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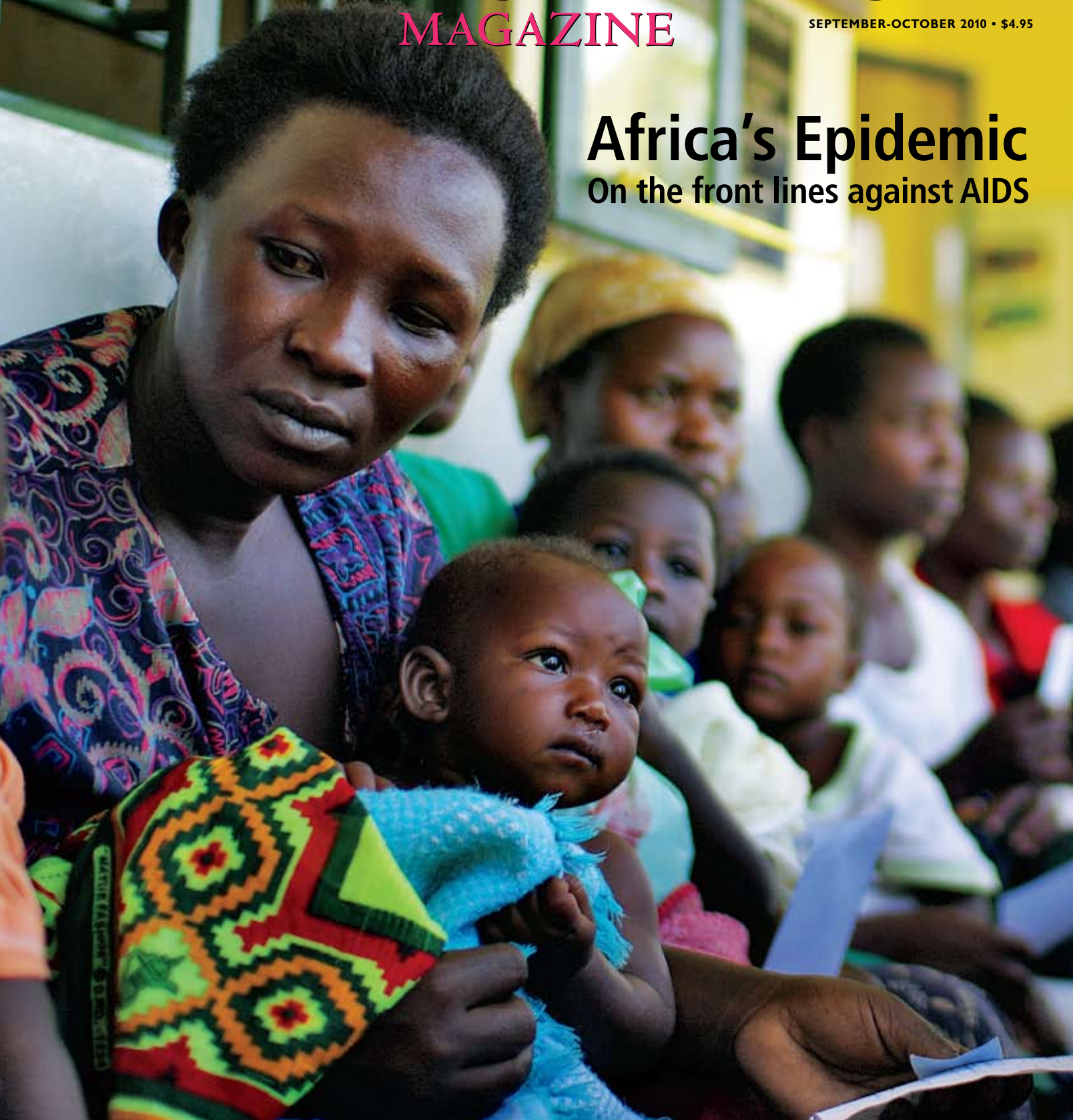
HARVARD

MAGAZINE

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Africa's Epidemic

On the front lines against AIDS





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The pre-renovation Fogg Art Museum as a shell of itself, revisiting conflicts of interest in medical research, a new tenure track promises far-reaching faculty changes, Fenway Park's organist, action-oriented central administrator, students' course sleuthing, solar hot water from the Canaday roof, the Undergraduate—halfway through College—hears time's footsteps, and the campus physical-fitness champion

Cambridge 02138

Caregiving, patenting fashion, compensation

ECONOMIC ACTION

CONCERNING THE post-bubble economy ("After Our Bubble," July-August, page 38), what now? We should increase the deficit to reduce unemployment drastically, but do it intelligently, based on two principles.

First, government should direct its efforts toward jobs and unemployment benefits. When consumers can buy, investors will invest. An effective, relatively inexpensive way to reduce unemployment is the Treasury paying for Medicare for all retired people between 62 and 65 years of age. Many would retire who otherwise would fear that reduced income would leave them unable to pay medical bills. Their retirement would create jobs for others or prevent layoffs of junior employees.

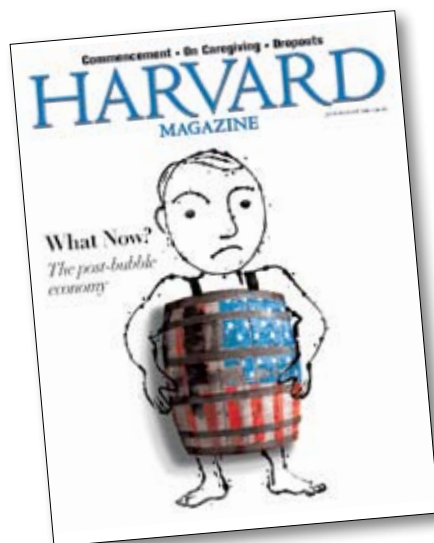
Improving the lot of workers by increasing the demand for their services (usually by artificial stimulation of the economy) is not as efficient as decreasing supply (such as shortening the work week, as suggested by John Maynard Keynes in 1945.)

Second, we should enact future tax increases now. It would show we are serious about fiscal responsibility. The present Congress may have the best opportunity to set sensible tax rates for several years in the future in accordance with the principle of counter-cyclical fiscal policy.

DONALD MARCUS, LL.B. '58
Brooklyn, N.Y.

DROPOUT DICHOTOMY

I USUALLY DELETE the e-mails from *Harvard Magazine* without even opening them. It was pretty much by chance I opened the one for the current issue, and the story on "Dropouts" (July-August, page 32) caught my eye. It's lovely. I enjoyed reading the tales of this trio's life arcs, and I don't see that they've done too badly for themselves. My father often encouraged me to take



time off—I doubt he would have freaked if I had dropped out—but I was too conservative (in the personal, as opposed to political, sense) to do anything but sail right through Harvard and graduate on time. But it surely ain't the only way to go.

DAVID LOFTUS '81
Portland, Ore.

AS THE SON of a college professor and proud graduate of the Harvard community, I was dismayed to see your article "Dropouts." Though the article was voyeuristic, I would rather read about folks that had the courage, gumption, and fortitude to stay in school and complete their Harvard education and then go on to either an interesting simple life or grand careers. Harvard is arguably one of the best education insti-

LEAVE-TAKING

Catherine A. Chute concluded 13 years of service as publisher on June 30. We thank her for her dedicated leadership, and extend our best wishes.

~THE EDITORS

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tutions in the world, with many people struggling to just to get in as well as finish. Their invitations to attend should have gone to someone who would earn their Harvard diploma (even if after a short break to “find themselves”). And I sure as heck would not waste trees and ink in our fine magazine on “dropouts” because anyone can take the easy route and quit.

B. DAN BERGER, M.P.A. '99
Alexandria, Va.

HAVING ATTENDED Harvard College for a few years in the 1970s, I enjoyed reading “Dropouts.” However, the statement that the College routinely contacts those who have left is not consistent with my experience. I was never contacted about returning, and one brief conversation with my head tutor revealed that there was little interest in my doing so. This may have been because I was involuntarily withdrawn from Harvard for disastrous grades. It may indeed have been a wise policy on the part of the College or of my residential House. Nonetheless, I think the article gives a misleading impression.

MARTIN MARKOVICH '78
Tallahassee, Fla.

Craig Lambert replies: The circumstances of withdrawal are a factor. The article's dropouts all left voluntarily, and all received occasional invitations to complete their degrees. Associate dean of Harvard College Paul McLoughlin II says current policy is to use a case-by-case approach, and that the dean's office no longer proactively contacts dropouts regarding their options.

CAREGIVING COUNSEL

READERS OF ARTHUR KLEINMAN's poignant and important “On Caregiving” (July-August, page 25) should be aware of the existence of a national organization which specifically addresses the needs of spousal caregivers and partners: Well Spouse™ (www.wellspouse.org). This nonprofit organization advocates for and addresses the needs of spouses caring for a chronically ill or disabled wife, husband, or partner by offering peer-to-peer support, and by educating healthcare professionals, legislators, and the general public about the special challenges and unique roles “well” spouses face every day.

My husband, then a college professor, was diagnosed with a dementia in 2004 at

HARVARD

MAGAZINE

DEAR READERS,

In early 2009, at the depths of the recession, we wrote to you about the actions we took then to continue providing you with an excellent *Harvard Magazine*, even as advertising and contributions—about two-thirds of our revenue—declined. We cut discretionary expenses, froze compensation, and produced slightly smaller issues (to trim manufacturing costs). At the same time, we significantly increased coverage of Harvard on harvardmagazine.com. Importantly, the University maintained its support for the publication throughout this period (the remaining source of our revenue), and has continued to do so.

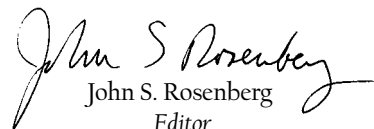
Today, we can report that these measures have helped to stabilize the magazine's position. Meanwhile, given our expanded online efforts to cover the extended Harvard community, we are better able to get you important news quickly. We are, as always, maintaining the editorial objectivity and providing the context that have been hallmarks of the magazine's journalism. These qualities remain fundamental to your understanding of Harvard, at a time when the University's work matters as never before.

In light of economic circumstances and technological change, we believe that the magazine will continue to face real constraints on revenue and rising demands to get information to you in multiple ways. Accordingly, we have negotiated significant savings in production expenses; reduced the costs of advertising sales; facilitated online contributions (environmentally preferable to mailed solicitations); and invested further in harvardmagazine.com (new features debut later this year).

In every way, we seek to make the most efficient, effective use of the resources available. Each of these steps reinforces our ability to bring you a *Harvard Magazine* of the highest quality, no matter what conditions we face. Your investment in the magazine has a greater impact than ever before; we hope we can continue to earn your essential support.



Irina Kuksin
Acting Publisher



John S. Rosenberg
Editor

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the age of 60, and Well Spouse, an organization which deserves to be better known than it is, has since been of immense help to me, as it has been to many others.

RACHEL HADAS '69
New York City

THANK YOU FOR Dr. Kleinman's article. Sadly, I think it's important to note that caregiving is not limited to those over 60. I am 44 and have spent a third of my life the sole caregiver of my very ill wife, with most likely another 30 years ahead of me. I appreciate his perspective that caretaking sustains the world and on that very cosmic level, perhaps it does. However, to those of us in the middle of it, what is most relevant is what caregiving does to hope. It eradicates it. Mercilessly. Make no mistake.

VIVIANNE ESRIG
Associate Director, Administration
and Operations
New England Primate Research Center
Southborough, Mass.

SHAKESPEARE FOR SALE

ANDREW WYLIE's claim that the First Folio of Shakespeare is not in print—"a hole in the market"—is wholly wrong ("Fifteen Percent of Immortality," July-August, page 44). The second edition of *The Norton Facsimile*, based on the Folger Shakespeare Library's unrivaled collection of first folios and published by W. W. Norton, has been available in print since 1996, and remains so. It can be ordered from the Norton website, from the Folger Library museum shop, or from any bookseller. Several copies of the First Folio are also accessible online. It defies imagination that Wylie is unaware of these facts.

WERNER GUNDERSHEIMER, Ph.D. '63, JF '66
Director Emeritus
Folger Shakespeare Library
Williamstown, Mass.

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, use our website, www.harvardmagazine.com, or fax us at 617-495-0324. Letters may be edited to fit the available space.

THE TRUTH ABOUT SLEEP

DANIEL COHEN ("Lost Sleep Is Hard To Find," July-August, page 11) needn't have gone through all that trouble researching sleep. He could simply have asked Harvard's own Benedict Gross ('71, Ph.D. '78, former dean of Harvard College), who had the answer years ago.

I recall, somewhere back around 1969, Dick telling me of a discussion he had just had with his roommates concerning the relationship between sleep and wakefulness: "It wasn't how much sleep you got the previous night, but the amount of sleep you got two nights before." "No, it was how much earlier you got up than usual." "No, it was how much later you went to sleep than usual." Theories abounded, Dick recalled, until, in a "Eureka!" moment, he proclaimed, "I have it! Whenever you're awake, you're tired."

JACK PERRON '70, M.T.S. '81
Peterborough, N.H.

ADMISSIONS HUBRIS?

AS A GRADUATE of both the College and GSAS, I would like to suggest that the fraud perpetrated by Adam Wheeler is not a joke, and that it is emblematic of the unbalanced culture of selective college admissions.

At this year's Baccalaureate [see "Laugh Lines," July-August, page 56], President Faust commended graduates on their superior accomplishments, adding that those accomplishments, in light of the Wheeler scandal, would be carefully scrutinized. This quip, made to a group of young people heady with the sense of their status as Harvard graduates, got a big laugh!

The facts are appalling. Wheeler gained admission to Harvard by submitting a completely false collection of documents. In addition, he won two prestigious writing awards, including a Hoopes Prize, based on plagiarized work.

Other schools were also deceived. Stanford had apparently admitted Wheeler for the fall and Bowdoin College awarded him a literary prize for a plagiarized poem. This leads one to speculate about possible reasons for Wheeler's near success in deceiving everyone. One is laziness or lack of interest. No one wanted to take the time to evaluate either his application or his academic work. How many students are admitted to the College with exaggerated résumés that simply don't rise to Wheeler's enormous level of falsehood? Another

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disturbing possibility is that Harvard, and other prestigious institutions, have come to believe their own inflated image; hence his ridiculous résumé seemed plausible.

At his arraignment, the district attorney referred to Wheeler having defrauded all those students who had submitted truthful applications to Harvard. Actually, the University is more responsible than one disturbed adolescent who was clever enough to exploit the weaknesses of the system. Perhaps it is time for Harvard and other universities to acknowledge that their vaunted “holistic” process of evaluating thousands of applications needs to be reformed. Greater transparency is urgently needed in the process of choosing students to participate in such a privileged environment.

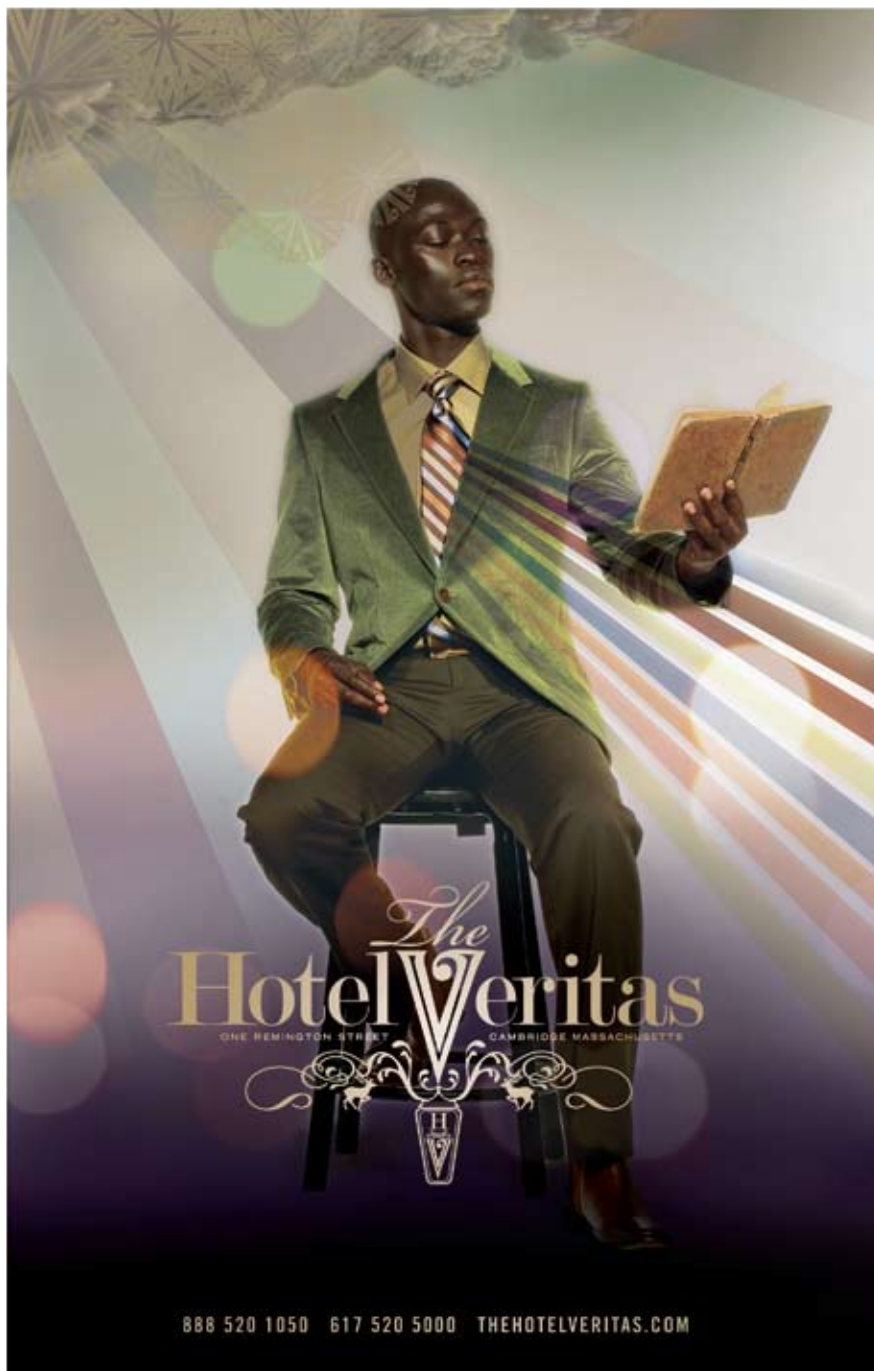
EMILY M. SCHNEIDER '80, Ph.D. '90
Cedarhurst, N.Y.

PROTECTING FASHION DESIGNS

“REAL FASHION POLICE” (July-August, page 9) promotes Jeannie Suk’s view that the U.S. needs copyright protection for fashion designs. But existing trademark and anti-fraud laws provide sufficient protection. Even though Suk and C. Scott Hemphill argue for a “narrowly defined” ban on “virtually identical replicas” of designer clothing, large design houses would rely on the threat of litigation to maintain dominance. Indeed, innovative young creators may find themselves unduly hindered by added limitations.

How far would the protection extend? Would it only be for the upscale designers? Or could Target, Forever 21, or other retailers file their own claims—arguing that their knockoffs were not “virtually identical replicas” of the original inspiration, while trying to prevent others from selling similar “designer-inspired” garments?

American designers are not about to lose their cachet among high-end customers. Part of what makes couture clothing special is not just the design elements, but materials, workmanship, and the fit. When the article contrasts a Bottega Veneta gown with a \$250 knockoff version sold online, it does not compare differences in materials and workmanship. Nor does mass-produced clothing look as good as its original design inspiration if the fit isn’t perfect. That often involves making clothing to order, or doing personalized alterations in a way that doesn’t detract from the design.



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WENDY EVANS JOSEPH, M.Arch.'81, Architect

Education: University of Pennsylvania B.A.'77, Harvard University M.Arch. '81

Background: Whether designing museums, hotels, or a home observatory, Wendy Evans Joseph has earned accolades for her elegant and inventive architecture. She discovered her passion for architecture at the University of Pennsylvania, earning a bachelor's degree in design of the environment. At Harvard's Graduate School of Design, she received a master in architecture and won prizes for her course work and final design project. Ms. Joseph worked with Pei Cobb Freed & Partners for more than a decade and played a lead role in the United States Holocaust Memorial Museum in Washington, D.C. In 1996, she founded her own firm that has designed such projects as a pedestrian bridge at The Rockefeller University in New York City and the Wykagyl Shopping Center makeover in New Rochelle, N.Y.

Craftsmanship: *The key to elegant design, Ms. Joseph believes, is to know how different materials look and feel together. "More generally, I hope to create buildings that don't merely justify the profound fact of placing something new on this earth, but that aspire to make it a better planet in the process. Architects use craft and beauty to provide a sense of purpose and pleasure."*

Long-term Goal: "I plan to grow our office, taking on work of diverse scales and types. We are eager to explore new forms and materials while holding tight to the expression and delight of shaping spaces. There is boundless room for innovation." For more, visit www.wejarchitecture.com.

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LETTERS

On the flip side, duplicating designer elements is how younger designers learn. Every garment from big-name designers includes elements copied from others—right down to how seams are sewn or how zippers go in.

And why stop with designer garments? I'm sure there are folks out there who would love to copyright doorknobs, chairs, or even toilets. There's a good reason that copyright does not apply to useful items. Let's leave well enough alone.

KATHIANN M. KOWALSKI, J.D. '79
Fairview Park, Ohio

THE ARTICLE OMITS any discussion of the foundational purpose of American copyright law, expressed in the Constitution, which is "to promote the Progress of Science and useful Arts." Copyright is about promoting innovation. Has anyone yet shown that the fashion industry so lacks innovation that it needs new incentives to spawn it? Indeed, the rapid pace of "adaptations and interpretations," and indeed copying, by secondary companies in the fashion industry may itself supply the right incentives for fashion houses to innovate. (Without the benefit of copyright law, Cervantes got the incentive to write part two of *Don Quixote* because someone else had already written a sequel to his original, and he felt the need to articulate his own vision in competition with the sequel writer.) Those suggesting expansion of copyright law must justify how expansion would promote innovation, and not just promote more profits for politically influential industries.

ANDREW P. BRIDGES, J.D. '83
Woodside, Calif.

GOOGLE'S LIBRARY GLITCH

AS A PRIME EXAMPLE of how printed sources have been made more widely available by new technologies, "Gutenberg 2.0" (May-June, page 36) mentions Google's digitizing of 12 million books. It distresses me that neither the author nor any of the Harvard librarians quoted seem to be aware of one of the serious deficiencies of that project—and I speak as someone for whom it's become an indispensable research tool. In virtually no case, for any of the hundreds of nineteenth-century books and journals I've consulted, have any of the folded plates been digitized, and in at least 10 percent of the works

one or more—usually many more—pages are missing or blurred. In other words, it would be a disaster if libraries assumed that hard copies had been rendered superfluous just because Google has digitized them. I'm very grateful for what Google has done, but I wish they'd exercised appropriate quality control. Will such deficiencies ever be rectified?

KENNETH L. CANEVA
Professor, Department of History, UNC
Greensboro, N.C.

EXECUTIVE PAY, PART 2

RE: "THE PAY PROBLEM," by Jay Lorsch and Rakesh Khurana (May-June, page 30), I like to compare the outlandish and astronomically high CEO compensation to the relatively grounded pay of top executives in the public sector, which rarely rises above \$250,000. Or to teachers, architects, engineers, or nurses, whose incomes usually top out at around \$100,000.

Does a CEO making \$10 million or \$25 million a year actually provide 100 times more effort, work, or benefit to society than any of these other occupations? Of course not. That's just the marketplace logic and valuation in the United States in the year 2010—a value system that is increasingly corrupting our nation, distorting our values, degrading our economy, and undermining our middle class.

The ever-increasing expectations of executives are matched by shareholders as the corporate structure increasingly places aside all considerations other than profit—including producing safe and effective products for their customers, providing decent livelihoods for their workers, and protecting the environment from the impacts of their production. The farther removed corporate executives are economically from the other stakeholders, the more cavalier and careless they become.

In addition, the outlet for this excess wealth has had the effect of distorting and degrading our economic and political systems—through increasingly frequent boom-bust market bubbles and ballooning political campaign contributions, which result from obscene and excessive wealth in the hands of a small and increasingly disconnected elite.

