions decisions, says Orleans, "when [colleges] are looking to construct a freshman class, you look for people who are multidimensional and committed, and who will exploit the institution to its fullest" by stepping outside their extracurricular focus on sports. Academically and in terms of community service, the record of Harvard athletes, or any Ivy school's athletes, is "as good as the non-athletes' record" on that score, he says. He notes that athletic activity provides "discipline and growth for people in ways that matter throughout the rest of their lives, and if they come with intelligence and passion and perseverance as students, athletics will benefit them in the same way that dance and music and acting will."

But Orleans also believes that athletics offer a special benefit. "Every time you compete, you take a big risk that you and your teammates will perform at your ab-

solute best and yet lose, and be judged very publicly not to have succeeded," he says. "In most other student activities, if everybody does his or her best, even if the result is not perfect, [the overall experience] is judged to be competent. Maybe you hear a false note, or see that a sentence gets dropped going from page one to page four of the *Crimson*, but as a whole, the performance [was] competent and exciting, the newspaper [was] competent and perhaps provocative. But those wonderful women on the Harvard hockey team played their hearts out in Duluth, and what folks know about them is that they didn't win.

"And yet they learned from that. They took a risk every time they played. Those who are underclassmen are going to come back next year and try even harder, and those who are graduating are going to have learned how to get up the next day and do it again—as a group and in a way, I think, that is different from any noncompetitive activity. I think it is important to value that activity—and the people who engage in it—for educational reasons."

—JONATHAN SHAW

## ALUMNI

# In Their Nation's Service

*Men of the College class of 1951 share lessons learned while doing their duty.*

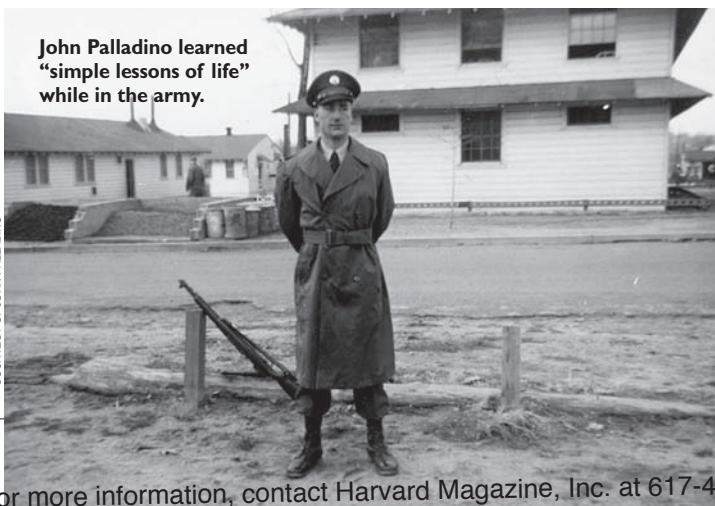
ON THE MORNING of July 20, 1953, a week before the armistice that ended the Korean War, Henry T. Dunker '51 was kneeling in a shallow trench in South Korea, surveying a battlefield. "The bodies of a number of [fellow] Marines were strewn on the slopes of the hill below the trench line, where the Chinese had thrown them," he recalls. "The hill was bathed in light....The green of the Marines' combat uniforms contrasted sharply with the light brown earth on which [they lay]. There was very little, if any, sound. Nor was any living person to be seen on the hill or near it."

COURTESY OF JOHN PALLADINO

This surreal, historic scene is one of many eyewitness accounts in the class of 1951's new book of memoirs, *In the Nation's Service*. Published through the Harvard Alumni Association's Class Reports Office, this rich text elucidates both those

formative years just out of college, and a complex period in American history. "Many [classmates] mention their service as having furthered their education—through travel, knowledge of other cultures, or simply in a forced maturing in dealing with the world and people outside of Harvard Yard," writes the book's editor, classmate Richard Nenneman. "As a whole, the essays show the profound lack of cynicism about government that prevailed a half-century ago." To class members, the concept of service was still quite fresh, if not alluring: World War II had ended just 25 months before

John Palladino learned "simple lessons of life" while in the army.





they entered Harvard. “Whatever our experience before we came together,” notes Charles Flood in the prologue, “all of us understood that tyranny had been defeated only by a willingness to serve in the massive and dedicated effort to destroy it.”