Fortunately, the American people don't have to wait to seriously address the deleterious effects of exorbitant executive compensation. The millionaire surtax—an

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LETTERS

additional 5 percent tax rate for income over \$1 million—would help rein in the destructive, rapacious obsession with profit and unlimited compensation.

In fact, while we're at it, we could use a \$5-million, \$10-million, and \$20-million surtax as well, even bringing back the 70 percent tax bracket that existed for nearly 50 years in this country, from Roosevelt to Reagan, during the greatest uninterrupted rise in middle-class affluence and living standards in U.S. history. With reasonable tax rates on unreasonable compensation, the corporate world can pay their executives whatever they choose, while the American public can rest assured that their economy does not spiral out of whack. And think of all the green energy, infrastructure, and education investments we could make with that extra revenue!

RICARDO HINKLE, M.L.A. '90
New York City

LORSCH AND KHURANA assert that "The recent economic crisis...require[s] a holistic re-examination not only of compensation but of the assumptions and values underlying the economic system we have created."

At the risk of bludgeoning the obvious, I would suggest that many other aspects of our society—certainly including our governmental structure and processes—require similar re-examinations of the fundamental relation to social context and values if we are to "build a more inclusive and sustainable economic future."

MIKE KOETTING, Ph.D. '79
Chicago

THE ID DEPARTMENT

DAN GERSTEIN '89, quoted in "Sticking to the Union" (July-August, page 70), worked for Senator Joseph Lieberman, not for then-Senator Joseph Biden. We regret the error.

The note on the Murty Classical Library of India (Brevia, July-August, page 65) overlooked the Harvard ties of general editor Sheldon Pollock '71, Ph.D. '75, Columbia's Ransford professor of Sanskrit and Indian studies. We regret the oversight.

Assistant professor of organismic and evolutionary biology Kirsten Bomblied pointed out that the critter on page 24C of the July-August issue is not a kudu, but a sable antelope. The caption information provided to the magazine was incorrect. Our thanks to Bomblied and other astute correspondents.

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MOLECULAR MINERVA?

Making Memories

IN THE EARLY 1960s, Harvard Medical School (HMS) researchers (and future Nobel laureates) David Hubel and Torsten Wiesel began a series of landmark experiments investigating the effects of experience on the brain. In one trial, the pair closed a kitten's eye at birth to measure the effects of sensory deprivation. After six months, they reopened the eyelid and found that the animal was almost completely blind in that eye.

"They realized that even though the visual system is wired up from birth, it is experience that affects the development of synapses in the brain," says Michael Greenberg, Pusey professor and chair of neurobiology at HMS. The connections in the brain that normally would have been created as a reaction to outside stimulus went unformed, leading Hubel and Wiesel to conclude that the brain is literally shaped by our experiences.

Greenberg's lab is taking their research a step further, focusing on how

experience affects brain development on a molecular level and identifying the chemical mechanisms that guide the brain's growth. One mechanism they've recently

discovered involves a new class of RNA—called enhancer RNA, or eRNA—that is created in neurons in response to stimuli and could prove instrumental in brain development, a finding detailed in the journal *Nature* this spring.

Greenberg's research began more than two decades ago, when he discovered that genes were often turned on as a result of experience. This occurs when, in response to stimuli, signals that pass from one cell to another make their way to the receiving cell's nucleus, where they instruct the cell to turn on various genes. Since these initial findings, Greenberg and other researchers have identified hundreds of genes that are activated in response to neural activity. Today, his lab focuses on identifying new features of gene activation and determining how the program varies in response to different stimuli.

In a process detailed in the *Nature* paper, Greenberg's team mimicked a neural stimulation in the brain cells of mice to trace the gene activation program's effects. Using advanced sequencing technology, the team discovered not only that stimulation activates specific areas of a cell's DNA that control the expression of the genes—

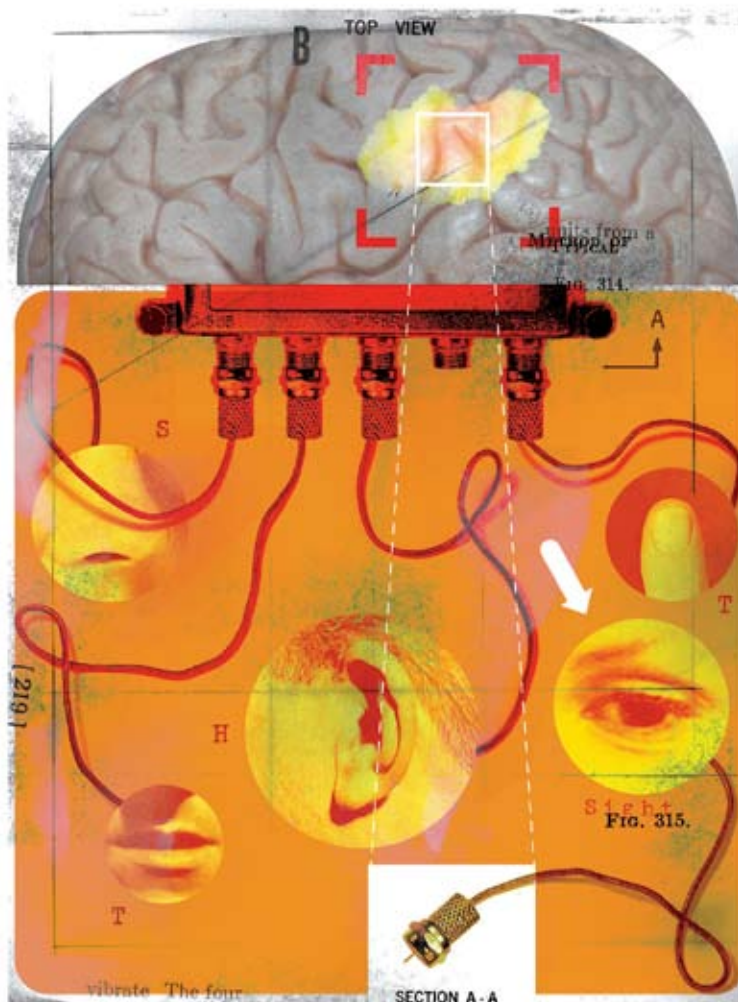


Illustration by Stuart Bradford

called “enhancer regions”—but that these areas also create strands of eRNA potentially vital to creating new connections between neurons.

“Essentially, we think learning requires ‘turning on’ these genes, and the enhancer regions are contributing to that ‘turning-on’ process,” Greenberg says. “And [located] at the enhancer regions are these new eRNAs that were unexpected and unknown.” The next step, he says, is determining the exact functions of the eRNAs. Given both their quantity and their ability to affect genes that are already widely believed to affect memory and learning, he expects they will prove essential for learning. Eventually, he says, they could be helpful in everything from athletics (muscle memory) to Trivial Pursuit (declarative memory).

“We want to understand this gene programming in its entirety and how it varies from one human being to another, because

Eventually, enhancer RNAs could be helpful in everything from athletics (muscle memory) to Trivial Pursuit (declarative memory).

we think it’s going to give us some insight into what creates differences in terms of human cognition,” he explains. Deciphering these enhancers that are regulated by experience could provide a new place to look for answers.

Advances in other fields may also aid new discoveries about the root causes of some of the more common cognitive disorders, Greenberg adds. Citing a recent development in stem-cell technology that allows researchers to reprogram *any* human cell to become an embryonic stem cell, he says it might one day be possible, for example, to take skin-cell samples from two children, one with and one

without autism, and then generate an embryonic stem cell from each. If those stem cells were then “directed” to form neurons, they could eventually be stimulated and then sequenced to find out what differences occur in the gene expression pathways. “It seems pretty fanciful,” says Greenberg, “but that’s the kind of [research] that is happening.”

—DAN MORRELL

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TERMITE INSIGHT

Ecosystem Patterns and Productivity

THE KENYAN DWARF GECKO was what first drew Harvard research fellow Robert M. Pringle to the savannas of Kenya, but the termites kept him there. After he and his co-workers noticed large spikes in these lizard populations surrounding termite mounds,

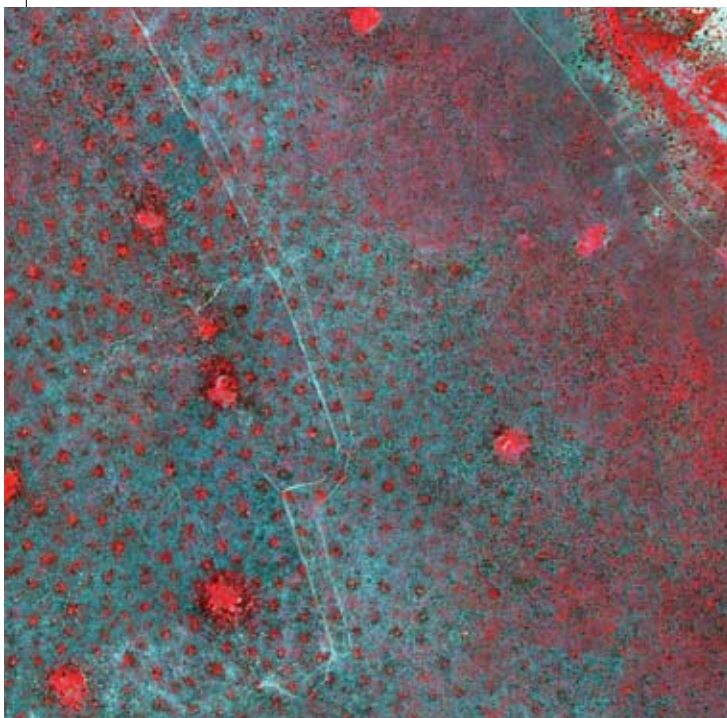
they decided to quantify just how much the mounds enhanced ecosystem productivity.

The presence of termites was already known to increase the number of plant and animal species that a given area could support (largely because they recycle dead organic matter). What startled Pringle

was the view from *above* the savanna. Having noticed that the mounds seemed fairly evenly spaced, he obtained a satellite image of the terrain. It showed clearly that these local hotbeds of activity punctuated the landscape at regularly spaced intervals, as if along a grid. That prompted him

to try to answer a deceptively simple follow-up question: Does this patterning actually matter?

Patterns are everywhere in nature, from the ribbons of alpine forests on mountainsides to the complex swirls of



At left: Satellite imagery revealed the grid-like distribution of termite mounds (the small red spots) in the Kenyan savanna. Such patterning optimizes ecosystem productivity. Below: Termites like this soldier, patrolling a piece of fungal comb, aerate and improve the soil near their mounds.



Photographs courtesy of Robert M. Pringle

Termite mounds, seen here in Kenya's Masai Mara as an oasis of green in a sea of brown, help support savanna biodiversity at all levels, from tiny insects to this family of cheetahs.

mussel beds, but proving whether they influence the fundamental properties of ecosystems has been difficult. Pringle wanted to know whether these patterns “really do affect things like productivity, nutrient-cycling rates, and diversity of living forms.”

In a groundbreaking study published recently in *PLoS Biology*, Pringle says they do, citing the nonrandom distribution of termite mounds over the Kenyan grassland as evidence, based on his collaborators' and his own statistical simulations. “Where they exist,” he explains, “regular patterns really do scale up to dramatically influence ecosystem function.” The mounds support dense populations of flora and fauna. Plants grow faster the closer they are to the mounds, and animal abundance and reproductive success dropped off with distance. The termites recycle nutrients and, Pringle and his colleagues suspect, they may also improve the soil



by introducing coarser particles that help aerate it, simultaneously promoting water infiltration and retention. The even distribution of mounds is vital to this enhanced productivity, suggesting that the lowly termite plays a substantial ecological role alongside the more charismatic fauna of the savanna such as cheetahs or lions.

Pringle's study is the first to link spatial patterning to the larger-scale properties of an ecosystem, but he expects that rapid technological advances in other domains (particularly chemistry and molecular biology) will likely reveal similar patterns that may generate further research. Besides satellite imagery, he says, “other

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Men			Women		
Nov. 5	Union	7 p.m.	Oct. 29	Yale	7 p.m.
Nov. 6	RPI	7 p.m.	Oct. 30	Brown	4 p.m.
Nov. 26	Dart.	7 p.m.	Nov. 19	Dart.	7 p.m.
Nov. 30	Merr.	7 p.m.	Dec. 10	BU	7 p.m.
Dec. 8	Quin.	7 p.m.	Jan. 14	SLU	7 p.m.
Jan. 7	Brown	7 p.m.	Jan. 15	Clark.	4 p.m.
Jan. 8	Yale	7 p.m.	Jan. 21	RPI	7 p.m.
Jan. 28	Colg.	7 p.m.	Jan. 22	Union	4 p.m.
Jan. 29	Cor.	7 p.m.	Feb. 4	Prin.	7 p.m.
Feb. 11	Prin.	7 p.m.	Feb. 5	Quin.	4 p.m.
Feb. 25	Clark.	7 p.m.	Feb. 18	Colg.	7 p.m.
Feb. 26	SLU	7 p.m.	Feb. 19	Cor.	4 p.m.

All hockey games are played at Bright Hockey Center.
Dates and times subject to change.

2010-11 Home Basketball Schedule

Men			Women		
Nov. 17	H.C.	7 p.m.	Nov. 6	Prov.	3 p.m.
Nov. 28	Colo.	2 p.m.	Dec. 3	Hart.	7 p.m.
Dec. 1	Ford.	7 p.m.	Dec. 10	UNH	7 p.m.
Dec. 28	MIT	4 p.m.	Dec. 22	SHU	2 p.m.
Jan. 22	Dart.	2 p.m.	Jan. 2	UMass	2 p.m.
Jan. 28	Col.	7 p.m.	Jan. 9	NJIT	2 p.m.
Jan. 29	Cor.	7 p.m.	Jan. 15	Dart.	7 p.m.
Feb. 11	Yale	7 p.m.	Feb. 4	Prin.	7 p.m.
Feb. 12	Brown	7 p.m.	Feb. 5	Penn	6 p.m.
Mar. 4	Penn	7 p.m.	Feb. 18	Cor.	7 p.m.
Mar. 5	Prin.	7 p.m.	Feb. 19	Col.	6 p.m.
			Feb. 25	Brown	7 p.m.
			Feb. 26	Yale	6 p.m.

All basketball games are played at Lavietes Pavilion. Dates and times subject to change.

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kinds of tools—including genetics and, increasingly, geochemical assays—will allow us to shine a much brighter light on how ecosystems are put together and why it matters that they're put together in *that* way and not some other way."

Beyond its importance to ecological scholarship, Pringle's work has special relevance to both conservation and environmental reconstruction. "Let's say you're trying to restore a forest or a coral reef, and to do that you're planting trees or bits of coral

fragment," he says. "Our results suggest that you want to think hard about the spatial patterning of these transplants—and to remember specifically that even, grid-like, spacing will typically yield the fastest regeneration rates."

—SAMUEL BJORK

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THERE GOES THE NEIGHBORHOOD

"Good" Cells Gone "Bad"

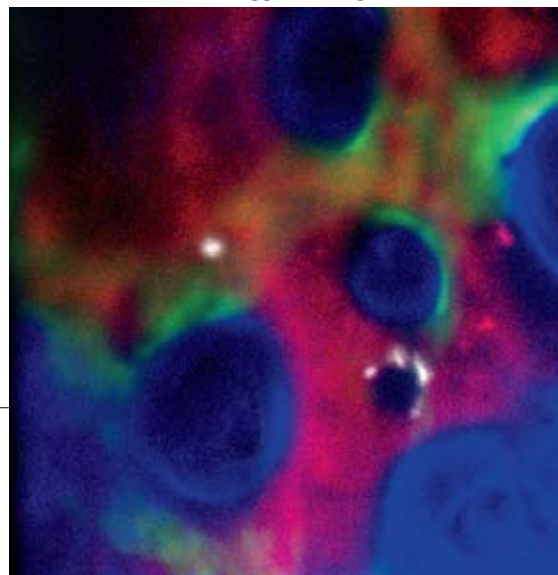
THE GOOD BOY who turns to crime because he lives in a bad neighborhood is a common fixture of popular culture. Now that narrative has a newly discovered analogy in the world of cell biology. Professor of stem cell and regenerative biology and Jordan professor of medicine David Scadden and colleagues have demonstrated for the first time that changes in an environmental niche can actually cause disease. "Good" cells can turn "bad" in a bad neighborhood—leading to cancer.

In cancer, a "single cell goes awry," explains Scadden. This is thought to happen when the cell accumulates a series of genetic injuries that break down the internal mechanisms controlling such events as how many times it can divide and how long it lives. The cancer then creates daughter cells that can travel and establish new colonies—but not just anywhere. Different kinds of cancers have affinities for colonizing particular organs: prostate cancer goes to bone, breast cancer to brain and lung, pancreatic cancer to liver, for example. This has led scientists to try to define the facilitating properties of those particular surrounding environments.

The fate of stem cells (white) in bone marrow is influenced by their immediate environment of bone cells (green), blood vessels (red), and bone (blue). Genetically defective "bad neighbors" can actually cause cancer.

Scadden has studied the importance of environmental niches in determining cell fate for years. He has shown, for example, that characteristics of a bone microenvironment can determine what type of cell a blood stem cell (in bone marrow) will become. But the idea that the environment could actually be involved in the initiation of a new cancer was not well defined until his recent discovery, which was published in *Nature* earlier this year.

Scadden, who co-chairs the University's department of stem cell and regenerative biology, found that when he and his team made a genetic alteration in bone cells that surrounded healthy blood stem cells in mice, the mice developed myelodysplasia, a disease that, in humans, frequently leads to an aggressive, generally fatal form



COURTESY OF DAVID SCADDEN LABORATORY/NATURE 2009 JAN 1:4577225-92-6

of leukemia. The result was unexpected but consistent with cases of myelodysplasia in humans: many patients develop the disease despite having normal blood cells prior to its onset. Such patients may have had undiagnosed genetic abnormalities in their bones.

Exactly how the environment interacts with stem cells to make them “go bad” is something Scadden’s group is now trying to work out. One possibility is that

“This says that cancer cells are actually part of a tissue and—like normal cells—they respond to signals.”

the environment provides a kind of “fitness check.” Cells that accumulate abnormalities might in a healthy environment receive signals instructing them to die, Scadden explains—messages the damaged cells never receive in a compromised environment.

Whatever the mechanism, the implications for therapy are enormous. Fixing problems *within* cells—rewiring a cell that has become cancerous, for example—is difficult. The new finding suggests that “the *interface* between one cell type and another can be a component of the development and maintenance of cancer,” Scadden points out. “Exchanges between cell types have to be happening at the cell surface”—and could therefore become a target for drug or antibody therapy. “We have been focusing on cancer cells as autonomous units,” he continues. “But this says that cancer cells are actually part of a tissue and—like normal cells—they respond to signals.”

“We’ve expanded the orbit for potential therapies,” he explains. “The trend toward stem-cell science ramifications in areas where we didn’t anticipate any direct connection is continuing to expand. This is a perfect example.”

—JONATHAN SHAW

DAVID SCADDEN WEBSITE:

www.mgh.harvard.edu/research/researchlab.aspx?id=1126

What’s New on the Web



THE SOCIAL EPIDEMIC

Vaccine research and funding for drugs are only part of the fight against HIV in sub-Saharan Africa. *Harvard Magazine* traveled to South Africa, Tanzania, and Uganda to report on Harvard scholars and students whose projects address the social and behavioral factors that contribute to the HIV epidemic (page 22).

Find more stories and photos at harvardmag.com/AIDS-in-Africa



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LISTEN ► Soulful Sounds

The band Soulfège fuses elements of reggae, hip-hop, funk, and West African high-life (page 15). Hear their music.



WATCH ► Painting Feelings

Read about George Oommen’s innovative technique (page 14). Then watch as he creates an original work of art.

DISCUSS ► Your Take on Torture

Father-and-son scholars Charles and Gregory Fried disagree about whether Bush administration officials should be prosecuted for torture committed in the name of the “war on terror” (page 36). Add your opinion and discuss with other readers.

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Harvard and union reach new contract

Jul 24, 2010 11:31 am

A two-year contract would increase staff members' compensation.

[read more](#) | [comment](#)

Report on Cambridge police Sgt. Crowley, Professor Gates

Jul 24, 2010 12:09 am

A report on the interaction between Cambridge police Sergeant Crowley and Professor Gates finds “misconducts, lies, and failed communications” on both sides.

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FROM TOP: NADINE HUTTON; GEORGE OOMMEN; SOULFÈGE; ROSE LINCOLUMINO

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Montage

Art, books, diverse creations



- 15 Afropolitans
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with family members and with the source of his inspiration.

Each December, Oommen returns to Kerala for three or four months to “recharge my batteries” he says, and to soak up the tropical imagery that dominates his paintings, which exude an “extravagantly charged vitality reminiscent of the sensual worlds of Henri Matisse,” wrote *Art in America* critic Dominique Na-

has. “The glorious colors of the harvest season,” Oommen recalls, savoring a memory of Kerala, “and fields of growing rice, and thatched huts.” He likes an inland island, Mankotta—“few know about it”—that is

Painter George Oommen in his studio. His painting *Visions of Kerala 2* (acrylic on canvas, 2005) hangs behind him.

only 20 miles from his Kerala home. There he goes out early in the morning, when the sun has barely risen. The still water becomes a mirror, “and you see everything double. The only other place I have seen like that is Lake Como in Italy.”

Oommen doesn’t take his easel outdoors, however. “I always paint from memory,” he explains. “If you can’t remember it, it’s not worth painting.”

He creates his abstract landscapes mostly in acrylic and oil paints and, since 1994, has often used a drip technique in

Tropical Abstractions

Painting feelings, with the help of gravity

by CRAIG LAMBERT

THE ART OPENING on July 1 had the usual ingredients: about four dozen works on display, refreshments, social mingling, and the painter circulating throughout the room. But the location—the ARKA Gallery in Vladivostok, Russia, on the Sea of Japan in eastern Siberia—made it an historic occasion: the first-ever exhibit of its kind of works by an American artist in the Russian Far East. The U.S. consulate and Vladivostok city administration co-sponsored the event as part of

celebrations of the city’s sesquicentennial.

The voyage to Vladivostok demanded some tricky packing by that artist, George Oommen, M.A.U. ’70 (www.goommen.com). Though he lives in Boston, where he worked from 1970 until 2007 as a senior project manager for Harvard Planning and Real Estate, Oommen was born in Kerala, in southwest India, where the summer temperature easily reaches 111 degrees Fahrenheit. He stopped there on his way to Siberia, with its 48-degree weather; before the big opening, it was worth reconnecting both

Three works from Oommen's oeuvre, clockwise from top left: *Kanjeevaram Series* (acrylic on canvas, 2008); *Sunset at Mankotta 3* (oil on canvas, 2009); and *Sacred Places Within You 40* (oil on canvas, 2009)

cluding the Murr Center, the Bright Hockey Center, and the Tanner Fountain, with all its boulders, in front of the Science Center.

As a young architecture student in India, he once met Le Corbusier, who designed much of the city of Chandigarh, and the great architect remarked, "You're a student? You should *always* be a student." And, Oommen says, "I've always been a student after that. It's kept me young,

kept me open to new techniques." Indeed, for 20 years he has studied at the School of the Museum of Fine Arts in Boston, where a fellow student once suggested a way to stop his drips from running off the bottom edge of the canvas: "Have you tried shaving cream? It absorbs all the color and then it evaporates." Oommen has used the method ever since: "At the school, I'm known as the guy with shaving cream and a beard."



Visit harvardmag.com/extras to see a video of Oommen painting in his studio, and a slide show of more of his works



source—and mounting them with magnets. He can even print different works on both sides of the metal. Images on metal might, in the future, prove an economical way to ship and display art, he notes: just to pack, ship, insure, and shepherd his paintings through customs to Vladivostok cost \$10,000.

Oommen says he spends half his time lately on the business end of art. (His works typically sell for \$3,000 to \$4,000.) He is used to budgets. Trained in both architecture and urban design, he supervised much of the construction across the Harvard campus in the past few decades ("from fundraising to ribbon cutting"), in-



COURTESY OF GEORGE OOMMEN

which he squirts water (or turpentine, for oil-based paint) at the top edge of the canvas and lets it trickle down, taking paint with it and creating a vertical line on the surface. "I use water to paint water," he explains. Generally, he fills the frame with many parallel drips that, depending on the subject, can suggest raindrops on a window, wooden blinds, hanging vegetation, tree trunks, or the fabric of silk saris. His technique differs from the drippings of "action painter" Jackson Pollock, whose work "doesn't speak to me," Oommen says.

Instead, he cites the influence of the celebrated British artist Sir Howard Hodgkins, who "paints feelings. That's very tough to do," says Oommen. "I tried to see if I could paint my feelings. I went back to the things I remember most—my first girlfriend, first kiss, first love. You start with a feeling, and when the feeling comes back to you by looking at the painting, the painting is finished."

All the paintings in the Vladivostok show are two feet square; he has recently experimented with printing some pictures on metal sheets, using a giclée process—making ink-jet prints from a digital

Afropolitans

Musical "food for the soul"

IN THEIR VERSION of the classic West African song, "Sweet Mother," the band Soulfège sings in English, Jamaican patois, and the African languages Ga and Twi in one verse. "There are very few people around who will understand everything said in that verse," says Soulfège

co-founder Derrick N. "DNA" Ashong '97. "But everyone can kind of feel the joy and vibe and the love in it." Indeed, last January the band (www.soulfege.com) played in Laramie, Wyoming—about as far from Ashong's Ghanaian roots as you can get. Yet "the kids were bobbing their heads



Soulfège performs at the World Café Live in Philadelphia last January, with Gramling (center) and Ashong (right, with guitar) on vocals.

O P E N B O O K

On Babies' Behavior

edited by Barry M. Lester, of Brown, and assistant professor of psychiatry Joshua D. Sparrow, of Children's Hospital, is *Nurturing Children and Families* (Wiley-Blackwell, \$119.95). The following, sans references, comes from Lester's introductory essay.

The Neonatal Behavioral Assessment Scale (1973), often referred to as the Brazelton scale, forever changed the way we see, think about, and understand babies. In the sense of a true Kuhnian revolution, the data, the facts that came to be known from research with the Brazelton scale, no longer fit the existing paradigm and we could no longer view the baby as a tabula rasa. There are literally hundreds

of studies that have used the Brazelton scale to document the extraordinary behavioral repertoire of the newborn, the baby as part of an interactional process, and the baby with self-regulatory capacities.

One key contribution that came out of this work was the study of individual differences in newborn behavior. In *Infants and Mothers* (1969), Brazelton described three different kinds of babies: "quiet," "active," and "middle of the road." These differences were described as "constitutional" and Brazelton pointed out that parents need to learn to adjust to these differences, thus opening the door to the idea that newborn infant behavior affects parenting.... The fact that there are individual differences at birth also helped shatter the myth of the baby as tabula rasa. But it did more than that because the research also showed that these individual differences shape the mother-infant reaction. So the infant emerges as shaping his or her own development and this phenomenon can be observed all over the world. Showing

T. Berry Brazelton, clinical professor of pediatrics emeritus, has been the guide for recent generations who find themselves in possession of newborns in the process of growing up. Preparing for his ninetieth birthday, in May 2008, colleagues began assembling a guide to the research frontiers Brazelton's work had opened. The result,



Brazelton with one of his sources of inspiration

that these individual differences affect parenting—that they alter the caregiving environment—may very well have been the *coup de grâce* that cemented the paradigm shift.

The Brazelton scale changed the field of temperament. Use of the term "temperament" had previously been reserved for older infants and children. With the advent of the Brazelton scale, temperament could now be described along the lines of individual differences in newborn behavior. The "quiet" baby became the child with "easy" temperament. Also, most temperament researchers claimed that temperament was biologically based. The fact that temperament could now be described in the newborn, before postnatal environmental factors came into play, gave strong support to the biological basis of temperament. In addition, temperament is thought of as what later becomes personality in the older child. So by extension, the newborn was seen as entering the world with a personality. A far cry from the tabula rasa!

and jumping up and down," Ashong recalls. "Paintings and clocks were literally falling off the walls because everyone was jumping up and down so hard that the walls were shaking."

If this is an era of globalized culture, world music, and the erosion of international barriers, then Ashong and Soulfège (a play on solfège, the popular method of teaching sight-singing), may be perfectly in tune with the times. The six-member band's sound fuses elements of reggae, hip-hop, funk, and West African highlife. "All these musical idioms are a palette for expression," Ashong explains. "The colors we use depend on what we're singing about, what we want to say. When I write a song, I have a feeling of how it moves me, and that shapes how the song is written and how it is produced. I can take the same song and make a folk song, a rock song, a reggae song, or a country tune, all depending on how it is produced—the reggae artists can take Céline Dion and make it into reggae! It's choosing the right idiom to convey the feeling. I don't want to hit a baseball with a golf club."

Ashong's own biography echoes the diverse chords of Soulfège. Born in Accra, Ghana, he moved with his family to Brooklyn at a young age, then lived in Saudi Arabia from ages 8 to 12. Next came a stint in Doha, Qatar, then back to the States where, almost ironically, Ashong completed high school in the suburban New Jersey town of Voorhees. His mother, Stella, is a registered nurse and his father, Emmanuel, M.P.H. '82, a pediatrician; both sing well.

Ashong played classical piano, clarinet, drums, and sang in the choir at his high school. At Harvard he joined the Kuumba Singers and there befriended Jonathan Gramling '98, who launched Soulfège with him about a decade ago. (Several other Kuumba alumni, including Sheldon Reid '96, Ed.M. '98, James Shelton '97, Kelley Johnson '02, and Jorge Montoy '04, were in the group's earlier incarnations. The band once had 12 members, which was fun but, as Ashong explains, "too many to take on the road." He and Gramling, the two vocalists, are the only remaining Harvardians.) During college, Ashong took a leave of absence to play the lead character's younger brother in Steven Spielberg's 1997 film *Amistad*. He later pursued a Harvard

doctoral program in ethnomusicology for four years, but eventually chose to make music rather than study it.

Now based in Los Angeles, Ashong also does a good deal of public speaking as a committed advocate for social change who worked for the Obama campaign. Soulfège's *Take Back the Mic* is not only a CD but a project that aims to "teach a new generation to speak for itself, with art and technology," Ashong explains. "Similar



Visit harvardmag.com/extras to see a Soulfège video and hear their music.

issues of identity and expression, and feeling empowered to have an impact on things, are being felt by kids around the world." The band conveys, according to VanityFair.com, "a spirit of promise and hope and harmony, a spirit that denies dissonance. Soulfège lets us dream such sweet dreams, in vibrant colors."

Ashong puts it this way: "Our music is naturally calibrated to get in you, to pass seamlessly through the pores of the human spirit. A lot of music is negative, not aspirational, not beautiful. It should be

Soulfège co-founders Jonathan Gramling (left) and Derrick N. Ashong, a.k.a. "DNA"

flavorful, and express things that encompass the flavor of human life. People say, 'The world has all these issues, all these problems—who's going to come and fix them?' Nobody's coming to save you; it is for you to save yourself. In order to do so, you've got to have two things. One, the belief that you have the power to save yourself, and two, the understanding that you have something worth saving. These are not necessarily things you hear me say directly in my music, but that's the philosophy that underpins what I'm doing. So whenever we create something, it's designed to give the individual food for the soul. When



COURTESY OF SOULFÈGE

you come to a Soulfège concert, even if you don't listen to a single lyric—maybe you just dance your ass off—when you go home, you should feel better than when you came in. And if you do, I think I did my job."

~CRAIG LAMBERT



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A Garden of Prose

Don't call it satire: Francine Prose's novels are just smart and funny.

by SUSAN HODARA

THE 2,000-SQUARE-FOOT vegetable plot—planted with fava beans, peas, arugula, raspberries, even artichokes—that author Francine Prose '68, A.M. '69, cultivates at her upstate New York home has become, she says, “an obsession. Sometimes I think I write for a few hours a day so I don't have to feel guilty about working in the garden.”

After more than 30 books, the first published when she was 26, Prose's guilt should be nicely quelled. Her novels include *Blue Angel* (2000), a finalist for the National Book Award, and *Household Saints* (1981), which was adapted into a film. She's written short stories, young-adult and children's books, and nonfiction works including the *New York Times* best-seller *Reading Like a Writer* (2006) and, most recently, *Anne Frank: The Book, the Life, the Afterlife* (2009; appearing in softcover this fall). Prose writes everything except, well, poetry.

“Francine is one of the great writers of her generation,” says James Atlas '71, president of the publishing imprint Atlas & Co., a friend since their college days. (Prose's 2005 *Caravaggio: Painter of Miracles* is part of the firm's Eminent Lives series.)

Comparing her to Virginia Woolf, Atlas describes Prose as “a versatile woman of letters in the old-fashioned sense,” and novelist Larry McMurtry, in his review of Prose's *Bigfoot Dreams* (1986), called her “one of our finest writers.”

Magical realism influenced her early books, but “things took a radical turn in the late '80s, early '90s, the Reagan-Bush years,” she says. “I was horrified by what was happening around me. My work got a lot more contemporary, a lot more political.” Her novels took on a more acerbic tone, introducing readers to complex if not always likable characters such as Vera, who concocts fictitious stories for a tabloid in *Bigfoot Dreams*, and the smug Hudson Valley socialites in *Primitive People* (1992), as viewed by a Haitian au pair.

During this period, reviewers began calling Prose's fiction satirical, a label she deplores. “I'm not satirizing,” she says. “I'm reporting. I'm describing the world I see.” Consider this portrayal in *Blue Angel* of parents on a college campus during visiting weekend: “How uncomfortable they are in the presence of their children! ...These hulking boys and gum-chewing girls could be visiting dignitaries or important business contacts, that's how obsequiously



Francine Prose

the grown-ups trot behind them, keeping up their interrogations—how's the food? your roommate? your math professor?—questions their children ignore, walking farther ahead....”

“Yes, sometimes it's funny,” Prose continues, “but my aim isn't to satirize. My principal aim is to create characters, to get inside their consciousnesses.”

The range of those characters is remarkable. Her narrators include a tattooed neo-Nazi seeking redemption (*A Changed Man*), a 13-year-old mourning her sister (*Gold-*

William Storrer hopes that someone can provide a source for the quotation, supposedly from Oswald Spengler's *Decline of the West*, that George

reads aloud near the end of the second act of Edward Albee's *Who's Afraid of Virginia Woolf?* The text runs: “And the West, encumbered by crippling alliances, and burdened with a morality too rigid to accommodate itself to the swing of events, must...eventually...fall.”

Wesley Moore asks who wrote a short unidentified poem, found on a website, that begins, “Stranger, go, tell the Spartans--/No; simply say 'we obeyed'.../ Make us sound laconic and all iron....” and

Chapter & Verse

Correspondence on not-so-famous lost words

ends, “What truth soldiers would speak/ None would hear, and none repeat.”

“Wisdom is so rare an attribute that it were better it come late than not at all” (July-August). We thank the more than two dozen readers—lawyers, law professors, a judge, and a longtime professional Supreme Court watcher among them—who wrote to identify this misstated version of a comment by Justice Felix Frankfurter, dissenting in *Henslee v. Union Planters National Bank & Trust Co.*,

335 U.S. 595, 600 (1949). The correct wording is: “Wisdom too often never comes, and so one ought not to reject it merely because it comes late.” Richard

Spector's reply was the first to reach us. Dominic Ayotte noted that the case does concern the estate tax. And Anthony Shipp's offered the gentle reminder that a query about the same quotation ran in this column in May-June 1986, and was answered in the subsequent issue by B. Abbott Goldberg and Erwin Griswold.

Send inquiries and answers to “Chapter and Verse,” *Harvard Magazine*, 7 Ware Street, Cambridge 02138, or via e-mail to chapterandverse@harvardmag.com.

engrove), and a college professor tempted by an unlikely student (*Blue Angel*). “The joy of trying to see the world through the eyes of someone as different from yourself as possible is hugely liberating,” Prose says. “Regardless of who they are, their views of the world must be as nuanced and layered as mine and my friends’ are.”

The central element in accomplishing this is language. “It’s about hearing the language they speak inside their heads,” she explains. Listen to what’s going on inside Vincent Nolan’s head on a crowded Manhattan street early in *A Changed Man*: “He’s never seen it this bad. A giant mosh pit with cars. Just walking demands concentration, like driving in heavy traffic. He remembers the old Times Square on those righteous long-ago weekends when he and his high school friends took the bus into the city to get hammered and eyeball the hookers.”

Validating Prose’s own stance, Andrew O’Hehir writes in his Salon.com review of *A Changed Man* that her “desire to capture

contemporary Americans, with all their internal contradictions, solipsism and general screwed-upness, is guided more by the spirit of compassion than by that of mockery.”

A tall woman with porcelain skin, Prose and her husband, the artist Howard Michels, moved upstate to raise their sons, now 31 and 27; they divide their time between the town of Olivebridge and their Manhattan apartment. Her time at Harvard, which included a *summa cum laude* degree and a couple of years as a graduate student, provided “all the tools you need as a writer. Language, narrative, dialogue, voice—it was all there,” she says. “No one sat me down and said, ‘This is what you’re learning,’ but I was.”

Having recently completed two new

novels (one is due out next summer, the other, a young-adult novel, after that), Prose is working on a third, based on the life of Violette Morris, one of the women in the Brassai’s photograph “Lesbian Couple at Le Monocle.” The book began as a nonfiction study of Morris, a French professional athlete re-

cruited by the Nazis as a spy. But the work bogged down until Prose recast it as fiction. “Suddenly the idea of seeing the Berlin Olympics from the perspective of a furious lesbian athlete became fascinating,” she says.

Each project follows a similar trajectory that she claims doesn’t get easier. “First drafts are really hard,” she says. “It’s different from book to book, but they’re always a slog, and I never feel I’ve learned anything from one to the next. And there are moments of great despair.”

Like *Blue Angel*’s protagonist, Prose has taught creative writing. Since 2000, she has



Hear Francine Prose talk about her writing process at harvardmag.com/extras.



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been visiting professor of literature and Distinguished Writer in Residence at Bard College. She has received Guggenheim and Fulbright fellowships and in May was

inducted into the American Academy of Arts and Letters, the 112-year-old institution composed of 250 architects, composers, artists, and writers. "It was such a val-

idation," Prose says. "The people making those selections are not critics; they have nothing to do with the commercial world. They are us. It feels really good." ▢

Off the Shelf

Recent books with Harvard connections

Reputation and Power, by Daniel Carpenter, Freed professor of government (Princeton, \$29.95 paper). At a time of debate over government and regulation (oil spills or financial crises, anyone?), the director of Harvard's Center for American Political Studies delivers the definitive (752 pages) analysis of the Food and Drug Administration and pharmaceutical regulation. He finds that such power "coheres well with the Federalists' vision of 'strong' government" and that "the central criterion of strong governance is... legitimated vigor."

Modern Architecture: Representation and Reality, by Neil Levine, Gleason professor of history of art and architecture (Yale, \$65). A sweeping "postmodern view" of architecture's development across three centuries, profusely illustrated.

Taking Back Eden, by Oliver A. Houck '60 (Island Press, \$35). A Tulane law professor narrates eight landmark environmental lawsuits, including the one involving Con Edison's power-plant plans for Storm King Mountain, along the Hudson, litigated by his College classmate, Albert K. Butzel (also LL.B. '64).

Listen to This, by Alex Ross '90 (Farrar, Straus and Giroux, \$27). "[M]usic criticism is a curious and dubious science," says its premier practitioner. This is the first collection of his *New Yorker* essays, following publication of his acclaimed book on twentieth-century classical music, *The Rest Is Noise*. (Ross was profiled in the July-August 2008 issue of this magazine.)

Exploring Happiness, by Sissela Bok, Ph.D. '70 (Yale, \$24). The author, now senior visiting fellow at the Center for Population and Development Studies, turns her attention from such past subjects as *Lying*, *Mayhem*, and *Secrets* to the nature of happiness and its representation from philosophy to contemporary science.

Shelter: Where Harvard Meets the Homeless, by Scott Seider '99, Ed.D. '08 (Continuum, \$80; \$22.95 paper). The author, an assistant professor of education

at Boston University, studies the civic development of adolescents. One important example is the student-run Harvard Square Homeless Shelter, where opportunities arise to "do passion well."

Laws, Outlaws, and Terrorists, by Gabriella Blum, assistant professor of law, and Philip B. Heymann, Ames professor of law (MIT, \$21.95). A reflective critique of the war on terror, conducted in what the authors call a "No-Law Zone." They aim to demonstrate that "the nation loses when either national security or the rule of law wholly vanquishes the other at a time of emergency." For a perspective on the same problems by the authors' Law School colleague Charles Fried and his son, Gregory, see page 36.

Handing One Another Along, by Robert Coles, professor of psychiatry and medical humanities emeritus (Random House, \$26). Drawing from his "Literature of Social Reflection" (Gen. Ed. 105) course, the author pursues moral understanding through stories of others, drawn from literature and from his life, including meeting William Carlos Williams, the subject of his English thesis.

Facing Catastrophe, by Robert R.M. Verchick, J.D. '89 (Harvard, \$45). What better vantage point (unfortunately) for studying the subject than Loyola University's law school, in New Orleans? The author offers an environmental-law perspective on disasters. He suggests respecting natural buffers, attending to public health and safety, and anticipating risks.

In Brown's Wake: Legacies of America's Educational Landmark, by Martha Minow, dean, Harvard Law School (Oxford, \$24.95). The project of attaining equal educational opportunity regardless of race remains unfulfilled. But Minow finds that the impact of *Brown v. Board of Education* has been far wider—in the classroom, in society at large, and even in the global realm of human rights.



The site of a foundational environmental lawsuit, as rendered a century earlier in Samuel Colman's *Storm King on the Hudson* (1866)

The Shape of Inner Space, by Shing-Tung Yau, Graustein professor of mathematics, and Steve Nadis (Basic Books, \$30). An exploration of the geometry underlying much work in string theory, by the scholar who made the decisive proof in the field, with a collaborating writer. Lay readers will still find the vocabulary and underlying ideas strange and challenging.

Never Pure, by Steven Shapin, Ford professor of the history of science (Johns Hopkins, \$70; \$30 paper). Few historians of science proceed from Woody Allen or Monty Python. But few review elegantly for

New England

REGIONAL SECTION



Extracurriculars

SPECIAL EVENTS

Celebrating the Millennium of Firdawsi's *Shahnama*

The *Houghton Library* and *Harvard Art Museums* are participating in a series of fall events organized by the Museum of Fine Arts in Boston (which has mounted the exhibit *Romantic Interludes: Women in Firdawsi's Shahnama*). The epic poem, composed by Persian poet Abu'l Qasim Firdawsi and completed in 1010 C.E., tells the story of the Persian people from the creation of the world to the Muslim conquest of Iran in the mid-seventh century.

- Through November 24, at *Houghton* <http://hcl.harvard.edu/info/exhibitions/index.cfm>; 617-495-2444.

On display are five illustrated lithographed editions of the *Shahnama*. Lectures by visiting professors are also planned for October; visit the website for details.

- Through November 27 at the *Harvard Art Museums*, www.harvardartmuseums.org; 617-495-9400; 485 Broadway
Heroic Gestes: Epic Tales from Firdawsi's Shahnama features nine paintings on display in the Islamic and Indian gallery. For

updates on related programming, visit the museum website.

Why Books?

- October 28 and 29

Radcliffe Institute for Advanced Study www.radcliffe.edu/events/calendar_2010-books.aspx; 617-495-8540.

Registration is required for this free, two-day conference presenting speakers from various disciplines who will "probe the form and function of the book in a rapidly changing media society."

SEASONAL

The Farmers' Market at Harvard

www.dining.harvard.edu/flp/ag_market.html. Runs through October.

- In Cambridge, Tuesdays, 12:30-6 P.M. at Oxford and Kirkland streets.

- In Allston, Fridays, 3-7 P.M. at North Harvard Street and Western Avenue.

EXHIBITIONS

Harvard Museum of Natural History

www.hmn.harvard.edu
617-495-3045

- October 17 at 2 P.M.

From Trilobites to Extraterrestrials: Exploring Life on Earth and Beyond, a family program featuring paleontologist Phoebe Cohen, Ph.D. '10, explores the origins of life forms.

- October 21 at 6 P.M.

The *Asa Gray Bicentennial Celebration* highlights the contributions of this "father of modern botany in North America," who was also the founder of the Harvard Herbarium. Aramont professor of the history of science Janet Browne will launch the museum's multipart commemorative lecture series with a talk on *Corresponding Naturalists: Asa Gray and the Making of American Botany*.

Peabody Museum of Archaeology and Ethnology

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

- Continuing: *Storied Walls: Murals of the Americas*. The exhibition features large-scale drawings, photographs, and some actual pieces of murals from Awatovi, Maya, and Moche cultures.

- Continuing: *Digging Veritas: The Archaeology and History of the Indian College and Student Life at Colonial Harvard*.

Left to right: *Firdawsi at the Court of Sultan Mahmud of Ghazni*, on display at Houghton Library; a scene from *Alice vs. Wonderland* at the American Repertory Theater; and a detail from a watercolor of a figure and glyph from San Bartolo, Guatemala, at the Peabody Museum.

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FILM

The Harvard Film Archive

<http://hcl.harvard.edu/hfa>

Visit the website for complete listings.

617-495-4700

- September 17 and 18

The Musical Imagination of Miguel Gomes highlights the sensual visual style of this Portuguese filmmaker, who also appears both nights to talk about his work.

- October 15 through November 1

A *Visit from Robert Gardner* includes screenings of his best-known films, *Dead Birds* and *Forest of Bliss*, along with new works. Gardner, an international documentarian and cofounder of the archive, will discuss his art on October 29.

LIBRARIES

Countway Library Center for the History of Medicine

617-524-2170; www.countway.harvard.edu/menuNavigation/chom/exhibit.html

Continuing: *The Scalpel and the Pen: The Life and Work of Oliver Wendell Holmes, M.D.*

THEATER

American Repertory Theater

www.americanrepertorytheater.org

617-547-8300

- Through October 29

This production of *Cabaret*, by John Kander and Fred Ebb, stars Amanda Palmer, of the internationally known punk cabaret band *The Dresden Dolls*.

- September 18 through October 9

Alice vs. Wonderland is a contemporary adaptation by director János Szász in which six actresses play different parts of a young girl's personality. For teens and adults.

MUSIC

Sanders Theatre

www.ofa.fas.harvard.edu/boxoffice

617-496-2222; all concerts begin at 8 P.M.

- October 29

A "Montage Concert" with the *Harvard Jazz Band*, *Harvard Wind Ensemble*, and the *Harvard University Band*.

Right: Paleontologist Phoebe Cohen explores the origins of life during a family program on October 17 at the Harvard Natural History Museum.



First Stars, by David A. Aguilar (CfA)

- October 30

Radcliffe Choral Orchestra and *Harvard Radcliffe Collegium Musicum* perform a fall concert with new choral director and conductor Andrew Clark.

NATURE AND SCIENCE

The Harvard-Smithsonian Center for Astrophysics

www.cfa.harvard.edu/events

617-495-7461; 60 Garden Street

Observatory nights offer free, nontechnical lectures on astronomy and—weather permitting—rooftop viewing on the third Thursday of each month.

- September 16 at 7:30 P.M.

"Beyond UFOs: The Search for Extraterrestrial Life and Its Astonishing Implications for Our Future" with educator and author Jeffrey Bennett.

- October 7 at 7:30 P.M.

Sky viewing with David Aguilar.

- October 21 at 7:30 P.M.

"How Did the First Stars and Galaxies Form?" with Abraham (Avi) Loeb.

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



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Cambridge...Port. Sensational TH with private entrance. 3 BRs, 2 baths. Fireplace. 2-c gar.pkg. Deck. Views. See www.292Sidney.com. \$559,000



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Innovative museums highlight New England's industrial past. • by Nell Porter Brown



Far left and top: The Slater Mill's stone exterior; inside, spinning machines offer a sense of the production process. Left: The Blackstone River and the mill circa 1890

COURTESY SLATER MILL MUSEUM

THE RICH INDUSTRIAL history of New England is part of our collective national experience, but rarely grabs our attention day to day. “So many different types of industry permeated our landscape over the last 200 years, and then, without a lot of fanfare, a lot of it disappeared,” says Dan Yaeger, M.T.S. ’83, the former executive director of the Charles River Museum of Industry and Innovation, in Waltham, Massachusetts.* “The textiles moved south and now we’re into this creative/information economy that doesn’t deal with things. Many people, especially the younger generation, have no direct personal history with industry,” he adds, much less daily exposure to smokestacks, the rush of water over a mill wheel, or the roar of steam-driven factory engines reverberating through their communities. As a result, museums focused on industry are challenged to create a vivid yet accurate picture of that era—and to figure out how to draw the attention of visitors, especially younger ones.