In his entry, John Walcott describes the battleground of Pork Chop Hill. During one brutal assault, Chinese soldiers “were tossing grenades through the firing slits and jumping into the trenches, creating panic and confusion while the main body of the assault ran down their hill and up ours,” he writes. “They just kept coming and enough got through to overwhelm the defenders...I never saw a live Chinese soldier and that was good, because by the time you did see one, it was dark, he was 10 feet away, and he was trying to kill you.” A friend died in a subsequent counterattack. For his part, John Palladino writes that he learned “simple lessons of life” while in the army—that “skin is waterproof and that sleeping in a floating barge with rats that ate the bindings of my books...can be an adventure....I was toughened and ready for the world, a much more mature young man.”

The book recognizes seven classmates killed in action: six in Korea, including Marine lieutenant Sherrod E. Skinner Jr., who was awarded a posthumous Medal of Honor for throwing himself on a grenade to protect his men; and one in a

terrorist attack. CIA officer Richard Welch was assassinated outside his home in Athens in 1975 in an attack planned by “a small band of Greeks angry about U.S. support of the junta that ruled Greece harshly for several years leading up to 1973,” writes Christopher May, Welch’s roommate. The killers were finally caught 30 years later.

A number of the 200 class members or their survivors who contributed short essays never saw front-line combat in Korea. Some served military tours on domestic soil, in Europe, Asia, or in the Middle East, while others served as diplomats or federal policymakers, or with nongovernmental organizations. Army veteran Frederick S. Wyle held various posts in the government, including service as deputy assistant secretary of defense (1965-1969); during that period, he helped shape nu-

clear weapons policy with NATO allies. Back then, he writes, “it was the Europeans, not the U.S., who wanted to rely on the threat of nuclear weapons to deter the Soviets from any adventurous behavior in Europe.” He credits Robert McNamara (“leaving aside his role in the ‘Vietnam debacle’”) with convincing the Europeans and NATO allies that this reliance “was a bad idea, since the consequences of their use were so terrible and unpredictable.”

Also active in the Kennedy administration was William R. Polk, who served on the

Policy Planning Council and worked in Iran and Afghanistan. He writes: “The shah once told me that I was the only American official who spoke to him as an adult, man to man, but he did not like the message I brought—that if the military grew rapidly and was not balanced by the less glamorous, less favored countervailing institutions such as the parliament, the judiciary, and the free press, Iran would sooner or later...be convulsed with revolution.”

Richard W. Murphy spent his 34-year State Department career focused on the Middle East and the Arab-Israeli peace process. In 1988, after Jordan’s King Hussein renounced claims to the West Bank, Murphy recalls that indirect phone negotiations with Yasser Arafat, aimed at opening a dialogue, left the Palestine Lib-



William Perry '51 (left) and William Wheeling '50 pose with actresses from their musical, *Xanadu*.

COURTESY OF WILLIAM PERRY

#### SET TO COMMENCE, the marshals of the College class of 2008

gathered with classmates for the Baccalaureate service on Tuesday, June 3. They are (from left): first marshal Alexander J. “AJ” Tennant, a government concentrator from Swampscott, Massachusetts, and Winthrop House; Aditi Mallick, a social studies concentrator from Fort Lauderdale and Adams House; Karolis Balcianas, a psychology concentrator from Siauliai, Lithuania, and Adams House; second marshal Firth M. McEachern, an earth and planetary sciences/astronomy and astrophysics concentrator, of Fort McMurray, Alberta, and Kirkland House; Adam Goldenberg, a social studies concentrator from Vancouver, British Columbia, and Winthrop House; Lori M. Adelman, a social studies concentrator from Galloway, New Jersey, and Dunster House; Joshua C. Sharp, a government/Jewish studies concentrator, from Needham, Massachusetts, and Dunster House; and Marcus G. Miller, a mathematics concentrator from South Orange, New Jersey, and Pforzheimer House.





eration Organization chairman saying unhappily that he felt as though forced to do a 'strip tease.'