*The museum, forced to close after severe flooding in March, plans to reopen as early as October. It celebrates the first fully integrated mill in the world, designed by Francis Cabot Lowell, A.B. 1793 (see page 30), and presents the nation’s industrial history, and histories of its other innovators.

“Finding sources of visitors and support is difficult,” adds Yaeger, now executive director of the New England Museum Association. “How do we attract people to these museums?”

Here are a few examples of how historians and curators have succeeded in bringing New England’s industrial history alive.

Slater Mill Museum

Pawtucket, Rhode Island
www.slatermill.org
 401-725-8638

CONSIDERED A TRAITOR in his native England, engineer Samuel Slater was instrumental in founding the American industrial revolution—in the village of Pawtucket. In 1793, having surreptitiously fled across the Atlantic with copied plans of innovative spinning-machine systems, Slater opened the first successful water-powered mill in the United States. Spinning had been primarily a small-scale domestic activity, but now machines could transform bales of cotton into finished yarn. The Slater Mill harnessed not only the power of the Blackstone River, but also the talents of local mechanics and artisans, the sweat of labor-

turned industrialist, philanthropist, and abolitionist Moses Brown.

The museum uses three buildings, including the original, wooden Slater Mill, to explain this historic change and its reverberating effects on the young nation—and the future. On display are a working cotton gin (invented by Eli Whitney, of Westborough, Massachusetts, in 1793) and replicas of Slater’s carding machine and the throstle-frame spinning system that give visitors a process-driven understanding of how yarn was made and why these developments in the textile industry were so important.

At a second building, the Wilkinson Mill, visitors can see and hear a 16,000-pound wooden water wheel (a replica of an 1826 wheel) being turned by the river and triggering the machinery inside. Beginning in 1869, wheel power was replaced by the first of the two metal turbines still underneath the Slater Mill. (Plans are under way to restore them and use one to generate electricity for the mu-

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NEW ENGLAND REGIONAL SECTION

seum.) Costumed interpreters guide visitors through all the buildings, including in and around the Sylvanus Brown House and garden, which highlight daily life and how tasks such as spinning and weaving were done before automation. (Brown, a skilled carpenter, made full-scale wooden patterns of machine parts for Slater.)

Slater himself moved up the river and in 1803 established Slatersville, the first pre-planned industrial community; he built a larger-scale mill (the original building was replaced with the current stone structure in 1826), along with workers' housing and a company store. He ultimately settled in Webster, Massachusetts, where he built more mills, and is buried in the town cemetery.

Most of this industry was made possible by the Blackstone River, which runs from Worcester, Massachusetts, to Providence. The river valley is now a National Heritage Corridor because so much diverse industry sprang up along its banks, including a lucrative canal system linked to the Atlantic. The 1,000-acre Blackstone River and Canal Heritage State Park (www.mass.gov).

American Precision Museum

Windsor, Vermont

www.americanprecision.org

802-674-5781

OPEN MEMORIAL DAY through October 31, this intriguing museum shows the evolutionary development of the interchangeable, machine-made parts that made mass production possible. Early typewriters, watches and clocks, sewing machines, firearms, and a bicycle are displayed alongside the machines that produced the metal parts used to build them. The museum is housed in the 1846 Robbins & Lawrence Armory, a National Historic Landmark. The company pioneered the making of interchangeable parts for rifles, using a combination of machinery and hand-crafting that revolutionized manufacturing. One current exhibit, *From Muskets to Motorcars: Yankee Ingenuity and the Road to Mass Production*, explores early engineering and the modern world, and features a 1927 Chevrolet and a 2006 biofuel racing car designed by Dartmouth graduate students.

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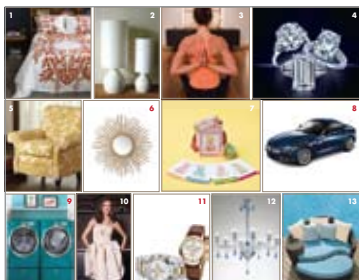
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NEW ENGLAND REGIONAL SECTION

gov/dcr/parks/central/blst.htm), about a half-hour drive from the Slater Mill, in Uxbridge, Massachusetts, commemorates the region's industrial history while also offering canoeing, biking and walking trails, and cross-country skiing. The preserved **Millville Lock** is nearby, as are the towering rocks of the Blackstone Gorge.

Slater Mill current exhibits: September 9 through October 29: Lace made in Seekonk, Rhode Island, from the museum's extensive archives. September 17 through October 30, Friday and Saturday evenings: *Ghost Tours Mill & Mysteries: A Ghostly Experience*.

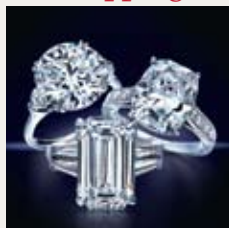
Lowell National Historical Park

Lowell, Massachusetts
www.nps.gov/lowe/planyourvisit/-index.htm
978-970-5000

THIS NATIONAL PARK incorporates multiple activities and exhibits that explore the later stages of the cotton-mill era, when "the raw cotton came in as bulk and left the mill as a bolt of finished cloth," says National Park Service spokesman Phil Lupsiewicz. The park also explores what life was like for workers in the first major city in the United States built around an industry. At the Boott Cotton Mills Museum, visitors hear and see the roaring operating looms, and watch thread being turned into bolts of cloth. Videos offer moving oral histories from workers and explain such artifacts as the carding machine, used in the cotton rendering process. Another interactive video station explores the layered history of the labor movement, giving voice to the perspectives of both management and workers.

Francis Cabot Lowell (for whom the city is named) and a circle of investors known as the Boston Associates first opened such a mill in Waltham, Massachusetts, in 1814. But after Lowell's death in 1817, his partners, recognizing the Charles River's relatively limited power, chose to build an expanded operation in the late 1820s in what was originally known as East Chelmsford, on the Concord and Merrimack rivers. That same group also built spin-off operations throughout New England, notably in Manchester, New Hampshire. "This was very much like the go-go 1980s era of great speculation and profits," says Dan Yae-

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Dining

NEW ENGLAND REGIONAL SECTION



LOWELL NATIONAL HISTORIC PARK

The Lowell National Historic Park's Boott Mill weave room (above), and an exterior view of the mill and one of the canals constructed to divert river water to power its machinery

ger, who is writing a biography of Lowell. "They were the dominant capitalists. They also contributed tremendously to building civic institutions, such as Massachusetts General Hospital and McLean Hospital."

To understand the lives of their workers, visit the park's cultural center and its *Mill Girls and Immigrants* exhibition. This offers a partially recreated boarding house (initially owned and run by the mill owners, who also fed the workers), with bedrooms, personal objects, writing samples, and memoirs of the early- to mid-nineteenth-century working experience and of factory workers' social lives in Lowell. Factory bells dominated city life, waking workers at 4:30 A.M., for example, so they could be at work within 20 minutes. Bells also rang to close the factory for the day, at 7 P.M. When the textile industry was at its height in Lowell, in the 1880s, the city had about 10 major companies operating cotton mills, involving more than a hundred buildings. The mill girls, many of them local farmers' daughters, were eventually succeeded by immigrants whose experiences of work and assimilation are chronicled as well. (There's also a display on modern Lowell's still-diverse population.)



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NEW ENGLAND REGIONAL SECTION

Guided tours are available year-round; those with a deeper interest in the sub-surface mill machinery can request in advance to see the turbines, gears, and components in the “River Transformed” tour. Seasonal trolleys tour the city and boats cruise the canals, built to divert river water to power the various mills. Parklands along parts of the canal route and the Merrimack River are great for activities from picnicking to playing.

The best way to see Lowell is on foot or by bike; the national park and most of the industrial-era attractions are located downtown, which is easily accessible on the MBTA commuter rail from Boston’s North Station. The American Textile History Museum (www.athm.org) has a hands-on exhibit explaining how different textiles are made. Also nearby are the New England Quilt Museum (www.nequiltmuseum.org) and the Whistler House Museum of Art (www.whistlerhouse.org), the artist’s birthplace. And

Lowell has its own postindustrial charm, as well, with restaurants, stores, and annual tributes to native son Jack Kerouac.

Davistown Museum

Liberty, Maine

www.davistownmuseum.org

207-288-5126

FOR 40 YEARS, H.G. “Skip” Brack has searched New England’s cellars, factories, and boat shops for woodworking tools for use by customers of his Liberty Tool Company. “We process about two tons of materials every week,” he says, “and hidden among those are the history of toolmaking in New England.” Brack, who’s also a scholar of early American industry, has housed many of his most unusual historic finds in an eclectic institution that marries his interests in hand-made tools, history, and contemporary art: his Davistown Museum.

Hand-forged tools from early New England at the eclectic Davistown Museum

Among the thousands of items on display—hammers, axes, planes, chisels, carving tools—are Native American tools of stone and wood exhibited alongside those forged by the earliest colonial artisans—blacksmiths and coopers—as well as specialized tools used in New England’s once-vibrant maritime industries. Artwork about or made from tools is also exhibited, and more than a hundred other works by Maine artists.

“What I like are the stories tools tell us



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HARVARD
MAGAZINE

about seventeenth- and eighteenth-century America,” says Brack. Try to visit the museum on a Saturday when he is there to highlight this regional history in person; he and his staff have written some 20 books, including a six-volume set on the history of toolmaking in America. (These are for sale, but researchers can also use his extensive library.) Some objects on display require explanation: few visitors will recognize the wantage rule used to measure quantities of beer in a keg, for example. “It’s the oldest tool of its kind in the United States, hand-designed and dated by Robert Merchant of Berwick, Maine, in 1720,” Brack reports.

He can also tell you all about tools made from “bog iron” (dug out of what are now the cranberry bogs of southeastern Massachusetts). “There were seven blast furnaces in Carver alone after 1720,” he says. “They shipped cannon balls down to George Washington along the Wareham River.” The colonists made many of their own tools simply from necessity: it took eight or

nine months to obtain an ax from England, which supplied most of the steel for the region until resourceful local artisans started producing it in small quantities from homegrown recipes.

Davistown (the area was once part of the “Davistown Plantation”) also illustrates the transition from hand-forged tools to those made by machines, a process that began as early as 1830 and intensified with the Civil War. “By the 1870s, steam power and the band saws and table saws were doing most of the work that people had done by hand before 1840,” Brack says. Although he points out that the well-regarded hand-tool maker, Lie-Nielsen Toolworks Inc., still operates in Warren, Maine, he admits, “I’m not a sentimental person, but I’m certainly saddened when you look at the whole history and the demise of the American tool industry. We’re not the



COURTESY DAVISTOWN MUSEUM

An exhibition hall in the museum

world’s toolmaker anymore—China is.”

To see large-scale artwork made from tools and other salvaged materials, visit Brack’s unique, two-acre *Sculpture Garden* in Hull’s Cove, near the entrance to Acadia National Park (www.davistown-museum.org/art.html). And fodder for creating your own tool-themed garden displays can be found by the ton crammed into one of his stores, including the three-story Liberty Tool Company (www.jonesport-wood.com/libertytool.html), right across from the museum.



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The South End's Coppa offers tasty tapas.



COURTESY OF COPPA

COW'S HEART, lamb's tongue, tuna belly, and any edible parts of the pig—all are served with great care for the daring diner at Coppa, a newer South End restaurant that offers an imaginative array of Italian tapas and dreamy cocktails. Though these meats pop out on the menu—Coppa offers at least nine *salumi* (cured meats) plates, and sausages and salamis feature in many dishes—there is more diversity of foods and flavors than at first appears. Salads, vegetables, wood-fired pizzas, and rich homemade pastas are just as well done, especially the spicy sautéed broccoli rabe with plump raisins (\$6) and the arugula tossed with shards of fennel and fiddle-head *tomme* (\$9), a tangy cheese made in New Hampshire.

Popular with its neighbors and with foodies who come from all over, Coppa also offers a certain urban charm. It sits on a quieter corner behind Peters Park and offers sidewalk tables. The intimacy of the space works well; there is little car traffic. We recommend eating outside, which is always better in our opinion, and because

Above: Fusilli with clams and fresh peas; Coppa's elegant interior; and cured meats, specialties of the house.

the wait for an indoor table can be more than an hour. (The 40-seat restaurant doesn't take reservations.)

If you do go inside, Coppa's wedge-shaped room with simple black-and-cream-colored décor is also appealing. At the narrowest end is the kitchen, so small that prep chefs have carved out a niche at the bar where they prepare the cured meats. The silvery mechanized Berkel slicer is sleek and rhythmic and oddly mesmerizing: we watched hunks of prosciutto transformed into elegant slices, our entertainment heightened by sipping one of Coppa's specialty cocktails. We sampled a foam-topped "Cynar flip" (\$9) made with egg whites and the eponymous, slightly bitter herbal-and-artichoke liqueur, which certainly whets the appetite. But the best light beverage on a warm night might be the enchanting *Bella Fiore*, made with Prosecco and a rhubarb-and-hibiscus-flavored syrup, with a candied hibiscus flower tucked in the bottom of the flute, its pink tendrils floating upward through bubbles like an underwater sea creature.

Our friendly waitress also seemed to know her wines and poured generous glasses straight from an open bottle

she carried out from the bar. We started with the two raw oysters on the half shell (\$5), rightly seasoned with a dab of puréed scallions, mustard seeds, and a splash of Prosecco and served atop a mound of wet sea salt, just for looks. A little too salty, but tender, was pork rillettes (\$5), akin to an old-fashioned hash. The dish came with a single buttered toast triangle, which seemed skimpy. The pork was boldly tasty, especially compared with the more subtle *pâté campagne* (\$9), mouth-watering, as it should be, with softly crunchy pistachios.

More zingy was the *paccheri di agnello*, a lamb *ragù* with bright green fava beans and mint (\$13). Mint with tomato sauce turns out to be a splendid idea—very refreshing. Interesting for its oceanic depth was a dish of fusilli with delicately cooked clams and mussels, presented in a light cream sauce with fresh peas (\$13).

Coppa offers only occasional sorbets for dessert, so instead, on impulse, we fished out the hibiscus flower from the bottom of our drink, split it in half, and were each delighted by its sweet, fleshy texture. A simple finish to a simply delicious meal.

—N.P.B.

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Photo: Mark Rosenberg, MD



The Social **EPIDEMIC**

BATTLING HIV IN SUB-SAHARAN AFRICA

by ELIZABETH GUDRAIS

ZASEMBO MKHIZE, age eight, has come to the doctor dressed in a hot-pink-and-white outfit, immaculately coordinated down to her shoes and socks. She is HIV-positive and comes each month for a checkup at the pediatric HIV clinic of Don McKenzie Hospital, in South Africa's KwaZulu-Natal province, where 39 percent of residents have HIV.

Her doctor, Brian Zanoni, an internist and pediatrician at Massachusetts General Hospital (MGH) and master's candidate at Harvard School of Public Health (HSPH), is spending three years working in KwaZulu-Natal. In the exam room, he sits down with the girl and goes through a picture book—a teaching tool he created that explains HIV and the concept of

At the Beatrice Tierney Health Center in Bumwalukani, Uganda, an American volunteer with the Foundation for the International Medical Relief of Children takes vital signs of waiting patients. This clinic offers something unusual: a staff physician who conducts free and confidential HIV testing and counseling, with on-site analysis and rapid results. In their volunteer work here, Harvard students have provided health education based on culturally appropriate messages and guided the creation of a traveling theater troupe that performs educational skits on HIV and other health topics. (Find details at harvardmag.com/AIDS-in-Africa.)

immunodeficiency in simple terms and presents the information, piece by piece, in consecutive visits. Today, Zasoni reads a few pages explaining that the body has a natural defense against the “bad guy” in the story—the *igciwane*, or virus. He declares Zasonbo’s CD4⁺ count, a measure of her immune function, “fantastic.” “She’s doing very, very well,” he tells her mother. “Her *igciwane* is asleep.” He continues with the story: if Zasonbo keeps taking her medication, the virus will stay asleep. But if she stops, it gives the *igciwane* a defense against the *amasotsha*—the body’s soldiers (the CD4⁺ immune cells).

Zasoni often sees patients into the evening, but today all the children have been attended to by 3 P.M., so he agrees to see some of the waiting adults. In walks Makhosi Khwela, a pregnant 36-year-old with lively eyes who is also here for the HIV clinic.

Zasoni’s first question is how far along she is. Eight months. He asks through his translator whether she is on antiretrovirals yet. No. “You’ll start on them today.” He pages through her chart. Test results from five months ago would have qualified her for antiretroviral therapy (ART), but her local clinic referred her to Don McKenzie, where she can get the drugs, only last week. If she had started the drugs before conception, her unborn son’s risk of getting HIV would have been less than 1 percent. Now, the baby’s chance of infection is between 20 and 45 percent; Khwela’s viral load won’t drop all the way down before her due date.

Zasoni says later that he won’t bother calling the rural clinic to complain; it isn’t worth it. He’ll just continue treating whoever shows up at Don McKenzie. In some parts of KwaZulu-Natal, two-thirds of pregnant women have HIV.

His experiences illustrate the challenges of combating HIV in sub-Saharan Africa. There are too few doctors, and what health-care workers there are need better training. Government resources and political will are often scarce. Limited infrastructure inhibits healthcare delivery. The stigma surrounding the disease and distrust of the health system deter people from seeking care.

Not that wealthy countries are perfect when it comes to HIV: misconceptions, reckless behavior, and obstacles to healthcare access exist there, too. But in the developed world, HIV is largely a chronic illness: patients have access to the drugs that enable them to lead long, productive, and healthy lives. In most of sub-Saharan Africa, this is not the case.

There is still no cure for HIV, and robust research efforts seek new knowledge: a vaccine, better medications, and greater understanding of the immune response to the disease. Meanwhile, initiatives such as Zasoni’s in South Africa aim to maximize the effect of *existing* knowledge by getting people tested and treated, and changing behavior. Such efforts, with their focus on social and behavioral factors, complement scientific research in the effort to control HIV, case by case, across Africa.

ZASONI’S JOB in KwaZulu-Natal includes a bit of everything: seeing patients, training health workers, opening rural clinics to bring care closer to patients, running a support group for HIV-positive teens, and conducting research on tuberculosis (still rampant in the area, mainly among HIV patients, with their weakened immune systems).

His work is part of the Umndeni Care Program, an initiative of the Ragon Institute. (Funded by MGH, MIT, and Harvard, the institute’s main mission is HIV vaccine research.) HIV patients are supposed to visit a clinic each month for medication, or for monitoring if they don’t yet need medication, but many simply stop coming. The overtaxed doctors and clinic staff can’t follow up on them, so Umndeni Care—*umndeni* means “family” in Zulu—also employs

In the HIV clinic at Don McKenzie Hospital in South Africa’s KwaZulu-Natal province, eight-year-old Zasonbo Mkhize visits pediatrician Brian Zasoni for her monthly checkup.





In South Africa's Valley of a Thousand Hills, Sibongile Xaba (left) cares for her sister, Beatrice, who has HIV. Through a program supported by Massachusetts General Hospital, the sisters receive support for Beatrice's care in the form of home visits.

“community liaison officers” like Dudu Ndlovu to help out.

Ndlovu grew up in KwaZulu-Natal's Valley of a Thousand Hills, where she now conducts home visits (and where Don McKenzie is located). She visits patients each weekday, driving her pickup truck through this rolling terrain. For her clients, she represents a familiar face, and they place more trust in her than they would an American visitor. She is part healthcare worker, part social worker, answering questions about medication and symptoms, helping people with paperwork for government grants for themselves or dependent children, offering general moral support, and reporting back to Zanoni on clients who might need additional follow-up.

This well-rounded approach is a hallmark of Umndeni Care, says Bushra Taha '06, a third-year student at Harvard Medical School who was in KwaZulu-Natal from 2006 to 2008 helping establish the program. (Its funding comes from investment banker Mark Schwartz '76, M.B.A. '78, M.P.P. '79, and his wife, Lisa, and Poorvu family professor of management practice Arthur Segel and his wife, U.S. District Court judge Patti Saris '73, J.D. '76.) Taha and her colleagues first spent several months conducting community surveys, listening to people's concerns, and concluded that to improve treatment adherence, they needed to help address matters such as food, housing, and employment. It's not uncommon for surviving adults to be caring for nieces, nephews, grandchildren, and children of friends who have died of AIDS—

sometimes a dozen children or more. “How do you expect people to address their healthcare needs,” asks Taha, “when they can't put food on the table?”

Ndlovu's client list today includes Beatrice and Sibongile Xaba, sisters living in an aqua-green house with a magnificent view—mountains, hills, valley, plateau. In their kitchen, two things hang on the wall: an icon of the Virgin and Christ, and a framed certificate that speaks to HIV's painful impact on local culture. It reads:

Donda Funeral Services
Certificate of Appreciation
awarded to
Sibongile Xaba
for Outstanding Loyalty
to the company
and being a good payer.

When visitors arrive, Sibongile brings them a bench to sit on; coming out from the bedroom, Beatrice shuffles along the wall, supporting herself with one hand. This is an improvement: when Ndlovu started visiting a year ago, Beatrice was bedridden, smoking and drinking and taking only traditional medicines. Sibongile convinced her to get tested for HIV; that test came back positive, as did one for TB. Her CD4⁺ count was 179. (A count from 500 to 1,500 is considered normal; patients are generally started on ART if their count drops below 200 in the developing world, or 350 elsewhere.)

Although Beatrice has begun ART and TB treatment, and her health has improved, she dislikes the hospital and has been skipping appointments. Ndlovu advises her to go see “Dr. Brian.” Beatrice says she’ll go, and Ndlovu believes she will, remarking, “I don’t think she’ll be afraid to see the doctor whom I know.”

KULWA AMIRI MBUNJU lives in Mburahati, a not-particularly-well-off section of Dar es Salaam, Tanzania. She has eight children, ranging in age from six to 23. In November 2008, feeling ill, she visited a doctor and learned that she was HIV-positive. She told her husband, and he got tested. When he found out that he, too, was infected, he committed suicide by taking all his malaria medication at once. He was 47. Asked how she earns a living now, Mbunju says through a translator that she makes money “whatever way I can.”

Two of her children (all of whom tested negative for HIV) are living with her niece. But the niece’s mother (Mbunju’s sister) isn’t allowed to know that the children are under her daughter’s care. She blames her sister for contracting HIV, and wouldn’t approve of helping her.

Mbunju told the neighbors in her shared house that she was HIV-positive when she moved in; if she had an accident and needed their help, she wanted them to know. They didn’t appreciate the gesture. Mbunju says she wants to move elsewhere once she gets a little money: “Everything I touch, they put it in the trash can.”

She relates this during a visit with Amina Kiloko, a community health worker employed by Pathfinder International, a U.S.-based nongovernmental organization (NGO). In Tanzania, as in South Africa, HIV patients are supposed to see a physician once a month, but it can take years for a patient to get ill enough to qualify for ART. “It’s consuming most of the doctor’s time to see people who are just coming for a regular checkup,” says Marc Mitchell, an HSPH lecturer on public health whose research in Dar es Salaam seeks to address such inefficiencies in the healthcare system. He can understand why a patient would choose not to come back: take a day off work and spend it in a hospital waiting room, just to be told you’re healthy enough and

sent home for another month. But once patients fall out of the habit, they often don’t see a doctor again until they are gravely ill.

Through Pathfinder International and other NGOs, workers like Kiloko were already visiting patients in their homes, providing medical and general support in a model similar to Umndeni Care in South Africa. Mitchell has designed an intervention that eases both the strain on doctors and the frustrations of patients: mobile devices that enable community health workers to perform many of the same tasks a doctor would carry out in an office visit. The device serves up questions, which Kiloko asks Mbunju; through the answers Kiloko enters, the device is programmed to choose follow-up questions and make recommendations. It might tell Kiloko to conclude the visit and make an appointment for next month, to refer the patient to a doctor, or to recommend a specific diagnostic test. Mitchell’s trial found a very low percentage of error in the workers’ recommendations, and the Tanzanian government is considering recognizing a visit from a community health worker in lieu of the monthly doctor visit currently required.

Workers like Kiloko, who have minimal medical training, deliver better care with the aid of these devices—but so do healthcare professionals in clinics, Mitchell’s research has found: they more reliably make the right recommendation, and are less likely to forget an important question. Mitchell draws parallels to the “checklist” concept that is catching on in the United States (see “A Checklist for Life,” September-October 2009, page 32): because medicine is complex and healthcare workers are stressed, a standardized set of questions reduces the rate of error.

The device is simple and inconspicuous: a regular mobile phone, with special software loaded onto it. Training someone to use it takes less than one hour. Placed in the hands of workers

In Dar es Salaam, Tanzania, community health worker Amina Kiloko visits HIV-positive clients, including Kulwa Amiri Mbunju, at home to provide support for their treatment. In a project designed by Harvard School of Public Health lecturer Marc Mitchell, Kiloko uses a mobile device equipped with software that helps her assess her clients’ health; she enters her findings into the device to create an electronic medical record.



ELIZABETH GUORANS



like Kiloko, Mitchell believes it could revolutionize the delivery of healthcare in resource-poor settings, making care available to vastly greater numbers of people for a low price. When workers complete an appointment or their daily shift, they upload the data they've gathered over the mobile-phone network. When used at clinics, the devices automatically create electronic health records, and if implemented widely enough, a network of them could provide disease surveillance, allowing for immediate and precise tracking of epidemics—tasks that are challenging even in the best of conditions.

Mitchell believes the Tanzanian government's willingness to try something new—to let D-Tree (the NGO he founded to carry on the treatment work that falls outside the limits of research studies, which are funded by U.S. government grants through Harvard) into government clinics to test the devices without bureaucratic hassles—may enable its healthcare system to leapfrog ahead of some developed countries. "In the United States, everybody wants the perfect system," he says. "In Tanzania, people are willing to accept a system that works."

The device itself is the most salient feature of the program,

THE POLITICS OF PAYING FOR HIV CARE

AS ONE OF FOUR INSTITUTIONS chosen in 2004 to administer the President's Emergency Plan for AIDS Relief (PEPFAR), Harvard oversees patient care at 10 hospitals and a network of clinics, and operates a drug distribution network, in Nigeria. Faculty members work with the Dar es Salaam City Council and a local university to provide care through clinics in Tanzania. And in Botswana, Harvard scholars advise the ministry of health on quality of care and data management and train health professionals.

Some of these activities—specifically, those that involve patient care rather than training and research—fall outside the University's traditional mission, but drastic times call for drastic measures, says Jacobson professor of public health Barry Bloom, who was dean of Harvard School of Public Health (HSPH) when PEPFAR began. "The world had a big problem. Harvard is a great university," he says. "Anybody who had expertise to contribute had an obligation to try, and that's what we did."

Shortly after Bloom became dean, he asked professor of immunology and infectious diseases Phyllis Kanki—who later became faculty director of Harvard's PEPFAR program—to cowrite a grant with him for healthcare worker training and HIV prevention efforts in Nigeria. It was a departure for Kanki, whose previous work was in Senegal. But a 2000 report on HIV from the World Health Organization made a deep impression on Bloom. It said that Africa's smaller and better-developed countries—Botswana, for example—provided good settings for creating model programs. But to ignore the epidemic in the continent's largest countries, such as Nigeria, Ethiopia, and South Africa—to decline to try because the obstacles were too daunting—would mean losing the battle against AIDS in Africa entirely.

When PEPFAR was announced in late 2003, Kanki applied; the grant required that each application cover three countries where the applicant had already worked, so Lasker professor of health sciences Myron "Max" Essex and professor of nutrition and epidemiology Wafaie Fawzi—HSPH faculty members with projects in Botswana and Tanzania, respectively—joined the application, which Bloom critiqued before its submission.

University administrators were blindsided when they learned that Harvard had been awarded the funds, says Mark Barnes, the former executive director of the University's PEPFAR program, who now holds faculty appointments at the schools of law and public health and directs the Office of Sponsored Programs. Harvard draws a clear line between the activities of teaching

(for which it appoints and pays professors of medicine) and clinical care (for which those professors are paid by hospitals affiliated with, but not owned by, Harvard).

Administrators considered declining the grant award. Unlike the other three recipients in the initial round—Columbia, Catholic Relief Services, and the Elizabeth Glaser Pediatric AIDS Foundation—Harvard was not used to delivering direct clinical care, and had pledged to do so in countries without smoothly functioning healthcare infrastructure. But it ultimately decided to accept the funds on the grounds that treating HIV in sub-Saharan Africa "was an emergency, and Harvard would respond to the emergency," says Barnes.

The central administration specified several conditions. This would be an exception for Harvard, not a new function it intended to expand. The faculty investigators on the grant would need to pull in people with expertise in healthcare delivery. Over time, even with PEPFAR, Harvard would shift its focus from providing care to its more typical roles of advising and research. And the grant money would be routed through not-for-profit entities based in each PEPFAR country, founded for this purpose.

This last requirement not only shields Harvard from liability, Bloom notes: "It opens up the possibility, in the long run, of sustainable programs" by making it possible for those organizations to receive funds from sources besides PEPFAR. Noting that the program as a whole took a cue from Harvard and adopted this approach for all grant recipients, he says, "whenever a country's health programs depend on foreign aid and on a foreign university, those programs are not sustainable in the long run."

Barnes believes the caution Harvard exercised was appropriate: "It would have been irresponsible to accept the grant without adequate planning," he says. "The program could have fallen on its face, resulting in poor care being delivered, or massive amounts of money being wasted, or long delays." Although the University's handling of PEPFAR caused conflict at the time, Bloom now agrees some of those concerns were valid. But he says Harvard must take risks as it strives to become "a truly great global university."

The bottom line, says Bloom, is this: "hundreds of thousands of people, without this program, would not have had access to care." Harvard's PEPFAR program has paid for antiretroviral therapy (ART) for more than 130,000 people, and regular medical care for many more. It has funded training for more than 16,000 healthcare workers in the three countries. Not counting

but Mitchell views his work as being more about healthcare *quality* than about technology. “The goal,” he says, “is that this will become the way *all* healthcare is delivered”—not just HIV care. About 40 healthcare workers have phones running D-Tree software right now; within a year, Mitchell expects that number to reach 300 or 400, and to begin to grow “exponentially” and to extend into other countries.

Although D-Tree’s software initially focused on specific condi-

tions—HIV, malaria—broadening the focus is a top priority; workers have already begun delivering family-planning services, prenatal and neonatal care, and child healthcare on their visits. A well-rounded approach makes more sense than a narrow one, because a child who’s HIV-positive might also have malaria, says Mitchell: “You can’t have separate systems for each disease.”

The D-Tree workers are involved in research that aims to change the way healthcare is delivered, but

separate PEPFAR grants overseen by HMS faculty members whose primary appointments are through the hospitals, this is still by far the largest government grant Harvard has ever received: \$65 million this year.

BUT AS HARVARD has become comfortable in its role, the program’s overall status may be waning. In late 2008, Congress authorized spending \$48 billion through 2013, a major expansion over the \$15 billion allocated for the first five years, but President Obama has since spoken of plans to level-fund PEPFAR and focus instead on maternal and child health.

And so, what had been an encouraging trend—treatment rolls expanding, free drugs becoming available to more and more people who need them—is starting to reverse. David Bangsberg, a lecturer on medicine at HMS who directs the Center for Global Health at the Harvard-affiliated Massachusetts General Hospital (MGH), has seen waiting lists develop at clinics in southwestern Uganda, where he has a research project. MGH recently resumed fundraising through its Family Treatment Fund, which was the only source for new ART enrollments at this site in April and May, due to funding shortfalls in multinational programs. (A new patient is put on treatment every time \$1,500—enough to treat one patient for five years—is raised.) “The irony and the tragedy,” says Bangsberg, “is that it looks like we’re back to the same place we were in 2003, before the beginning of PEPFAR, where we’re asking private individuals for \$20 and \$50 to piece together enough money to treat one person at a time. PEPFAR has probably been the most successful public-health initiative in the last century. We built it, and now as the need outstrips the funding supply, it is breaking apart at the seams.”

When professor of medicine Bruce Walker, who oversees a team researching vaccine prospects and the immune response to HIV, started setting up his laboratory in Durban, South Africa, in 2002, it didn’t take long for him to decide that it was irresponsible to conduct research without also offering treatment in some capacity. “I was unprepared for the enormity of the epi-

dem,” he says. “It was just staggering. HIV permeated all aspects of daily experience. There were so many people infected, so many people *affected*.” PEPFAR did not exist yet and the South African government was not yet paying for drugs, so Walker, professor of medicine and a physician at MGH, sought funding from private donors. “We felt that we couldn’t keep doing research unless we started treating people,” he says, “because they were dying left and right.”

Even the PEPFAR expansion Congress authorized would not be enough to treat all who need it. Despite all the prevention efforts under way, UNAIDS still estimates that the number of new infections is growing far faster than the number of people initiating treatment. Walker sees the crisis firsthand: more than 300,000 South Africans die of AIDS each year. An estimated 5.7 million South Africans—12 percent of the population—are infected. Only one-third of those sick enough to need ART are receiving it. And 70,000 HIV-positive babies are born every year. “There’s no way we are going to be able to treat our way out of this epidemic,” says Walker. “There just isn’t enough money.”

This is why it’s crucially important to find ways to improve the efficiency of healthcare in the developing world—as with the work of Marc Mitchell, an HSPH lecturer whose research in Tanzania aims to extend care to more people by equipping community health workers to conduct HIV patients’ monthly checkups (see main article). Says University Provost Steven Hyman: “As federal funding gets scarce, if we haven’t learned from previous attempts and developed the best ways of doing things,” there will be no way to know how best to distribute the limited funds available. “I think that’s where Harvard makes its greatest contributions.”



David Bangsberg

In Mbarara, Uganda, David Bangsberg, director of the Center for Global Health at Massachusetts General Hospital, is using microfinance to help people with HIV afford food, their children’s school fees, and transportation to clinics for treatment. He also heads the Harvard Global Health Scholars program, which is helping to train the next generation of Ugandan scientists. (Read more at harvard-mag.com/AIDS-in-Africa.)

their work is also deeply human. Through Kiloko, Mbunju has been connected to a community of other HIV patients in the neighborhood. In fact, she meets Kiloko at the home of one of these other patients, because she doesn't want her housemates to gossip more. The genuine friendship between the women is apparent—a small bright spot in this hard life.

Mbunju isn't sick right now. Given the antiretroviral medications she is taking, the viral load in her blood is low and the number of CD4⁺ immune cells high—key indicators that her immune system is still healthy enough to fend off the opportunistic infections that would signal HIV's development into AIDS. And she has made herself an unofficial “community ambassador.” Everywhere she goes, she brandishes her light-blue health card—where her appointments with Kiloko, her CD4⁺ count, and her prescriptions are recorded—and tells people she's HIV-positive and not embarrassed about it. “What I've been through,” she says, “I wouldn't want *anybody* to go through.”

More Stories from Africa



For more reporting on this topic, visit harvardmag.com/AIDS-in-Africa:

▶ **Follow a Harvard student** as she uses theater to teach about HIV in the mountains of eastern Uganda.

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▶ **Find out how soccer** is being used to educate South African teens about HIV, gender roles, and life skills.

▶ **Learn how** seemingly minor organizational improvements in a Durban hospital dramatically improved follow-through in patient care.

▶ **Read about** a Harvard scholar's research on the fertility choices of HIV-positive adults.

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▶ **Learn how one** Harvard professor is using personal stories from HIV patients in Botswana to educate about the science of HIV.

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FROM TOP: IAN MACLELLAN; NADINE HUTTON; IAN MACLELLAN

A SMOOTH, FRESHLY PAVED HIGHWAY connects Arusha and Moshi, the cities that serve as twin pit stops for Kilimanjaro-bound tourists. Buses and all-terrain vehicles shuttle back and forth all day long on hiking excursions, safaris, and airport runs. But not far from this highway exists a Tanzania that most tourists never see.

The transition is sudden: the roads turn to dirt and people are walking, not driving, transporting water jugs on their heads or on a donkey ambling alongside. There is little formal employment here, and few households have electricity. The lifestyle of ordinary Tanzanians is still heavily influenced by tribal culture; local languages endure alongside widespread knowledge of Swahili.

In these villages, a group of international university students—including several from Harvard—serves as volunteer educators for the NGO Support for International Change (SIC). In churches, schools, and village centers in close to 100 communities in this region, the volunteers teach about HIV.

Tanzania's infection rate, 6 percent, is not close to the highest in Africa, but the country still ranks among the top 10 worldwide in terms of HIV deaths each year. The vast majority of Tanzanians living with HIV do not know they are infected. Often, people are not diagnosed until they are too sick to save. Persistent misconceptions and rumors—about how the virus spreads, how it is treated, and the testing process—stand in the way of getting people tested and treated, and stopping new infections.

The villagers sometimes receive foreigners with friendliness, sometimes with wariness. One sunny Sunday, a group of volunteers encounters both in the lush, green village of Nsengony. In the morning, teaching in a Lutheran church at the end of services, Hannah Chung '09 and Nita Bhatia '09 are relieved when, at the end of their talk introducing the basics of HIV and urging people to visit a nearby site for free testing later in the day, the congregation responds with applause. Earlier, the pastor had given both of them explicit instructions about reproductive health information they could not mention in their talk, and they were worried about how receptive he would be. As the service ends and people leave, they hear the pastor himself say the word *kupima* (“testing” in Swahili) in conversation—a good sign.

That afternoon, Bhatia and Anton Massanja, a Tanzanian university student who is her “teaching partner” for the summer, walk around Nsengony with SIC program officer Jamie Clearfield. On days when free testing is offered, the volunteers knock on doors and talk to people walking down the street, encouraging everyone to come and be tested.

Outside one brick house, adults sit in the shade while children mill around playing; Kilimanjaro rises in the background. The family listens patiently as the volunteers in their crimson SIC polo shirts tell them there's free testing going on and ask if they've ever been tested. (Bhatia and Clearfield speak in halting Swahili, with translation help from Massanja.) But the woman of the house cuts them off, saying that this is a pious family, that their prayers will protect them and cure them if they do become infected.

SIC's leaders are keenly aware of how presumptuous it might seem for foreigners to show up on someone's doorstep and suggest that the person be tested for a sexually transmitted infection. They take great care to be as sensitive and non-intrusive as possible. Before arriving in Tanzania, the American volunteers receive eight weeks of training, with a focus on local culture and dealing



In northern Tanzania, American and Tanzanian volunteers with Support for International Change conduct HIV education and testing drives. Above left: Nita Bhatia '09, Anton Massanja, and Jamie Clearfield encourage villagers in Nsengony to take advantage of free testing nearby. Above right: During an educational session at a technical high school in Leguruki village, Katherine Sengoba '10 helps a student practice the correct method of putting on a condom.

with touchy situations, as well as HIV biology. Once they arrive, they work side by side with Tanzanian “teaching partners”: young adults who are not just translators, but fellow educators with equal status. The volunteers and teaching partners make a big push for testing and education each summer; in between, and in the villages where volunteers may not visit even once a year, SIC hires and trains community health workers (also native Tanzanians) who maintain a consistent SIC presence by conducting year-round education, testing, and support for people living with HIV.

Gratifying as it might have been if the family living in the mountain's shadow had simply come along for testing that afternoon, Bhatia was content to have made an impression through the conversation, and perhaps planted a seed. “When you're going into a place where there is a lot of stigma around these issues, and on top of that you can't speak the language properly, and you're just foreign in every way,” she says, “it's a lot to expect people to be willing to listen to you and trust you.”


The next day, another group of SIC educators heads to Leguruki village to teach high-school students at Shule ya Ufundi Leguruki—the Leguruki Technical School. Their program consists of matter-of-fact delivery of information, intermixed with games. There is no room for being bashful: in teaching about the modes of HIV transmission, Katherine Sengoba '10 notes that sex is by far the most common mode, accounting for 80 percent of new infections in Tanzania. She makes the students repeat the Swahili word for sex (*Ngono!!!!*) over and over, louder and louder, until she is satisfied that it was loud enough and all the students are dissolving in laughter.

The program takes direct aim at some of the myths that underpin risky behavior. For instance, rumors circulate that condoms actually carry HIV and are part of a U.S. government conspiracy to kill black Africans; the SIC materials specify that the brand of condoms they distribute, Salama, is made “in Tanzania, by Tanzani-

ans, for Tanzanians.” To debunk another rumor, that condoms have holes that allow for HIV transmission, the volunteers fill condoms with water and walk around the room twirling them like balloons, demonstrating that not a drop of water is spilled.

The session's grand finale is a game—and now things move from frank to *really* frank. Sengoba takes out a model of a penis and parades it around the room, allowing herself to smile but not to laugh as the students go berserk. Then Byran Dai '11 asks for two students who are fast runners. Two young men volunteer; when Dai says they'll compete to see who can be first to run across the room, correctly put a condom on the model and remove it, and run back, one of them looks as though he knew it was coming; the other looks positively mortified. During the race, when the second student removes the condom in entirely the wrong manner, Dai winces, but quickly recovers his composure and makes the example into a teaching moment. Using a condom in real life is “very rushed,” and could be even *more* difficult than demonstrating it in front of all your friends, he tells the class. “There's a lot of pressure. Usually someone is watching you.”

Speaking this openly about sex, especially to teenagers, isn't easy. But SIC's training course includes lots of practice, and there is a good incentive, the Harvard students say. “I knew that I had to keep a straight face and be mature about it if they were going to take me seriously,” says Bhatia, who now works as a research coordinator in the clinical trials office at Mount Sinai Medical Center in New York City.

The work in Tanzania helped her see that she does want to practice medicine one day—and that seeing patients “is not just about prescribing medication. It's about educating people.” Education, she says, is one of a doctor's most important functions: helping patients understand diseases, treatment options, and how to protect their own health. In the fight against HIV, these interactions are at least as crucial as budgets for prescription drugs and vaccine research—small victories, person to person, day by day. 

With support from a generous gift for international reporting, associate editor Elizabeth Gudrais traveled to Tanzania, South Africa, and Uganda to research this article.

Francis Cabot Lowell

Brief life of an American entrepreneur: 1775-1817

by DAN YAEGER

FEW INDIVIDUALS have influenced economic history as did Francis Cabot Lowell, A.B. 1793. Born as American colonists struggled for political independence, he helped lay the groundwork for the new country's economic independence with his idea for an integrated textile mill. That concept eventually transformed the United States into a world trading power and put into play forces of technological innovation that continue today.

Lowell's father, John, A.B. 1760, was a successful lawyer, politician, and colleague of John Adams, who named him chief judge of the First Circuit Court of Appeals. His mother, Susannah, was the daughter of Salem shipping magnate Francis Cabot. Both families shaped the boy's name and career. Entering Harvard at 14, he distinguished himself in mathematics, but as a senior lit a bonfire in the Yard, an uncharacteristic episode of mischief. For this he was "rusticated" for several months and tutored in math and morals before being allowed to return to Cambridge. He graduated with highest honors.

Surely to the chagrin of his father, he exhibited a "bland unconcern" with politics, and pursued instead a Cabot-like career as an international merchant. Signing on as supercargo of an uncle's ship, he quickly learned the trading business. Soon he set up his own account at Boston's Long Wharf and amassed a substantial fortune in the Federal-era trade of textiles, crops, and foreign currency. On the side, he acquired significant chunks of Boston wharf property, several residences, and tracts of Maine wilderness.

But by 1810 hostilities between France and Great Britain threatened his prosperity. With gunships patrolling the Atlantic, international shipping became an impossibly risky livelihood. The stresses took their toll. Lowell was described as a "high-strung, delicate [man], prone to overwork and periods of nervous exhaustion." His remedy was to settle accounts and embark on a two-year trip to Britain, to regain his health and contemplate his prospects.

Carrying high-value Spanish doubloons and letters of introduc-

tion from important friends such as former U.S. Secretary of State Timothy Pickens, A.B. 1763, Lowell enjoyed access to the highest levels of British society.

Connections also gained him entry to the flourishing textile mills of Lancashire, where water-powered looms rolled out miles of cloth and created fabulous wealth for their owners. A keen observer, he toured the factories and realized that his fortune and future lay with cotton manufacturing. Another Boston merchant with whom he rendezvoused during his sabbatical recalled that Lowell visited the mills "for the purpose of obtaining all possible information on the subject, with a view to introduction of the improved manufacture in the United States."

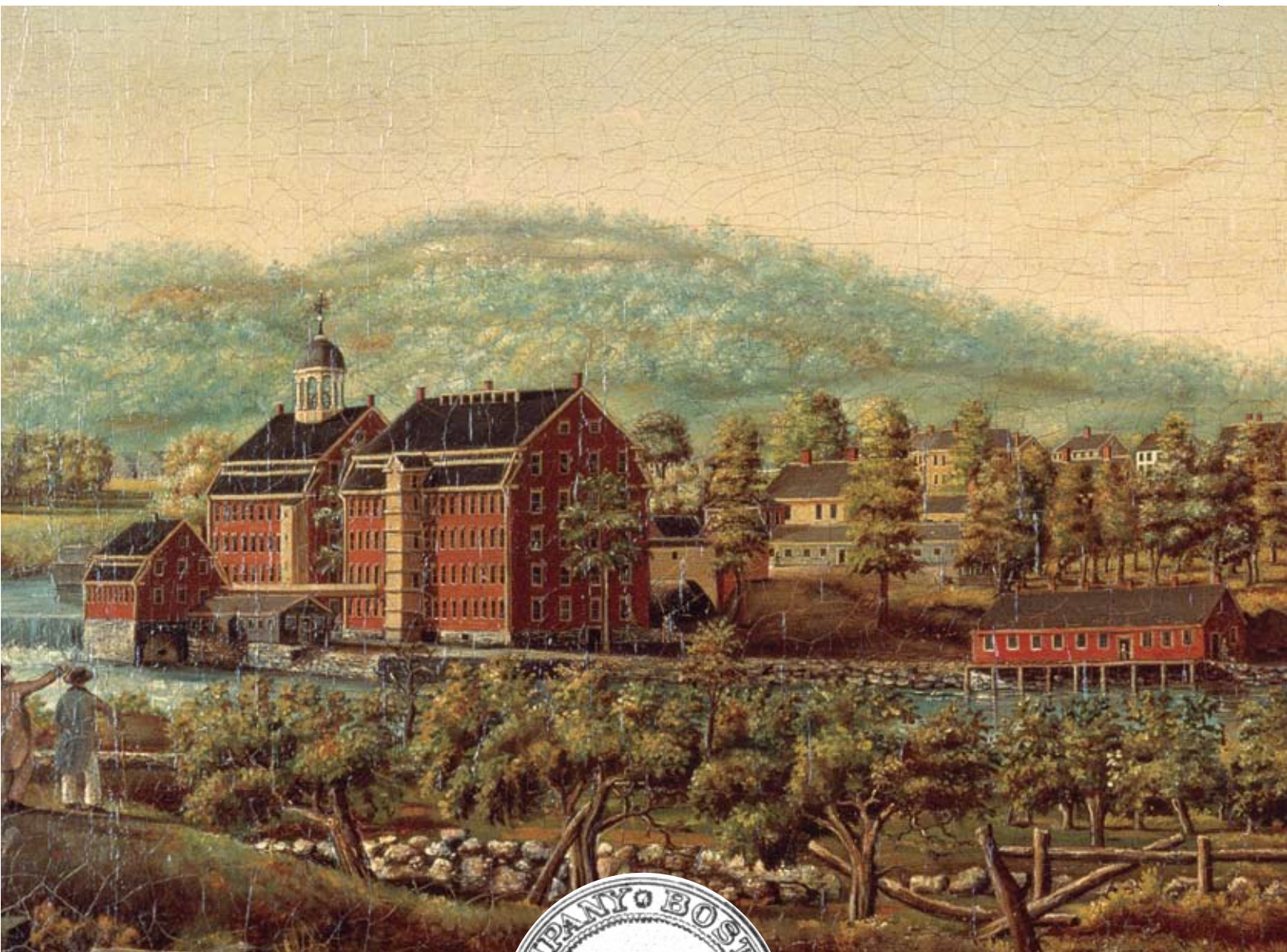
One obstacle to his incipient plan, however, was Britain's tight control of its advanced textile industry.