Other classmates' government service took more lighthearted forms. The army assigned William P. Perry, a composer and conductor fresh out of Harvard, to a Berlin garrison where he organized games, events, talent shows, and even co-wrote (with William Wheeling '50) a Broadway-style musical called *Xanadu*, about Marco Polo and Kublai Khan. It became a hit that toured Europe for five years. Most significant, he writes, was his role as a VIP tour guide for Berlin, a city he came to love, and where he now lives part of each year, still composing and performing music.

Reading through the entries, it is clear that nearly everyone was deeply affected by national service. Palladino, who found maturity in wartime, is now a grandfather with newfound respect for the pain his parents felt when he enlisted: "[N]ow, in the Iraq blunder, I physically grieve for the young men and women who are giving so much for a worthless and unnecessary war, especially with the maturity I gained in Korea that taught me to ask the hard questions based on history, religion, and, above all, knowledge of the issues." For Nenneman, who died last year soon after the book was published, the experience spawned a "lifelong fascination with Europe" and a desire to see (preferably non-military) national service required of every American.

And for Walcott, who witnessed terrible carnage on Pork Chop Hill, the Korean War is possibly "the noblest" post-World War II conflict, despite his observation

## Harvard Medalists

**Three people received** the Harvard Medal for outstanding service, and were publicly honored by President Drew Faust during the Harvard Alumni Association's annual meeting on the afternoon of Commencement day.

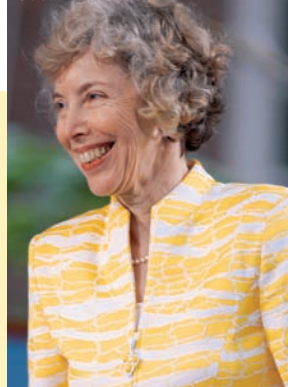
**Susan L. Graham '64**—*Past president of the Overseers and elected director of the Harvard Alumni Association, pioneering professor of computer science at Berkeley, you have provided wise leadership and counsel on alumni affairs, on the growing role of engineering and technology, on the Radcliffe Institute for Advanced Study, and on the governance of the University.*

**Richard M. Hunt, Ph.D. '60**—*Consummate celebrant of convocations and the happy observance of Commencement, you welcomed the world to Harvard as University Marshal, educated students in European history, and presided over these festival rites with love and loyalty and reverence for tradition now woven into the fabric of the institution.*

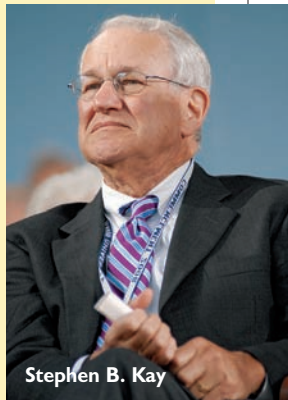
**Stephen B. Kay '56, M.B.A.**

*'58—Dedicated Overseer and distinguished graduate of Harvard College and Harvard Business School, you have made a rare and lasting impact on the University through your valued judgment, generosity, and wide-ranging and selfless service on behalf of education, public health, and Harvard's teaching hospitals.*

Susan L. Graham



Richard M. Hunt



Stephen B. Kay

PHOTOGRAPHS BY STU ROSNER

that "A million served and thousands were killed or wounded between June 1951 and July 1953, and nobody noticed." Last year, his great-niece and her middle-school classmates celebrated Veterans Day by writing thank-you letters to those who had served. He received three calling him a "hero" who had sacrificed to "keep our country safe." "Sometimes," concludes Walcott, "I even believe it."

—NELL PORTER BROWN

## And the Winners Are....

THE NAMES of the newly elected members of the Board of Overseers and directors of the Harvard Alumni Association (HAA) were announced at the association's annual meeting on the afternoon of Commencement day. The 29,350 alum-

## Centennial Medalists

**The Graduate School** of Arts and Sciences Centennial Medal, first awarded in 1989 on the occasion of the school's hundredth anniversary, honors alumni who have made contributions to society that emerged from their graduate study at Harvard. This year's honorands are, from left: "singular scholar" of East Asian studies Ezra Vogel, Ph.D. '58, Ford Research Professor of the social sciences at Harvard; "arts advocate" Earl Powell III, Ph.D. '74, director of the National Gallery of Art; molecular biologist Susan Lindquist, Ph.D. '77, of MIT and the Whitehead Institute for Biomedical Research (see page 10); and "stellar astronomer" Frank Shu, Ph.D. '68, now at UC, San Diego. (For the full citations, see [harvardmag.com/go/centennial\\_medalists](http://harvardmag.com/go/centennial_medalists).)





ni ballots returned reflect a turnout of 12.6 percent.

Elected as Overseers, for six-year terms, were:

**Lynn Chang** '75, Newton, Massachusetts. Concert violinist; violin professor.

**Anne Fadiman** '74, Whately, Massachusetts. Author; Francis writer-in-residence, Yale.

**Paul Finnegan** '75, M.B.A. '82, Chicago. Co-CEO, Madison Dearborn Partners, Inc.

**Eve Higginbotham**, M.D. '79, Atlanta. Dean and senior vice president for academic affairs, Morehouse School of Medicine; surgery professor.

**David Oxtoby** '72, Claremont, California. President and professor of chemistry, Pomona College.

Elected as HAA directors, for three-year terms, were:

**Carolyn Hughes** '54, Oceanside, New York. Retired; former project manager, Empire Blue Cross Blue Shield.

**Kevin Jennings** '85, New York City. Founder and executive director, Gay, Lesbian and Straight Education Network (GLSEN).

**Robert Kraft** '76, Los Angeles. President, Fox Music.

**Elizabeth Reilly** '91, Boston. Attorney, WilmerHale.

**Rosa Wu** '03, San Francisco. Associate product manager, Google.

**Andrea Zopp** '78, J.D. '81, Chicago. Senior vice president and chief human resources officer, Exelon Corporation.

## Cambridge Scholars

FOUR SENIORS have won Harvard Cambridge scholarships to study at Cambridge University during the 2008-2009 academic year. Math concentrator **Gerardo Con Diaz**, of San José, Costa Rica, and Pforzheimer House, will be the Lieutenant **Charles H. Fiske III** Scholar at Trinity College; history concentrator **Milo "Mishy" Harman**, of Jerusalem and Pforzheimer House, was named the Governor **William Shirley** Scholar at Pembroke College; Romance languages and literature concentrator **Erika Helgen**, of Burnsville, Minnesota, and Cabot House, becomes

## The Senior Celebrants

**Two 99-year-olds—Frances Pass Addelson** '30, of Brookline, Massachusetts, and **George Barner** '29, Ed '32, L '33, of Kennebunk, Maine—the oldest graduates present on Commencement day, were saluted during the afternoon ceremony by HAA president Jonathan L.S. Byrnes. He noted also that 106-year-old **Albert H. Gordon** '23, M.B.A. '25, LL.D. '77, of New York City, had hoped to come

celebrate his eighty-fifth reunion, but was unable to attend.