To protect trade secrets, the technologies were not for sale, and British textile workers were prohibited from leaving the country. Lowell's admission through the factory gates is testimony to the caliber of his references and his standing as a trader, not yet a competing manufacturer.

He left Britain in 1812 on the eve of war and sailed away with his head evidently buzzing with ideas. Immediately upon his return to Boston, he set to work on a scheme that many in the conservative Lowell clan considered "visionary and dangerous." Nevertheless, he raised the unheard-of amount of \$400,000 from family and friends through the novel idea of selling shares in his enterprise, which became known as the Boston Manufacturing Company. He purchased a dam and property on the Charles River in the country town of Waltham, 10 miles from Boston, then built a four-story brick mill with a handsome cupola and Paul Revere bell.

Most important, he hired the skilled engineer Paul Moody who, with Lowell making the complex calculations, created the country's earliest operable power loom and linked it to other





The undated silhouette at left is the only known portrait of Lowell. The image above, by Elijah Smith (circa 1825), shows the textile mill opened by Lowell's Boston Manufacturing Company; the firm's seal (circa 1814) emphasizes its power loom.



previously mechanized weaving processes to establish the first fully integrated mill in the world. Cotton entered as a bale and exited as a bolt, a revolutionary idea that made the "Waltham system of manufacture" emulated across the globe and the basis for modern industry.

"From the first starting of the first power loom," reported one of the investors, "there was no hesitation or doubt about the success of this manufacture." By 1815, cloth flew out of the factory as fast as the company could make it, fulfilling the high demand for American textiles after war stemmed the flow of imported goods. The operation soon returned 20 percent annual dividends to its lucky backers, who talked excitedly about creating great industrial cities throughout New England on the Waltham model. But Lowell

himself barely enjoyed the fruit of his triumph. A frenetic pace coupled with his "delicate nature" proved a tragic combination. He died at 42, just three years after the birth of his industrial vision.

Despite his frail constitution, Lowell possessed a combination of ability, ambition, wealth, connections, and risk-taking that would come to define later generations of American entrepreneurs.

Like Edison, Ford, and Gates, Lowell not only created products, he created a market where none existed. In this he established much more than a textile mill in Waltham, Massachusetts. He helped inaugurate a culture of innovation that has driven the world economy ever since. ▢

Dan Yaeger, M.T.S. '83, the former executive director of the Charles River Museum of Industry and Innovation, in Waltham, Massachusetts, is executive director of the New England Museum Association. He is at work on a biography of Francis Cabot Lowell.

Detail of Boston Manufacturing Company Waltham Mills courtesy of Gore Place Society, Waltham, Massachusetts;

silhouette and seal from the collection of the Charles River Museum of Industry and Innovation, Inc. at 617-495-5746
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Urban Utopias

China's swift march from communal housing to market mansions



AMONG THE MOST disorienting features of living in contemporary China must be the pursuit, seriatim, of grand social visions to which its people have been subjected. Mao's catastrophic enthusiasms—the backyard iron foundries of the Great Leap Forward, the war on tradition and learning during the Cultural Revolution—burned out when the society could tolerate no more starvation and forced “suicides.” But other experiments left, and are leaving, tangible evidence of the sweeping upheavals in everyday life. *Seeing Utopia: Visions of Contemporary Chinese Urban Landscapes*, the first exhibition at the Fairbank Center for Chinese Studies, presents two documentary photographers' records of Beijing. Their juxtaposition makes vividly clear a pace of change—in underlying ideologies, and in the social order—that outsiders can scarcely imagine.

Both Wang Di and Xing Danwen—the former little known abroad, the latter an inter-



Once his agrarian revolution succeeded, Mao decreed that Beijing should become an industrial city full of smokestacks—and set about building factories, a proletariat, and worker housing for them. Wang Di (born in 1963) has documented the resulting so-called Red Dwellings: the capital city's now fading socialist housing. Opposite page: “Building No. 15, 4th Road in Jiu Xian Qiao” (built mid 1950s, photographed in 2005). Top: “Communal Kitchen on the Fifth Floor of the An Hua Building” (2008). Above: “Building No. 10 in Hu Jia Lou Xi Li” (2008), with the China Central Television headquarters rising to the rear. Left: Curator Eugene Wang in the gallery, with Xing Danwen's “Urban Fiction, Image 4” (2004); and graduate student Ren Wei with one of Wang Di's photographs at a studio in Beijing.



WANG DI

national art celebrity—trained as painters, according to Rockefeller professor of Asian art Eugene Wang, who curated the show with graduate student Ren Wei. But their artistic trajectories differed significantly. A native of the capital city, Wang Di was immersed in the urban youth culture of the 1980s, capturing the anxieties and ironies of that era as a rock performer and filmmaker. Xing Danwen, who grew up in Xian, came to Beijing and immersed herself in the disenchanted, atomized art scene there in the years following the suppression of the 1989 Tian'anmen Square protests. Her perspective as an outsider, and her engagement in performance art, have carried over into her current works.

Beginning in 2003, Wang Di turned his eye on the architectural remnants of the Beijing of his youth: the low-rise social-

ist housing built in the wake of the Communist victory in 1949. Having fomented a Marxist revolution, Party leaders set about creating the urban proletariat that their theory required but their society lacked. Around the new heavy-industrial factories, they erected worker housing with communal kitchens, borrowing the modernist design principles of Gropius and the Bauhaus—as refracted through Soviet Russia and East Germany—and building with what materials they could afford.

It is this worn housing, now being razed (along with the factories, which are being force-marched out of the city centers they so badly polluted), that Wang Di has chosen to document.

In so doing, Eugene Wang says, the artist brings his painterly sensibility to the relics of a bankrupt era and idea that China today would officially prefer to forget. Wang Di's

Xing Danwen (born in 1967) “documents” (if that is the right word) contemporary China’s postsocialist future. The large size of her *Urban Fiction* prints (“Image 13” is 87 inches by 67 inches) emphasizes the scale of the modern, market-oriented developments she depicts. Under-scoring their emotional barrenness, she peoples the building models with inserted cameos of unanchored behaviors, using herself as a performance artist. This page: “*Urban Fiction, Image 23*” (2005), and details (inset). Opposite page: “*Urban Fiction, Image 13*” (2005) and detail.





images, he says, present a confounding narrative: the buildings they show are not old, in the sense of China's imperial millennia, but they are clearly no longer new. They may be swept away, but they linger in the minds of the postrevolutionary generation who grew up in such housing, when it embodied the Communists' model society.

Just a year later, in 2004, Xing Danwen began documenting the current wave of utopian yearning—and material aspiration: the unfettered workings of market China. Rather than focusing on real buildings, she recorded developers' maquettes: the models created for sales presentations that offer high-rise apartments and condominiums to the burgeoning middle class, the emerging

entrepreneurs, and the global rich who have flourished in the era of "opening," ushered in by Deng Xiaoping in 1978, that has been gathering momentum since the early 1990s.

But where the builders aim to satisfy their customers' fantasies of the good life, Xing Danwen detects the spiritual void within these vast developments: anomic, unpeopled urban spaces, no longer anchored to family (or Party). In each scene of her *Urban Fiction* series, she has introduced a disturbing drama, featuring herself and perhaps a few other figures—an auto collision, a chance sexual encounter, a nearly interrupted infidelity.

Brought together in this way, the images raise unsettling questions about China's utopian projects. Much of the socialist adventure has already been dismantled—and with it, the Communists' leveling program and its valorization of workers and peasants. In market-era Beijing, the high-rises, gated and guarded, promise better housing, to be sure—but they are priced radically out of reach of most of the local populace, and their splendid façades, Xing Danwen argues, may conceal settings for isolation and aimless private behaviors. As these artists' work suggests, living in a utopia may not be especially utopian.

—JOHN S. ROSENBERG

The exhibition continues at 1730 Cambridge Street, 617-495-4046, through next summer. Eugene Wang is preparing an accompanying catalog.

The Mindfulness Chronicles

On “the psychology of possibility”

by CARA FEINBERG

IN 1981, EARLY IN HER CAREER at Harvard, Ellen Langer and her colleagues piled two groups of men in their seventies and eighties into vans, drove them two hours north to a sprawling old monastery in New Hampshire, and dropped them off 22 years earlier, in 1959. The group who went first stayed for one week and were asked to pretend they were young men, once again living in the 1950s. The second group, who arrived the week afterward, were told to stay in the present and simply reminisce about that era. Both groups were surrounded by mid-century mementos—1950s issues of *Life* magazine and the *Saturday Evening Post*, a black-and-white television, a vintage radio—and they discussed the events of the time: the launch of the first U.S. satellite, Castro’s victory ride into Havana, Nikita Khrushchev and the need for bomb shelters. There was entertainment (a screening of the 1959 film *Anatomy of a Murder* with Jimmy Stewart) and spirited discussions of such 1950s sports greats as Mickey Mantle and Floyd Patterson. One night, the men sat glued to the radio, listening as Royal Orbit won the 1959 Preakness. For the second group it brought back a flood of memories; for the other group, it was a race being run for the first time.

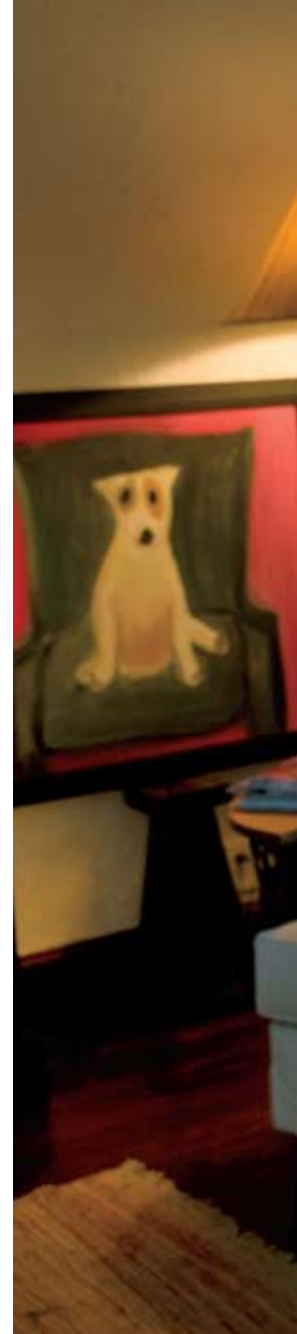
As a young professor of psychology, Langer hoped to document through these men what she had long suspected: that our fixed ideas, internalized in childhood, can affect the way we age. In studies she had conducted with colleagues at Yale, Langer had already shown that memory loss—a problem often blamed on aging—could be reversed by giving elderly people more reasons to remember facts; when success was rewarded with small gifts, or when researchers made efforts to create personal relationships with their subjects, elderly memory performance improved. In another study (now taught in nearly every introductory psychology course in the country), she and Yale colleague Judith Rodin found that simply giving nursing-home residents plants to take care of, as well as control over certain decisions—where they would meet guests, what activities to do—not only improved their subjects’ psychological and physical health, but also their longevity: a year and a half later, fewer of those residents had died.

As Langer points out in one of her published accounts of the monastery study, because an experiment like this had never

been run before, “any positive results would be meaningful...old age is taken to be a one-way street to incapacitation.” What she found, however, surprised even her own team of researchers. Before and after the experiment, both groups of men took a battery of cognitive and physical tests, and after just one week, there were dramatic positive changes across the board. Both groups were stronger and more flexible. Height, weight, gait, posture, hearing, vision—even their performance on intelligence tests had improved. Their joints were more flexible, their shoulders wider, their fingers not only more agile, but longer and less gnarled by arthritis. But the men who had acted as if they were actually back in 1959 showed significantly more improvement. Those who had impersonated younger men seemed to have bodies that actually were younger.

The physiological results provided evidence for a simple but invaluable fact: the aging process is indeed less fixed than most people think. But the study also helped launch Langer’s next 30 years of research and a slew of seemingly simple concepts that have changed the field of social psychology and made their way into the realms of medicine, education, business, law, and the arts. “Wherever you put the mind, the body will follow,” she told an audience of nearly 400 at a recent lecture. Her results, she knows, can push the limits of credibility, but she revels in that space: “At the end of the [monastery] study, I was playing football—touch, but still football—with these men, some of whom gave up their canes,” she tells the audience. “It is not our physical state that limits us,” she explains—it is our mindset about our own limits, our perceptions, that draws the lines in the sand.

IF THIS STUDY sounds like the stuff of Hollywood, it now officially is. In a culture obsessed with youth, word of Langer’s work made it to Los Angeles, and a few years ago, movie producers bought the rights to her life story. They’ve proposed a film about





Ellen Langer at home, with her dogs and her own painting of a dog.

the study at the monastery, and Jennifer Aniston has agreed to co-produce the movie and play the 34-year-old Langer. Now in development, the film has been picked up by DreamWorks Studios, screenwriter Paul Bernbaum (*Hollywoodland*, 2006) has written a script, and the producers are looking for a director.

These are facts that Langer loves to announce. “Didn’t anyone tell you there’ll be a movie where Jennifer Aniston will be playing me?” she asked a hotel ballroom packed with psychologists and physicians at a recent Harvard Medical School conference. A full professor of psychology since 1981 (Harvard’s first tenured woman in that department), she is a natural on stage, with a ham comic’s timing. “Why am I telling you about the movie? Because I’m telling everybody.”

At five foot three, with a deep, gravelly voice and the frenetic energy of her native New York City, Langer can commandeer a room. Her lectures have drawn audiences ranging from government officials in Malaysia to vacationers at leadership guru Tony Robbins’s resort in Fiji. She has written 11 books, five targeted to a general

audience; *Mindfulness* (1989) was an international bestseller.

Most often, she’s asked to lecture on that eponymous subject, an idea she has been refining since the late 1970s. “Mindfulness” might evoke the teachings of Buddhism, or meditative states, and indeed, the name and some of these concepts do overlap. But Langer’s version is strictly nonmeditative (“The people I know won’t sit still for five minutes, let alone 40,” she quips). Hers is a simple prescription to keep your mind open to possibility.

Mindfulness, she tells the medical school audience, is the process of actively noticing new things, relinquishing preconceived mindsets, and then acting on the new observations. Much of the time, she says, our behavior is mindless. She recounts one of her favorite anecdotes: “I once went to make a purchase and I gave [the cashier] my credit card and she saw it wasn’t signed.” The cashier asked Langer to sign it, which she did, and the cashier then ran it through the machine. When the receipt was generated, she asked Langer to sign that as well. With the newly signed card in one hand, and the receipt in the other, “[the cashier] then com-

pared the two signatures,” Langer says, with deadpan delivery. She nods, as if counting beats, waiting for the audience to catch up. A moment later, the room rumbles with laughter. Mindlessness blinds us to new possibilities, says Langer, and that is what drove her to study its flip side. Often, researchers in psychology describe what is, she explains. “But knowing what is and what *can* be are not the same things.”

This is what she calls “the psychology of possibility,” and Langer practiced it long before the positive psychology movement—the study of happiness and the best of human nature—came into vogue in the late 1990s (see “The Science of Happiness,” January-February 2007, page 26). Her research, she explains, is designed to break down the well-worn ruts of our thinking. “If I can make one dog yodel, then we can say that yodeling is possible in dogs,” she is fond of saying, and she applies that reasoning to what she now calls her “counterclockwise” study. “[The

lasted (“I practiced Jewish chemistry—a little is good, more is better,” she says of her technique). An introductory psychology course with Philip Zimbardo (now a professor emeritus at Stanford) led her to change her major. Famous for his controversial 1970s experiment that asked students to play prison guards and prisoners (Zimbardo’s scheduled two-week-long experiment had to be stopped after six days when it proved frighteningly effective), he and Langer have remained friends.

“Ellen is a special one-of-a-kind person/character/scientist/artist/rabblouser/mensch,” he wrote in an e-mail, eager both to extol her work and recount stories from when “she was a smart-ass kid” in his NYU class. The praise came first: “Her extensive innovative research and compelling writing took mindfulness out of Zen meditation caves and into the bright light of everyday functioning.” In the 1960s and ’70s, the mind-body connection, on the whole, was (and to some, still is) the province of gurus and spiritualists, Zimbardo explained; science meant mechanical explanation, and human behavior was seen as the product of thought.

Langer, he says, has always been a firebrand. As an undergraduate in his class, she missed a final-exam question asking which surrogate “mothers” abandoned infant monkeys preferred—wire dolls bearing food, or dolls covered in soft cloth bearing nothing. The correct answer on Zimbardo’s exam: “monkeys wearing *schmattas*,” the Yiddish word for rags or dowdy old dresses—a word Langer didn’t recognize. She argued her case and lost (“I told her I’d take even more points off for not honoring her heritage...everyone of Jewish faith must know what a *schmatta* is or be suspect of harboring Protestant genes,” Zimbardo says). In a class of 250 students (most of whom were Jewish), she earned a 98 out of 100; no one else came close to a 90. (For the record, Langer offered her own rebuttal these 40-odd years later: “When I said

it in my head, it sounded like “schemata,” not *schmatta*...you don’t expect Yiddish from an Italian.”)

“Honestly, we don’t have to fictionalize much—about the research, or her character,” says Grant Scharbo of Little Engine Productions, the company developing the *Counterclockwise* movie with Aniston’s production company, Echo Films. “Ellen is a whirlwind whose mind goes a mile a minute.” As a character, he says, she is a screenwriter’s gold mine. But long before he’d met her, he says, “it was her research that drew me in.” Now, he is gambling that it will also draw in audiences. The movie, he explains, will focus on the counterclockwise study with the old men at the monastery and show some of her prior work that gave rise to the counterclockwise idea.

LANGER’S EARLIEST RESEARCH was on the illusion of control; while she was a graduate student at Yale, a poker game with colleagues led her toward the idea for her doctoral thesis. As dealer, she skipped one player and accidentally gave his card to the next



Surrounded by her own works, Langer wields a brush in her home studio. A self-taught painter who took up the avocation in midlife, she describes her autodidactic approach to art in *On Becoming an Artist: Reinventing Yourself Through Mindful Creativity* (2005).

results at the monastery] do not show us that everyone who talks about the past will show the same results,” she writes in her latest book, *Counterclockwise: Mindful Health and the Power of Possibility* (2009). “[They do] tell us, however, that it is *possible* to achieve these kinds of improvements, but only if we try.”

Langer’s spirit suggests her upbringing. Born in the Bronx, she grew up in a two-bedroom Yonkers apartment she shared with her parents and older sister, and has never lost what she calls her “pushy New Yorker” attitude. She calls herself an “anticrastinator”—“Why get things done later when they can be done now?”—and as colleagues and students in her lab well know, she expects the same of others.

Married young, she began her college career at New York University as a chemist, but neither the marriage nor the chemistry

person. “It drove everyone crazy,” says Langer, but weeks later, it drove her to the lab. Her dissertation on perceived control examined the factors that make people believe they will succeed in games of chance. She set up a lottery and found that people who chose their own numbers considered them more valuable (in one measure, she says, if someone else took “their” numbers, people tried to buy them back).

Today, scholars in several fields—in particular, behavioral economics—still cite that research (see “The Marketplace of Perceptions,” March–April 2006, page 50). “People don’t always realize her influence, but her lottery-ticket study made its way into thinking on many important economic concepts,” says Dan Ariely, a professor of behavioral economics at Duke. For example, it influenced the “endowment effect,” an economic theory developed in the late 1980s that showed that ownership of stocks or property leads people to inflate the value of those assets. Ariely describes one of his current studies, in which people told they were wearing Armani sunglasses reported they could see better through them than through identical generic brands.

When Langer began her career, “very few social psychologists were thinking about the role of unconscious processing of information anymore,” says Yale provost and Argyris professor of psychology Peter Salovey. Most of the reigning theories held that human behavior was the product of rational, calculated thought, and attribution theory—the idea that people acted rationally on the basis of their beliefs—was the dominant psychological dogma. “People in the field were concerned with the different ways people think,” says Langer, “and I questioned whether, and on which occasions, we might not be thinking at all.” Langer’s dissertation and her subsequent work, says Salovey, turned that concept on its head: instead of cognition *determining* behavior, Langer showed that thinking—and sometimes the absence of it—often *emerges from* behavior.

In a study Langer conducted in the late 1970s with Ben Zion Chanowitz and Arthur Blank of the Graduate Center, City University of New York, the researchers approached people using copying machines and asked if they could cut in line. The reasons given, if any, ranged from the sensible to the senseless: for instance, “May I use the Xerox machine because I’m in a rush?” versus “May I use the Xerox machine because I want to make copies?” They found that subjects overall were more amenable when given a reason, but were equally compliant whether the reason was real or ridiculous. Their behavior, she showed, was *mindless*: people responded more to the familiar framework of a request than to the content of the actual question. (But there were limits to this phenomenon, Langer says: “...because an elephant is after me” didn’t cut it.)

Langer and her colleagues were not the only scientists exploring these areas at the time. Among others, Herbert Benson, Mind/Body Medical Institute associate professor of medicine and founding president (now emeritus) of the institute, had published research a few years earlier showing that meditation could affect brainwaves and reduce heart rate. Social psychologist Robert Zajonc’s “mere exposure effect” showed that even brief encounters outside our awareness could influence our preference for objects and people; for example, people who were shown a

series of random shapes that flashed by so quickly it was nearly impossible to discern repetitions, nevertheless later reported preferences for the shapes they had been exposed to most often. Beginning in the 1970s, University of Massachusetts professor of medicine (now emeritus) Jon Kabat-Zinn, the founding director of its Stress Reduction Clinic and the Center for Mindfulness in Medicine, Health Care and Society, began to demonstrate various clinical applications in Western medicine for Buddhist philosophy and meditation.

But the field of social psychology generally views Langer as a pioneer who helped usher in a new paradigm. “[Langer] pointed out that social inference is not always a conscious and deliberate act; rather it is often the province of mindless automata,” professor of psychology Daniel Gilbert wrote in the 1989 anthology *Unintended Thought*. “This clarion call was widely appreciated, and if Langer did not quite set the stage for a psychology of unconscious social inference, she at least rented the theatre.”

LANGER’S WORK HAS ALSO EARNED its share of skeptics. Though many of her empirical studies have been published in the field’s leading journals, in her books and lectures she often describes studies that are in progress, or have not been peer reviewed.

The counterclockwise study is a case in point; the results have been described in several of her books, but have never appeared in a professional journal. “Many of these changes might take place if elderly men were simply taken on a vacation,” she wrote in *Mind-*

“People in the field were concerned with the different ways people think,” says Langer, “and I questioned whether, and on which occasions, we might not be thinking at all.”

fulness, and at the time of the study, Langer and her colleagues were not able to bring other “vacationing” comparison groups to the monastery. “We cannot be sure just to what to attribute these changes,” she wrote.

Today, she attributes the results to mindfulness, and the “why” she says, is not the central question. “What matters here is what actually happened,” she explains. “Men who changed their perspective changed their bodies.” Context, she says, is everything.

Langer has demonstrated this idea time and again in several other studies—many of which *are* peer reviewed. In an experiment she conducted with fellow researchers, Langer hypothesized that people asked to role-play air force pilots would ultimately improve their own vision. (To enter military flight school, candidates must have at least 20/70 vision—20/20 when corrected—a fact aspiring pilots would know.) Nineteen Air Force ROTC cadets from MIT, many of whom hoped to become pilots, were selected as subjects for the experiment, given baseline visual acuity tests, and then split randomly into two groups. One group stepped into a flight simulator and, with an instructor’s help, began their maiden voyage. The other group also climbed into the pilot’s seat, but they were told the simulation module was broken. Both groups were then asked to read letters on the sides of airplanes they saw through the cockpit window—letters lifted right from the eye chart they’d read earlier. The group flying planes as fighter pilots improved their vision by 40 percent—a statisti- (please turn to page 71)

In the Wake of War

Judging the U.S. Government's actions after 9/11

by Charles Fried and Gregory Fried

*Father and son. Lawyer and philosopher. Conservative and liberal. Charles Fried, Beneficial professor of law, and Gregory Fried '83, professor of philosophy at Suffolk University, found themselves debating the deepest issues raised by the U.S. government's response to the 9/11 terrorist attacks. Their conversation has become a book, *Because It Is Wrong: Torture, Privacy, and Presidential Power in the Age of Terror*. "Torture," they conclude, "is illegal because it is wrong"—always and absolutely. "Eavesdropping is wrong because it is illegal" and therefore (unlike torture) subject to controlled use along a spectrum of degrees, conditions, and restraints. Presidential power runs up against emergencies and events for which the language of prior laws, or legislative processes, may seem imperfect or inadequate for a time. Historical*

precedents—Thomas Jefferson's 1807 decision to provision the navy in the wake of the Chesapeake affair, and Abraham Lincoln's 1861 steps to raise an army and intern rebel sympathizers, each without prior congressional authorization—illuminate the challenge from long before the age of al Qaeda. The Frieds use these incidents to explore how government leaders should act, and how they must subject themselves to review, and even censure, when they feel compelled to go beyond their oath to uphold the law.