According to University records, the oldest alumni, apart from Gordon, include: **Walter J. Seward**, J.D. '24, III, of West Orange, New Jersey; **Marion Coppelman Epstein** '24, I05, of Boston; **M. Louise Macnair** '25, I05, of Cambridge; **Halford J. Pope** '25, M.B.A. '27, I04, of Hilton Head Island, South Carolina; **Edward Gipstein** '27, I03, of New London, Connecticut; **Marjorie B. Walden** '26, I02, of Needham, Massachusetts; **Rose Depoyan** '26, Ed.M. '38, I01, of Brockton, Massachusetts, and **Edith M. Van Saun** '29, I01, of Sykesville, Maryland.



Frances Pass Addelson



George Barner

the **Lionel de Jersey** Harvard Scholar at Emmanuel College; and English and American literature and language concentrator **Laura Kolbe**, of Orefield, Pennsylvania, and Pforzheimer House, will be the **John Eliot** Scholar at Jesus College.

## Class Gifts

WHY IS IT, University Treasurer **James F. Rothenberg** '68, M.B.A. '70, asked his Tercentenary Theatre audience on Thursday afternoon, that he regularly hears a "low

chuckle" after beginning his report "on the present state of the University's resources" at the annual HAA meeting? Then he proceeded to business.

Harvard had received 88,000 gifts through the end of May from 30,000 alumni, he noted, thanks in good measure to efforts by the 4,000 volunteers laboring for the Harvard College Fund. The combined gifts from all of this year's reunion classes, he announced, totaled \$162 million. In particular, he praised both the brand-new alumni of the class of 2008, for their 63 percent gift-participation rate, and the most senior reunioners—from the classes of 1938 and 1943—who set new participation records for seventieth and sixty-fifth reunions, respectively. He also singled out the generous gifts of \$26 million from the fiftieth reunion class of 1958 and \$28 million from the twenty-fifth reunion class of 1983. But when it came to his fellow fortieth-reunioners, Rothenberg could not resist issuing a challenge to all future reunioners. The class of '68, he proudly reported, had raised a total of \$42 million from 900 donors—the second-largest gift from a reunion class in Harvard history.

## Save the Date

"From the Closet to a Place at the Table: Celebrating 25 Years of the Harvard Gay & Lesbian Caucus" is the first-ever all-school, all-class reunion for lesbian, gay, bisexual, and transgender (LGBT) alumni, faculty and staff members, and current students. The event, cosponsored by the HAA, takes place in Cambridge on September 26-28. Symposia, meals, and parties are planned. For more information, visit <http://hgcl.org>.

# Pay Dirt in Yard Dig



*"Your wooden arm you hold outstretched to shake with passers-by."*

**F**IVE PIECES of lead type turned up near Matthews Hall this year, a stop-the-presses flash from the past. They were unearthed by students and faculty of Anthropology 1130: "Archaeology of Harvard Yard."

In 1655, with seed money from the Society for the Propagation of the Gospel in New England, Harvard built a two-story brick edifice in the Yard called Indian College, on the site of today's Matthews Hall, and promised to house American Indian students and teach them Greek, Hebrew, and Protestantism tuition free. Few Indians appeared. (Only one took a degree, Caleb Cheeshahteumuck, an Aquinnah Wampanoag, of the class of 1665.) The College began to quarter regular students in the building, which by 1698 had fallen into disrepair. Harvard tore it down and reused the bricks.

Despite the lack of native students, much good propagating went on in Indian College. It was there that Harvard kept its printing press, the first in North America, with which missionary John Eliot produced his widely deployed translation of the Bible into Algonquin. Professor William L. Fash, leader of the Yard dig and Howells director of the

**Excavators presume that these pieces of type were handled by the people who printed Eliot's "Indian Bible."**

Peabody Museum of Archaeology and Ethnology, believes the type shown was used by James Printer, the Nipmuc Indian apprentice who manned the press, to produce the Bible and other godly works in the Indians' language.

"With this course," Fash muses, "we were reviving the Harvard charter of 1650, with its charge to educate both English and Indian youth. Native students worked, dug, sorted, and interpreted the archaeology side by side with others of us, both in the Yard and in the lab. The cultural exchange and chances for mutual understanding and respect were marvelous to observe and to savor."

One student was Tiffany Smalley '11, a Wampanoag who lived this year in Matthews and comes from Aquinnah on Martha's Vineyard. "Shovelful by shovelful," she says, "we anxiously hoped to find some part of Indian College itself, and although we might not have done that, we made history while we searched for history, which is to me quite a feat in itself."



**A MAN FOR OUR TIME.** William H. Thomas Jr. '45 flew a B-24 Liberator over Hiroshima harbor but survived World War II and used most of his \$600 dis-

charge pay to buy 90 acres of logged-over woodland in Hill, New Hampshire, in the south-central part of the state. The land straddled a highway, ran partway up a mountain, and was near a 12-mile-long reservoir. As he told it in his fiftieth anniversary class report, Thomas imagined he would one day put up a motel or carve out a ski resort. "He was going to make a killing in real estate," says longtime friend Carleton Smith.

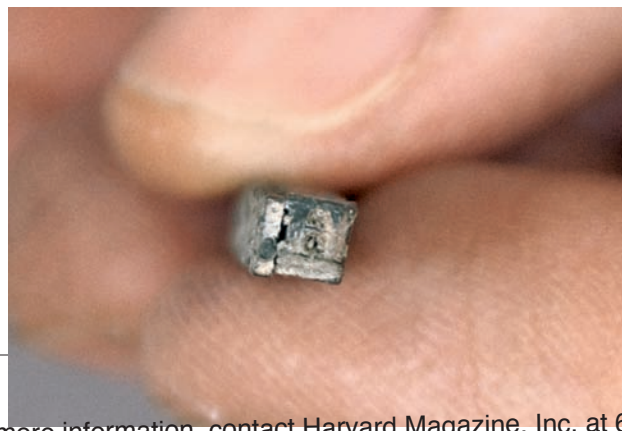
Thomas had what he described as "a pretty routine career" in the defense electronics industry, most of the time "serving in a purely technical job—no big managerial functions...." Over the years, he spent part of his never-large engineer's salary to quietly buy up parcels of land adjacent to his original holding in Hill. When he "retreated" in 1987, he had almost 1,700 acres. He characterized himself then as a tree farmer, who weeded with an ax, noting that he was trying to grow a grove of his best white pine to 200 feet.

The "motel, the ski area are not there, and never were. Where they were to be, there is only forest," Thomas told his classmates. "[S]omewhere back there, I began to have a dim understanding of how delicate this all was and how green, indeed, was this valley."

Thomas gave the land to the state upon his death in 2001, and it is now the William Thomas State Forest. We could escape there this summer and walk the trails in solitude—maybe see a moose, or a black bear, or nesting ospreys.

"I never knew Thomas," says state land agent Bob Sporll. "But certainly any man who could do this would be worth knowing."