In these excerpts from their final chapter, "Learning Not to Be Good," they apply law, philosophy, and history to make their argument—and to explain their unresolved differences—about what the nation should do in judging the government's actions and claims during the "war on terror." —The Editors

WE ADMIT, along with Lincoln and Jefferson, that the restraints of the rule of law must be loosened when law is unable to preserve us against an unexpected crisis. The real difficulty here is not the sadist in the case of torture nor the pathological snoop in the case of violations of privacy, but the duly authorized agents of the state who might legitimately seek otherwise hidden information in order to act for the safety of the community. At the heart of the matter is the distinction between private morality and political responsibility.

At stake is the very survival of the political community and the good that the political community can secure for its members. It is an ancient insight that, as Aristotle put it, the human being is a *zōon politikon*, one whose very life is defined by the necessity of existing together with others in a political community in order for both individuals and the community as a whole to survive, and beyond that, to thrive, to achieve a life that is the best and most noble. It is *within* the community that the absolute prohibition of torture and the looser prohibition on snooping define the kind of political community we are: we are who we are because we do not torture murder suspects—even a suspected serial killer—and do not routinely and pervasively (like Big Brother in Orwell's 1984) observe all of our citizens' doings or listen in on all of their conversations. And though we expect the police to ask tough questions in an investigation, to arrest and imprison criminals, and to employ force when unavoidable in fulfilling these tasks, we expect that this toughness has limits. Police can use deadly force to stop a violent crime but not to stop a thief; the military can bomb and shoot at opposing armies in the field but not use poison gas.

Dick Cheney, Hero?

BUT IF THE EXISTENCE of the whole community is threatened, do these constraints apply? In the words of the director of the CIA's Counterterrorist Center, Cofer Black, do "the gloves come off?" In the words of Vice President Dick Cheney, do we move "to the dark side"? Do the dictates of conventional morality or even

the constraints imposed on the officers of the law and the commanders of the military apply when it comes to safeguarding the welfare of an entire community?

This is the problem of "dirty hands." It was Machiavelli's advice to the aspiring ruler that "a man who wishes to profess goodness at all times must fall to ruin among so many who are not good. Whereby it is necessary for a prince who wishes to maintain his position to learn how not to be good, and to use it [goodness] or not according to necessity." By "goodness," Machiavelli means all the requirements of conventional morality: telling the truth, being generous, keeping promises, being merciful rather than cruel. But if we live in a world where "so many" do not play by these rules, then to live by them would seem to lead to ruin. Machiavelli admonishes here not the private individual in everyday life but rather "the prince"—anyone with the power and responsibility to rule over a political community. Necessity confronts the prince in a form that private morality rarely encounters, because the prince must act for the community as a whole.

And so the prince must "learn how not to be good." Machiavelli does *not* say that the prince must learn how to become unabashedly evil or to despise goodness. No sensible person would claim that torture and violation of privacy were things Bush and Cheney had longed to do all along as part of some monstrous craving for power. That the prince must learn "how not to be good" does not mean ceasing to be good at all, but rather learning when and how not to do what is ordinarily thought morally upright—the willingness to go to the "dark side" when forced. The ruler should know how and when to do what is not ordinarily good, but then only to the extent required by necessity—by the inescapable difference between safety and ruin. Can any political leader or indeed any public servant with substantial responsibility for the community rightly ignore the kind of prudence Machiavelli advises, if success means protecting multitudes of people and failure means their death, enslavement, or similar catastrophe?

We come to the rare but possible combination of events in which torture truly is the only way to prevent a catastrophe. What then? Given our argument, we must say that the prohibition on torture is an absolute. If the president decides not to torture in the most extreme case, many of those he has assumed responsibility to protect might die. He will have to live with this on his conscience, just as the president who authorizes torture will have that on his conscience. What if the most effective way to get a suspect to talk were to torture his innocent child in front of him? Would we ask our public servants to do that for us? John Yoo, the Justice Department official who together with David Addington, Dick Cheney's chief aide, formulated the legal justification for the president's extraordinary claims,

thought yes. In a debate after he left office he was asked, "If the President deems that he's got to torture somebody, including by crushing the testicles of the person's child, there is no law that can stop him?" And Yoo replied, "I think it depends on why he thinks he needs to do that."

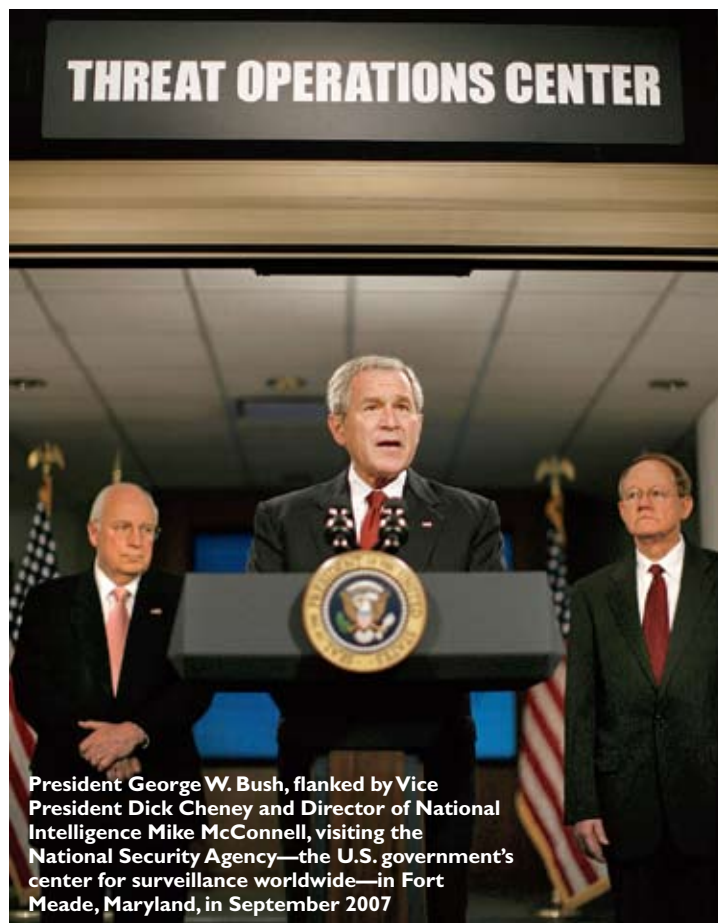
If it is the leader's ultimate responsibility to be prepared to lose even his soul in a cause that all can understand, then his may be the most extreme, the most costly kind of moral heroism. But at some point, the world will perish and the heavens will fall. Must they take our souls with them? This is what Machiavelli forced us to confront as the dilemma of dirty hands.

Learning how not to be good while at the same time retaining goodness as the ultimate guide for decent action is an almost unimaginably difficult balancing act. And yet that act is precisely what the tragedy of the human condition demands. This is the grim metric we must apply when judging the actions of the Bush administration, to discern whether they kept to the right side of tragedy or lurched into hubris.

Squaring the Circle: Executive Disobedience

SQUARING THE CIRCLE is an operation that cannot be performed—at least not with mathematical (geometric) precision, but only by successive approximations. Can it be performed at all—must we choose between guilt and ruin? What follows is as close as we can get.

First, there are actions that though illegal are not indecent. They are wrong because they are illegal; they are not illegal because they are wrong. Some of the illegal actions taken after 9/11 (aspects of the surveillance program, the temporary detentions of aliens) are quite analogous to Jefferson's and Lincoln's illegal



President George W. Bush, flanked by Vice President Dick Cheney and Director of National Intelligence Mike McConnell, visiting the National Security Agency—the U.S. government's center for surveillance worldwide—in Fort Meade, Maryland, in September 2007

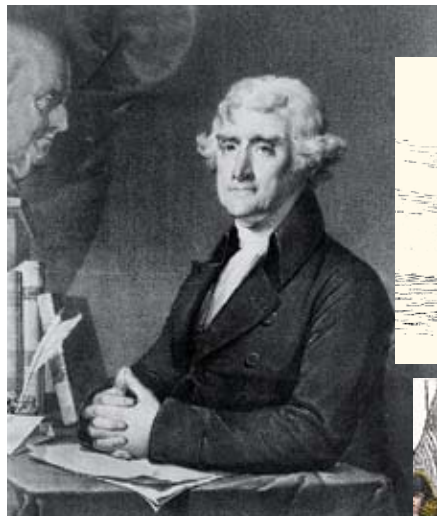
actions taken in response to the crises they faced, and the actions of these two great presidents are a model for squaring this particular circle. It is a model that analogizes executive lawbreaking to civil disobedience. Civil disobedience comes in two strands. One professes a fundamental allegiance to the political community and its system of laws and government, but holds that if some laws are such an affront to the conscience of its citizens, it is the citizens' right and duty to disobey these laws in an attempt to change them. This was Martin Luther King Jr.'s strategy. The other strand instead uses the techniques of nonviolent action and lawbreaking to overthrow the existing government. The first focuses on reform, the second on revolution. The former is civil

disobedience proper; the latter is nonviolent political action. As Locke and the American Founders recognized, tyranny may well justify revolution. Given our focus on lawbreaking by those who enjoy constitutional authority, the second strand would be not revolution but a coup d'état. Executive disobedience is analogous to the first, which professes (as did Jefferson and Lincoln) a fundamental loyalty to the state and its laws.

It is crucial to civil disobedience that its practitioners, in disobeying the law, do so in a civil manner. *Civil* refers to the bond that the lawbreakers maintain with a political community united by a sense that it is one people. As a people, it shares a common good, recognizes the basic justice of its constitution and civil institutions, and accepts the rule of law as well as the existing system of laws as binding on the citizen body as a whole.

Civil disobedience relies on the Lockean idea that no sovereign can be so wise as never to commit a serious error in making law. Some laws will be not merely imprudent or silly, but deeply wrong, contrary to the fundamental principles and interests that united the people in the first place and that transcend any specific law. Civil disobedience breaks those specific laws to focus the attention of the people as a whole on the injustice of those laws; for example, the civil rights movement in the United States used sit-ins to call attention to the injustice of Jim Crow laws. Because civil disobedience seeks the rectification of the law and the redemption of the principles that unite society, its practitioners take pains not to offend or insult their fellow citizens because they are seeking to reconcile and heal a wound in the body politic embodied by the unjust law.

They are civil in a more specific sense: they break the law in a way that emphasizes their allegiance to the rule of law and the



NAVAL HISTORY & HERITAGE COMMAND



NORTH WIND PICTURE ARCHIVES VIA AP IMAGES

President Thomas Jefferson ca. 1805; HMS *Leopard* firing on the USS *Chesapeake* on June 22, 1807, to enforce a demand that the American ship submit to a search for British Navy deserters; U.S. naval officers surrendering to the British boarding party

existing system of laws and institutions in general, with the exception of the law or set of laws in question. They break the law openly. They break the law reluctantly only for reasons of deep principle and in situations of great urgency, after making a good faith effort to change the law by legal means. They do not resist or avoid the representatives of the state when they arrest them. The practitioners resist by pleading their case in court, and they accept their punishment if the court goes against them, trusting that their fellow citizens will see the light eventually.

All this requires a civic courage and a civic sense of honor: to take a risk for the greater good of the community and its fundamental principles. Those practicing civil disobedience willingly take on risks for the same reason that a soldier does: to protect the fundamental principles of the society and to preserve the unity of the body politic. There is honor, even nobility, to both forms of risk-taking.

Now, consider the examples of executives acting unconstitutionally in times of crisis: Jefferson assuming powers of the Congress after the *Chesapeake* affair; Lincoln doing the same at the outbreak of civil war. Is lawbreaking by officers of the government analogous with civil disobedience? We might call this executive disobedience. At first blush, the analogy does not seem to hold, because the disobedient official is someone who has taken an oath to uphold the law. This is the oath that the Constitution prescribes for the president: “I do solemnly swear (or affirm) that I will faithfully execute the Office of President of the United States, and will to the best of my Ability, preserve, protect and defend the Constitution of the United States.” Note that the oath does not mention defending national security; the president’s duty is explicitly to the law. Indeed, Article VI of the Constitution requires that “all executive and judicial Officers both of the United States and the several states shall be bound by Oath or Affirmation to support the Constitution.” Presidents are public servants precisely because they serve the public interest as embodied by law; for the law is the expression of the people’s will that such officers

“execute.” If a public servant is unhappy with this, if performing his legal duties deeply violates his conscience, he should resign. But this ignores the point made by Aristotle and Locke: that the law cannot always foresee what is in the public interest. The official might break the law, not because it would be gravely unjust to uphold it under any circumstances (she should resign if that is what she thinks), but because it would be prudent and reasonable to prevent the letter of the law from causing a grave injustice in a particular, unanticipated case.

Imagine the police officer who broke some laws in order to get your loved one to the hospital in an emergency: she reports to her chief the next day, explains what she has done, puts her badge and gun on the chief’s desk, and waits for a response. Both Jefferson after provisioning the military and Lincoln after suspending habeas corpus asked Congress to cure the defect retroactively by passing the laws there was no time to pass originally. After all, congressional action at the outset would have removed any illegality. All that is left is the fact that the actions were illegal in the interim, but to insist on that is not fidelity to law but rule-fetishism. Similarly, we can also say that parts of the President’s Surveillance Program were wrong only because they were illegal—they violated the Foreign Intelligence Surveillance Act—and that Congress’s action in 2008 in passing the FISA Amendments Act cured that defect. Indeed, Congress immunized those whose actions were illegal when they did them, but were illegal no longer.

But what if Congress declines to ratify what the president has done? He can then up the ante: he presents his own articles of impeachment, detailing the laws broken as well as presenting his reasons for breaking them. Impeachment of the president is a rare and serious event, and this voluntary first step by the president would repeat on a grand scale the police officer’s gesture in handing in her badge and gun.

A president who has acted against established law, for what he believes to be a proper purpose and in defiance of Congress, should invoke the Constitution’s ultimate judgment by inviting Congress to treat his lawbreaking as a “high crime or misdemeanor,” just as those engaging in civil disobedience in effect dare the authorities to arrest them. The president runs a risk in doing this, of course, but as the signers of the Declaration of Independence insisted, leadership requires that pledge of “sacred Honor” in exercising one’s highest responsibilities. The civic daring required here is simply the proper move in a constitutional system where the rule of law is paramount, but where that very respect for law may endanger the community and the system of law as a whole. But when there is a breach in the rule of law, then it is the duty of the official responsible to heal that breach by being explicit about what has happened and exposing himself to the law. It demonstrates respect for the law.

In his letter on the *Chesapeake* affair, Jefferson recognized that in

an emergency, public servants must hold to the principle that the welfare of the people trumps the letter of the written law. “The officer who is called to act on this superior ground, does indeed risk himself on the justice of the controlling powers of the constitution, and his station makes it his duty to incur that risk.” The risk Jefferson refers to here is the moral risk of prosecution or disgrace. Jefferson ran that risk in the *Chesapeake* affair, when he assumed powers of the purse assigned to Congress, but he placed his faith in the people, and so in their representatives forgiving the breach by an officer of the law who acted with honor and good faith during an evident crisis. As long as the act is limited in scope and duration and is openly acknowledged by the officer as a temporary departure from the normal operation of the rule of law, the modern executive should have the same expectation. But to refuse to acknowledge the breach, to act as if it were the prerogative of power, is to enter on the path of despotism.

To round out the analogy, both civil and executive disobedience operate on the foundation of an allegiance to the rule of law and the institutions of civil society. Just as civil disobedience, then, will not break the law frivolously or hastily, executive disobedience will break the law only under emergency conditions when all other options have been exhausted (although sometimes the time for exploring other options may be desperately short). This means the officer will break only the specific laws that pertain to the emergency at hand; he will not consider himself to be above the law generally. Civil disobedience requires that its practitioners act openly, although sometimes this might not be immediately possible in the case of executive disobedience, if the emergency requires secrecy. At least the details of the President’s Surveillance Program following 9/11 might fit this description.

There is a great danger to secret executive lawbreaking. What is done in secret could metastasize into the arbitrary, lawless power of the tyrant—as it did in the Weimar Republic, with Hitler’s rise to power. It is crucial, then, that executives keep clear records of their lawbreaking, in a distinct and explicit chronicle of the actions taken that might reasonably be construed as a breach of the rule of law, a chronicle intended for public revelation as soon as the immediate crisis is over. And even during the events, they must share their immediate secrets with some in another branch of government, for in a republic worth saving, the executive and its servants cannot be the only ones trusted. The Bush administration not only showed no inclination to make public its extraordinary decisions, but also proclaimed that no act performed by the president in his capacity as commander in chief could be construed as lawbreaking at all. When cornered, the administration sent Attorney General Alberto Gonzales to Congress to offer testimony so clumsily evasive as to mock the very notion of democratic oversight.

One might ask, how can we expect officers of our government to do what is needed for our welfare when

that might call for breaking some laws, if afterward they must expose themselves to dismissal, resignation, or even prosecution? Indeed, our proposal is that they themselves take the initiative in calling attention to the laws they have broken. But won’t this requirement have a chilling effect so that those in positions of authority will not do what necessity requires when our national security is at stake? We must listen to Locke’s warning that the reign of excellent and effective princes who transcend the law is a great danger to a people’s liberty. A chilling effect is exactly what we need when it comes to the rule of law. And we must ask our executive officers to demonstrate a civic version of the virtue that we ask of our soldiers, who risk so much more in defending the country. This is the pledge of sacred honor evoked by the Founders, and the necessity of civic risk identified by Jefferson. After all, we know this is possible, because practitioners of civil disobedience accept this same risk of prosecution.

The Circle Won’t Square: Coming to Terms with Torture

OUR ANALOGY between executive disobedience and civil disobedience works quite well as applied to the President’s Surveillance Program under Bush. The claim would be similar to Lincoln’s and Jefferson’s justifications for their extralegal actions. All three presidents could contemplate a retroactive wiping clean of the slate if Congress ratified their judgments. But the interrogation program urged by Vice President Cheney and the notorious Yoo memos defining away the reality of torture in order to justify and immunize it are of quite a different order. It is not as if the statutes and treaties banning torture and cruel, inhuman,

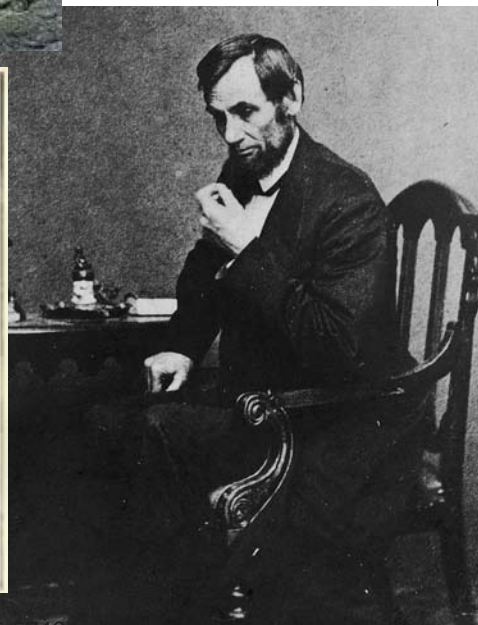
Massachusetts militia passing through Baltimore—and rioting Confederate sympathizers—in April 1861; President Abraham Lincoln that May; a December 1864 John Tenniel illustration for *Punch*, depicting the miraculously reelected Lincoln as “The Federal Phoenix,” while his country, the Constitution, and habeas corpus go up in flames



F.F. WALKER (1861)



PUNCH, VOLUME 47, DECEMBER 3, 1864



and degrading treatment were inadequately drafted or failed to imagine novel circumstances (as with FISA). There was nothing at all novel about the need to extract information from unwilling prisoners; nor, on the controversial analogy to war, was there anything novel about the imperatives to identify and prevent attacks by clandestine enemy agents. The prohibitions against torture and cruel, inhuman, and degrading treatment were written for just such situations.

Eavesdropping, provisioning the army without statutory warrant, even arresting and holding suspected enemy aliens are of an entirely different order. Laws might be drafted (after the fact, if need be) and compensation paid to cover such actions. For torture, never. When a public official tortures, that is when his hands are dirty indeed. Confession and asking for retroactive validation will not do. There must be justice, condemnation, disgrace. To hesitate, to draw back is to condone and to make us all accomplices after the fact of moral abomination.

Should the president and his subordinates—the vice president, his counsel, and his collaborators—not pay for their moral “heroism” in doing our dirty work for us? History has examples that point both ways. The Nuremberg War Crimes Trials accomplished a great deal in publicizing and punishing the crimes of the Nazi regime. They serve as the name for a calm, dignified, and probing retribution. And they headed off the much more sum-

Compared to the prohibition against *torture*, eavesdropping, provisioning the army without statutory warrant, and holding suspected enemy aliens are of an entirely different order.

mary retribution that the Nazi leadership would otherwise have faced. The monsters heard their victims accuse them. The victors had to make a case. The accused were allowed to defend themselves. The same can be said of the tribunals for the atrocities committed during the wars in the former Yugoslavia, for the genocide in Rwanda, and for the remnants of the Khmer Rouge.

But President Truman and General Curtis LeMay were never prosecuted for ordering the firebombings of Tokyo or for Hiroshima and Nagasaki. William Ranney Levi recently collected the great deal that is known but never discussed about brutal interrogation techniques used by the CIA since at least 1951. Project Artichoke focused on the use of a wide variety of little understood drugs; heat, cold, isolation, and “electric” methods were in use as early as the early 1960s. And “President Truman reportedly provided Walter Bedell Smith, CIA director from 1951 to 1953, a blanket and undated presidential pardon when concerns about legality began to trouble Smith.” But even the promise of a retroactive pardon at least concedes that crimes might have been committed, and therefore concedes that the law is something the chief executive is bound to take into account. It is another thing, as the Bush administration has done, to argue that a president’s directives can never result in crimes on the grounds that whatever the president orders, in his role as commander in chief, is for that reason lawful.

Is there talk of prosecuting Bush and Cheney and Gonzales and Yoo only because it is far from clear that their tactics have suc-

ceeded? If we had quickly captured Osama bin Laden and Mullah Omar, found weapons of mass destruction, and left a peaceful, prosperous Afghanistan and Iraq, would these inquests and questions have attained any traction?

If there is only victors’ justice, that would mean in effect that torture is not wrong, but only torturing and losing. The Bush administration broke the law in ordering torture, mocked the Constitution in its interpretation of executive authority, and outraged common decency. Must there not be prosecutions to reaffirm constitutional limits on the executive and lift the cloud of complicity from us all? In working together, we have talked through to agreement every other issue we have addressed, but this one leaves us at an impasse.

Gregory thinks that restoring our constitutional and moral integrity requires that these loose ends be tied, and that knitting up can only be accomplished by treating the culprits as the criminals they are. First, it is patently unjust that low-level lawbreakers be prosecuted for overstepping their orders from above, while the officials who issued those orders, knowing they were a perversion of their authority, are not. And yet that has happened. Such double standards can have just as corrosive an effect on the public trust as vindictiveness, between parties in and out of power, knifing each other back and forth through politically motivated impeachments and prosecutions. Furthermore, in cases where executive

lawbreaking sets a dangerous precedent—in the expansion of dictatorial powers and in effectively legalizing torture—the failure to prosecute risks leaving that precedent in place. Finally, to the extent that the United States or any democratic republic wishes to exert pressure on countries where the rule of law is only developing, failing to hold our leaders accountable for their crimes when it proves awkward sets a lamentable example.