~PRIMUS V















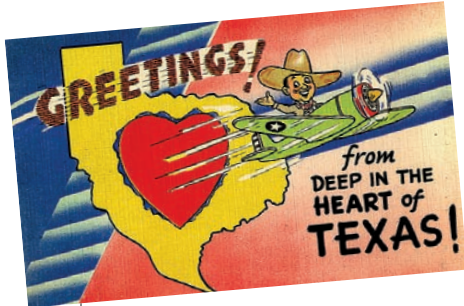








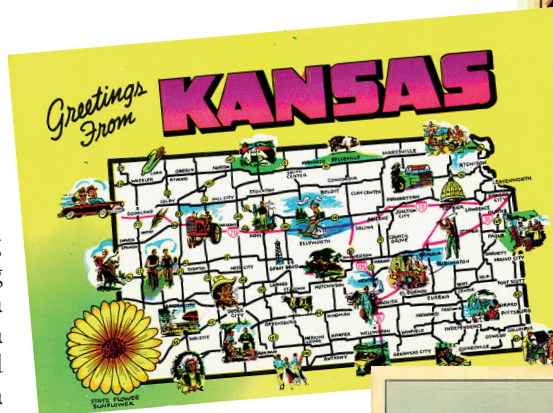




# Vintage Brevities

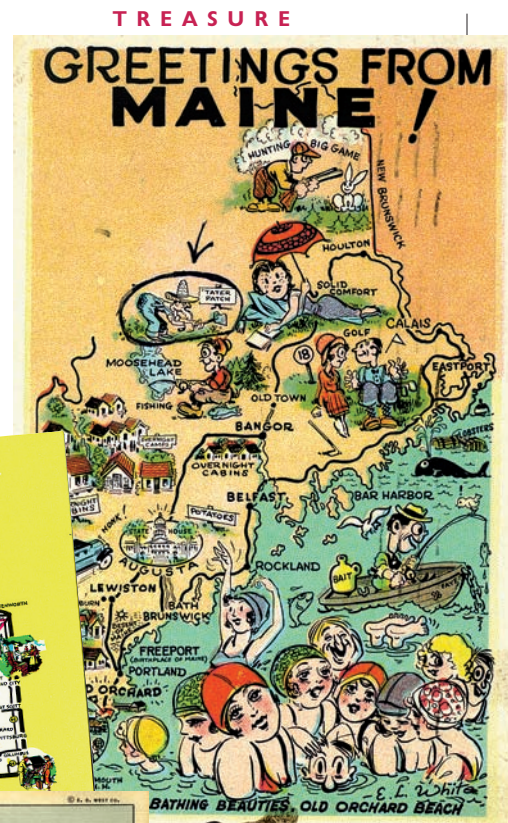
"Cartifacts" from a time before texting

CARTOGRAPHIC deltiologists will make beelines now to the Harvard Map Collection in Pusey Library: it has recently become home to more than 10,000 map postcards. Here's a card showing a baby hoisting a barbell of oranges and standing on a map of Florida; another card bearing "Greetings from the Ohio Turnpike"; a Cape Cod postcard in the shape of a codfish; a British card with train, ship, and route-of-passage map promoting the India Mail (8,000 bags of mail dispatched each Thursday); and a valuable Hungarian card with movable parts showing that country before World War I and how it looked after big pieces of its territory were awarded by the Treaty of Trianon to four adjacent countries.



The library's exhibition *Communicating with Geography: The Siegfried Feller Collection of Map Postcards* sampled a vast range of cards earlier this year; more will appear on-line in future. Donor Feller is a librarian, retired from the University of Massachusetts Amherst, and published the now discontinued newsletter *Cartomania*.

The history of the postcard is said to have begun in Philadelphia in 1861 when John P. Charlton patented and H.L. Lipman published a card with a blank front for writing necessarily short messages; the impossibility of letter-length communication was a selling point. Illustrated government postal cards and privately printed souvenir cards with



scenes from the Columbian Exposition were a landmark hit in 1893 and contributed further to the death of letter-writing. By law, one still could not put messages on the address side of cards, and the scant empty space on the front next to the illustration permitted only the pithiest effort, as in "Hello, Ethel," or "Wish you were here."

The golden age of postcards in the United States began in 1907, when changing regulations permitted both the address and the message to be on the back of the card, giving over the entire front to images of bathing beauties on Old Orchard Beach, Maine, and countless other wondrous sights immediately popular with travelers and collectors.

Since Harvard became keeper of what is perhaps one of the three largest collections of postcards in the world, David Cobb, curator of maps, has shouldered new deltiological responsibilities. He says he regularly finds himself on eBay trying to fill gaps in the collection.



Visit [harvard-mag.com/extras](http://harvard-mag.com/extras) to enjoy more postcards in greater detail.





You expected  
to see the sights –  
**just not from here.**



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