Democratic governments and decent communities rely on certain shared understandings about what kinds of actions are simply beyond the pale. This is at bottom a conservative argument about how devastating it can be to meddle with shared ethical instincts cultivated over generations: to encroach on fundamental taboos, even when the usefulness of torture, for example, might seem clear in a particular case, is to risk eroding the grounding moral habits of the people, their government, and its officials. Torture is the habit of tyranny, not of free republics, and it cannot simply be switched on and off. As we know from Abu Ghraib, once it is unleashed, even as a supposedly well-quarantined tactic practiced by putative professionals, torture spreads like cancer. This is the lesson of history for all governments that turn to torture. Prosecution of those responsible, not just hapless subordinates far down the chain of command, would reassert the salutary vigor of a taboo essential to a democratic nation.

In the United States the decision to go forward with such prosecutions is ultimately political. The actual decision will be taken by the attorney general, who serves at the pleasure of the president but is supposed to come to prosecution decisions independently. So how should the attorney general decide? His decision must depend on how far the high officials concerned went in breaking the law, and there is still very much that we do not know. But we should know what has been done in our name. If we are to assume the worst, only criminal prosecution and conviction proclaim in the clearest terms that what was done was a

high crime, that no one, not even the president, has the authority to commit such crimes in our name.

Charles is not so sure. The option for prosecution for high officials should remain open—there should be no pardons; at issue here is a practical point about maintaining faith in a democracy. One of the strengths of successful, long-standing republics has been the peaceful transfer of power between sworn political enemies. Far more usual in other types of regimes has been the severe and vengeful punishment, killing, banishment, or dispossession of the leaders of the outgoing regime by the new. Where the incoming party has shown restraint—the establishment of democracy in Spain after the death of Franco, and most shiningly in the behavior of the Mandela-led new South Africa after the dismantling of apartheid—this was seen as a sign of strength and confidence, and led to stability. That is why the criminal prosecution of the leaders of the defeated administration unsettles the body politic. Surely those prosecuted today, or their loyal partisans, will turn in fury on the prosecutors when it comes their turn to throw the rascals out. This not only undermines the public notion that disagreements are settled at the ballot box and not in the courtroom, but also has a bad effect on the incoming regime. The new leaders might be more timid than they should be, fearing retribution when their turn comes; or they will have a motive to cling to power as long as and as fiercely as possible in order to stave off the evil day. This unsettling melody has played itself out in a minor key and muted way by the series of independent counsel prosecutions following the ouster of Nixon. The Republicans were aching to go after the Carter people—the highest they aimed for were Billy Carter and Jody Powell, and both of those were misses. The pursuit by a Democratic Congress after 1986 of high-level Reagan officials was followed by the black comedy of the Whitewater and Lewinsky prosecutions and the debacle of the Clinton impeachment. To the public, these episodes began to look rather like politics masquerading as law—and therefore sordid and vengeful.

Whether to prosecute or not should depend on many things: the scale of the transgression—Cheney is not Hitler, Stalin, Mao, Pol Pot—the depth of the crimes, their essentially defensive motivation and context. After all, the Bush administration was protecting us against an enemy for whom killing and maiming innocents was the signature technique. All these factors weigh in favor of our torturers in this instance. We are in the realm not of justification—the acts cannot be justified—but of excuse. The administration of justice excuses those who have acted wrongly

under unbearable pressure. Our argument about the absolute wrong of torture holds even if we excuse someone who has done it in a moment of terrible emergency; to excuse an isolated act is not to endorse that act, and it certainly is not to validate a whole regime of “enhanced interrogation” as a matter of settled policy. As much as we might wish to see all wrongdoers brought to justice, that general expectation is not always just in individual cases. And so prosecutors do not always prosecute, grand juries do not always indict nor trial juries convict, even if a crime has been committed. Furthermore, a failed prosecution would come at a greater cost to our nation and our decency than leaving the crimes unprosecuted. Weighing against the offenders is their arrogance, their mendacity, and their perversion of constitutional government.

Finally, there is the question, what alternatives are there? The possibility of prosecution should continue to hang over their heads—there should be no immunity. Also, as they purported to act in our name and in our defense, there should be an accounting, exposure, and repudiation. The use of poison gas in World War I led to its being outlawed, its hardly being used in World War II, and those who ordered its use in Iraq being hanged. And atomic weapons have not been used in the six decades since Hiroshima and Nagasaki.

Thomas More was right that unwavering insistence on the law is a shield against tyrannical power; but in prosecutions and punishment the law works not as a shield but as a sword. The decision to swing that sword, the decisions whether to prosecute or punish are questions of prudence, discretion. Here the hero is not Dick Cheney but Nelson Mandela.

A footnoted version of this excerpt from the Frieds' book appears on this magazine's website, at www.harvardmagazine.com/2010/09/in-the-wake-of-war.



Inside the National Security Agency's Threat Operations Center in January 2006, following President George W. Bush's speech to employees prior to the U.S. Senate hearings on domestic surveillance; a U.S. soldier and trained dog intimidating an Iraqi detainee at Abu Ghraib prison



HM
Do you favor prosecution for some elements of the U.S. government's response to the terror attacks? Discuss with other readers at harvardmag.com/extras.

JOHN HARVARD'S JOURNAL



DECONSTRUCTIONISM. Interior demolition of the Fogg Art Museum proceeded during the early summer, leaving carefully sorted rubble ready for recycling, like the artfully arrayed metal at left. As the 1991 Werner Otto Hall (former home to the Busch-Reisinger Museum and Fine Arts Library) was razed, previously connected windows and passageways were shored up (and that doorway on the upper left of the Fogg structure became a dysfunctional exit). Decorative stonework was removed piece by piece and stored off-site, for later restoration.

Thereafter, the construction crews began preparing to excavate around the existing building—a delicate matter as the Fogg itself (shown above, along its Quincy Street entrance) and the sweeping Prescott Street ramp from Le Corbusier's Carpenter Center had to be shored up and protected from damage by heavy equipment. New subsurface spaces and a Prescott Street entrance will emerge in the reconfigured museum complex, scheduled for completion in 2013. Regular photographic updates of the work in progress are available at harvardmag.com/sidewalk-superintendent.

Medical School Conflicts of Interest, Revisited

HARVARD MEDICAL SCHOOL (HMS) on July 21 announced changes in its policies governing faculty members' financial conflicts of interest and commitment (COI). This is the first such comprehensive revision since 2004 (see "Controlling Con-

flicts of Interest," September-October 2004, page 76), and, the school asserts, the most thorough review since the policies were initiated in 1990. Among the principal changes are measures to:

- disclose publicly all relevant faculty financial interests on the Harvard Catalyst website, and streamline reporting for all faculty members, at HMS proper and in

the affiliated hospitals (where thousands of faculty members holding clinical appointments are based);

- prohibit all personal gifts, travel, or meals from industry (other than travel and meals made available in the course of allowed activities), consistent with recently enacted Massachusetts law;

- prohibit faculty participation in indus-



try-sponsored speakers' bureaus (where academics are, in effect, rented to present information prepared by companies marketing treatments), and disallow compensation for speaking engagements that limit faculty members' freedom to present content; and

- limit (not end) industry funding for creation and delivery of continuing medical education (CME) course content, and control (not prohibit) how industry advertises or exhibits at such courses.

The new policies will begin taking effect on a rolling basis next January.

COI policies are a particular concern for medical education and research. The report on HMS's revisions notes, in its preamble, that the COI policy has always aimed to reinforce "an essential principle: interactions between academia and industry are crucial to science and to facilitating the translation of knowledge from the research bench to the hospital bedside." The challenge comes in reinforcing that principle "while also providing guidance" in structuring such relationships to "ensure transparency and continued public confidence in the integrity of the scientific enterprise"—no minor feat given heightened public concern over practices such as industry-sponsored ghostwriting of pur-

portedly impartial expert articles, and on-campus marketing to medical students.

The preamble notes that faculty members are encouraged "to engage in a wide variety of activities with industry," including conducting research sponsored and supported by industry; collaborating with industry on research protocols; consulting; creating biotechnology companies; licensing technology to or from companies; serving on companies' scientific advisory boards; and holding ownership stakes in medical companies.

Or as Dean Jeffrey S. Flier put it in a related message to the faculty:

The majority of our sponsored research derives from federal sources, such as the National Institutes of Health, but research supported by industry plays an increasingly important role in our research programs. Why? Funding from federal and non-profit sources is inadequate to support many meritorious proposals, and companies have the resources and interest and can provide reagents, techniques, and expertise not otherwise available. So far, so good. Since industry-sponsored research may involve bench research or patients, the existing policy and new revisions are tailored differently for the two varieties. In both cases, however, the terms must protect the appropriate academic freedoms of our faculty.

For all industry-sponsored research, HMS limits faculty members' financial interest in a company sponsor—and prohibits it if the investigator has equity ownership in a private company sponsoring the research. Tighter restrictions govern research involving human subjects.

AS FLIER NOTED, "In all cases where financial interests are involved, an essential antidote to potential harm is transparency, and so disclosure of relevant financial interests internally—and for the first time, publicly—will address this concern." Hence the new, comprehensive reporting

of financial interests for all faculty members.

As for gifts—which, Flier wrote, now range "from pens and pads bearing company logos, to fancy dinners, to tickets to sporting events, to lavish junkets to discuss new therapies"—he observed, "[I]t is hard to see the value of such practices when compared to their negative appearance and potential harm." They are now prohibited outright. Massachusetts recently banned such gifts for clinical faculty.

The restriction on speakers' bureaus is part of a widening concern about professors' educational activities, broadly defined. HMS requires disclosure of faculty members' permitted financial interests when they give lectures, and limits marketing at educational events. Speakers' bureaus now appear "inappropriate," Flier wrote, as part of "explicit marketing events" by companies.

In implementing the ban on gifts and speakers' bureaus, HMS is coming into line with other schools. Stanford, for example, imposed such policies on its faculty in 2006, and extended them to clinical adjuncts this past spring.

On continuing-education (CME) funding, HMS appears to be choosing a middle path. Such courses, required of doctors to maintain licensure, are a significant business: according to *New York Times* coverage of the issue, industry funding is estimated to total as much as \$1 billion nationwide, amounting to perhaps half of the annual expenditure for CME. In fiscal year 2009, according to HMS data, its CME revenues were \$24.9 million, with tuition accounting for 73 percent of the total, commercial support 10 percent, and contractual payments, grants, and other income 17 percent. (In 2008, the total was \$26 million, with tuition accounting for 70 percent, commercial support 12 percent, and other sources 18 percent of revenues.) HMS offered some 263 courses in 2009, enrolling more than 60,000 healthcare professionals from around the world—an attractive audience for marketers.

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Under the new policies, HMS will still accept industry funding for a course—but only if there are multiple sponsors, none funding more than 50 percent of a course budget. In addition, the school will establish a dean's fund to accept general industry support for CME, to be used at the school's sole discretion.

Further, HMS will continue to allow industry-sponsored exhibits and advertising at CME programs, but such exhibits must now be located in a room separate from the venue where Harvard content is offered, and accessed through a separate entrance. Industry programs associated with CME offerings (seminars, for instance) must now be marketed separately from the course, and cannot be at competing locations or times.

Other institutions are more stringent. Stanford decided in 2008 to prohibit company support for specific CME courses; it limits industry support to broad areas, such as “medical, pediatric, and surgical specialties” or “diagnostic and imaging technologies.” Funding cannot be tied to a particular course, topic, or program, and associated commercial exhibits are banned, on campus or elsewhere. The University of Michigan banned industry funding for CME programs entirely, effective next January.

In reaching its decision, the Harvard COI committee noted that “Some companies have clearly used sponsorship of educational sessions inappropriately, namely, to attempt to increase market demand for company products and, at times, to promote uses beyond a product's Food and Drug Administration indication.” But failures of compliance shouldn't “necessarily be interpreted to mean that all industry sponsorship of CME is biased and inappropriate. In fact, we have found little research or definitive data...proving one way or the other that industry-supported CME is generally more biased when required safeguards are imposed. Yet even the idea

that some in industry may have advanced their marketing goals through the use of CME programs has tarnished academia's trust in commercial support for CME.”

Acknowledging that other peer institutions have banned commercial sponsorships, the HMS committee found “that when appropriately managed, industry remains an important resource for funding of high-quality CME.” Hence, Harvard's continued acceptance of industry funding, under the new guidelines.

The full committee report and supporting documents are available at the medical school's Integrity in Academic Medicine website (hms.harvard.edu/public/coi).

The New Tenure Track

MARY LEWIS, a member of the faculty since 2002 and previously Loeb associate professor of the social sciences, has been named professor of history. Gita Gopinath, a member of the faculty since 2005 and previously associate professor of economics, has been named professor of economics. Jeremy Rau, a member of the faculty since 2003 and previously associate professor of linguistics and the classics, has been named professor of linguistics and the classics. Matt Welsh, a member of the faculty since 2003

and previously Cabot associate professor of computer science, has been named McKay professor of computer science.

Those routine announcements by the Faculty of Arts and Sciences (FAS)—one each week during this past July—signal something new at the University. During the past half-decade, Harvard's system for appointing tenured (full) professors has been altered fundamentally. In the past, senior scholars were for the most part hired laterally, from other institutions. Now, assistant and associate professors (untenured ranks at Harvard) are hired on a definite “tenure track.” In fact, FAS officially prefers “tenure-track professors” to the previous term, “junior faculty.”

The new system heralds real changes in the composition of the Crimson professoriate. Combined with current financial circumstances, which may result in accelerated faculty retirements, those changes could be profound—particularly for FAS, whose ranks are heavily weighted (70 percent or more) toward senior, full professors.

When she was hired at the Graduate School of Education, in 1984, Judith D. Singer recently recalled, “I was told, ‘Assume you will not get tenure.’” The attraction was to come to Harvard early in one's career, get good academic experiences, work with challenging students, use the University's intellectual resources—but with an implicit promise no stronger than “Do good work and we'll see,” as she put it. Singer, now Conant professor of education, *did* get tenure, but she remembers cautioning junior colleagues at the Graduate School of Education that they might have a chance at a permanent appoint-

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All four members of the Jasanoff family graduated from Harvard, and now three are professors here.

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Summer Scholarship

Brett Rosenberg '12 offers a humorous take on spending a summer in Cambridge doing research.

harvardmag.com/summer-scholarship

The Case for Universities

In Dublin, President Faust warns of the dangers of letting economic pressures set the education agenda—and praises both science and poetry.

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ment “if you are *fabulous*....” Today, in her dual role as senior vice provost for faculty development and diversity, Singer has University-wide oversight responsibilities for recruiting and promotions.

The import of this shift to a tenure track was suggested in “At Harvard, Tenure Isn’t Just for Old People Anymore,” a feature published by the *Chronicle of Higher Education* in mid May. Reporter Robin Wilson wrote that the change “is altering faculty culture at Harvard, which had a reputation for treating junior scholars as second-class citizens.” She quoted D. Sunshine Hillygus recounting her mortgage-broker’s advice when she arrived as an assistant professor of government in 2003: “The lender said, ‘You are a junior faculty member? OK, we can do a variable rate.’” There was no point to a long-term fixed mortgage, because the prospects for remaining at Harvard were nil. (Hillygus recently accepted a tenured associate professorship at Duke.)

Limited-duration junior-faculty stays were the norm at the University, Singer said (apart from Harvard Law School, which makes relatively few junior appointments but historically has done so with an eye to promotion, and Harvard Business School, which has long trained junior faculty members in its teaching and research methods and then considered them for tenure).

But that practice had consequences, and increasing costs in recent decades. Emphasizing lateral senior appointments meant that assistant and associate professors faced a ticking clock, almost necessitating their departure from Harvard seven to eight years after their arrival—which Singer called a discouraging and “illogical” way to recruit. It also gave the impression that departments could be cavalier about their searches: identifying younger colleagues who could temporarily fill critical teaching needs, but not committing to invest in their scholarly development.

Singer also pointed out that peer institutions have had a tenure track (and most offer tenure at the associate-professor level), offering a more secure path unavailable here. And with the rise of dual-career families, the near-certainty that one partner would have to relocate in several years weakened Harvard’s competitive status even more. (The *Chronicle* reported that dual-career conflicts have increasingly derailed Harvard’s senior-faculty searches, too.)

HARVARD PORTRAIT



Josh Kantor

In 2003, while auditioning to become the Boston Red Sox organist, Josh Kantor was asked to play Motown, disco, Sinatra, the Beatles, and “as many different things as you can think of that are 10 seconds or less that might energize a crowd”—all by ear. A savvy musician who plays seven instruments, including harmonica, upright bass, and guitar (he accompanied improv comedy groups at Brandeis, where he earned his B.A. in 1994), Kantor got the gig. But he kept his day job at the Harvard Law Library, where he’s now a reference and interlibrary loan assistant. The son of two teachers, Kantor has long considered libraries “a real sanctuary.” His first post-college job was as a librarian at Boston University; he came to Harvard in 1999. “Music, libraries, and baseball: those are three things I’ve loved since I was very young,” he says. Thus his Clark Kent/Superman existence—law librarian by day, organist for the Fenway Faithful by night—has deep roots. Supportive library colleagues cover his shifts during the occasional midweek day game. At Fenway, Kantor plays a 40-minute pregame set of musical comfort food, ranging from The Doors to Madonna; follows the pregame ceremony script (“Organ plays after every Red Sox name”); then, headphones on, awaits cues from his producer. When, say, a catcher and pitcher confer, he might render a bit of the Supremes’ “Come See About Me.” Recently, when Red Sox Hall of Famer Jim Rice was honored at the park, Kantor accompanied Rice’s Jumbotron image with Jim Croce’s “You Don’t Mess Around with Jim.” “I get a lot more nervous speaking in front of 10 people at the library,” Kantor says, “than playing in front of 30,000.”

FAS dean Michael D. Smith said in a recent interview that in many cases, good younger scholars are doing “outstanding work” and that they are attuned to some of the most “interesting new ideas,” so failing to attract them impoverishes the faculty. Further, he noted, “If we are serious about ensuring rich pools of women and under-represented minorities” in assembling candidates for prospective appointments, “looking to attract young people is a main way to make progress.” That is true simply because current scholarly cohorts are more diverse than the senior faculty ranks from which Harvard has traditionally drawn its lateral appointments. (For more discussion and data, see “Faculty Diversity Developments,” January-February, page 48, on the annual report published by Singer’s office.)

THE MOVE TO a tenure track was formally signaled in then-FAS dean William C. Kirby’s February 2005 annual letter to the faculty: “We have revised our procedures to ensure that non-tenured searches are carried out with the care and thoroughness that we expect for senior appointments”—both to augment the faculty’s bench strength and to dispel the “common misperception that achieving tenure at Harvard is inconceivably difficult, if not impossible.” Accordingly, Kirby wrote, “From now on, departments may describe assistant professorships as ‘tenure-track.’ We will aim to give every assistant professor the time, support, and advice she or he will need to be competitive for tenure at Harvard.”

That promise has been made tangible in multiple ways. Formally, FAS’s tenure track—detailed in a 20-page handbook—embodies two important procedures. First, Smith said, a search for an assistant or associate professor means that FAS makes a budgetary commitment to a permanent position. In the past, not even outstanding young scholars could be sure that a tenured opening would exist when they reached the end of their junior appointments. Now, assuming a candidate is reviewed favorably as an assistant and an associate professor, “Dollars will not keep you from the opportunity” of competing for tenure, Smith said.

Second, the tenure-review process has changed in a critical way. In the past, for all searches, Harvard solicited outside experts’ evaluations on a “blind” basis: what did they think of the work done by a list of

candidates for a possible appointment? Now, reviewers still receive a list of scholars in the field for comparative purposes—but they are told explicitly *which* candidate is being considered for promotion to tenure and they receive a sampling of work by and CV of that individual. Thus, the process is no longer blind—which in the past yielded such anomalies as a young scholar competing for an appointment with, say, the senior professor who was his dissertation adviser.

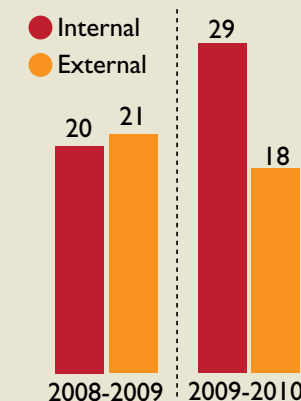
Other practices are boosting junior scholars’ prospects as well. As Smith noted, their development is jump-started in a three-day new-faculty institute, which offers insights into how Harvard works; an explanation of tenure procedures and requirements; teacher training; support in starting up a lab; and more. Formal and informal mentoring systems are encouraged, and department chairs are being directed to make tenure-track professors’ performance reviews focused and productive. Singer’s office has overseen the progressive roll-out of dependent- and childcare, research-support, and other programs that help faculty members navigate their scholarly careers as they also cope with family and life issues. All these investments, she said, are a recognition that recruiting outstanding younger professors and enabling them to develop is “a much better way to build a faculty” in contemporary academia. “Now when we recruit assistant and associate professors,” Singer said, “we can say Harvard is a great place to be a junior faculty member.”

What are the results? For the 2008-2009 academic year, Singer said, Harvard approved 41 tenured appointments: 20 internal, 21 external. For 2009-2010, she said, 47 appointments were approved, with 29 internal: more than 60 percent. FAS data show that of the 41 people who began tenured positions in the 2008-2009 and 2009-2010 years, 22 were promoted and 19 were external recruits. Smith indicated that future results would likely be in line with those proportions.

Does Harvard sacrifice quality in making professorial appointments this way? Singer

An Emerging Tenure Track

University Tenure Appointments



SOURCE: OFFICE OF FACULTY DEVELOPMENT AND DIVERSITY

insisted that appointment standards are unaltered. She noted that peer institutions “have managed to do this for much longer than we have,” while touting the quality of their faculties. Assessing a younger scholar’s work and promise on seven to nine years of evidence is “a lot of data,” she said. In the meantime, her data and Smith’s indicate that Harvard continues to make lateral appointments of more senior professors, too.

In any tenured appointment, Smith said, “There is a time when we have to make a bet.” For external recruits, that can be on Harvard’s calendar. With a tenure track, the principal difference, in his view, is that the “bet” has to be made at the end of the assistant and associate professorship years of a candidate who has excelled. The payoff is that “we have outstanding young people here doing outstanding work”—to the benefit of students and faculty colleagues.

Many more opportunities to make those bets may be in the offing. Last December, FAS and four professional schools offered retirement incentives to senior faculty members (see harvardmagazine.com, Breaking News, December 2, 2009). Of the 180 eligible professors, 127 are within FAS. Indications of acceptance were due June 30, but will not be reported until after a 45-day rescission period (after this issue of the magazine went to press). If a significant number of those eligible do retire (within one, two, or four years), atop normal annual attrition, FAS will be in a position to make a very large number of new appointments in coming years.

Smith said that FAS could comfortably conduct 40 or so searches per year (about the recent rate) and—significantly, given the faculty’s improving finances—he now felt comfortable maintaining its present size, rather than shrinking it, as earlier forecast. Depending on retirement trends, recruiting success, and future attrition (from professors who go elsewhere or do not make satisfactory progress), FAS could—as a result of tenure-track recruiting—look a good deal younger and more diverse than it has in the past.

Activist Administrator

THE EXECUTIVE VICE PRESIDENT'S website defines the post, neutrally, as the University's "principal ranking officer...on business and organizational matters." But Katie Lapp's self-definition continues in a more action-oriented tone, describing her responsibilities for revising Harvard's budget and planning processes, restructuring capital planning and project management, implementing a new capital-planning process, updating human-resources policies, leading the evaluation of options for Allston development, and more.



Anne H. Margulies

During a late-July conversation, 10 months into her tenure, Lapp (who came to Cambridge from a similar position at the University of California) reeled off examples of work on most of those priorities. She began by underscoring her enthusiasm about the "strong talent here, working very hard," with a shared commitment to improving operations in Harvard's schools and administration. Having met administration colleagues, deans, *their* senior administrators, and others—and established regular get-togethers to share information and set priorities—Lapp has hired several senior staff members: the previously reported appointment of Lisa Hogarty as vice president for campus services, in April; Anne H. Margulies as chief information officer in early July—significantly, combining information technology for both the central administration and the Faculty of Arts and Sciences, to harvest future synergies and efficiencies; and Lisa M. Coleman as chief diversity officer (last December).

These appointments, advised in part by a "diagnostic" of the central administration assisted by the Monitor Group,

Yesterday's News

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

1905 The Supreme Judicial Court puts a major obstacle in the way of a proposed alliance between Harvard and MIT, ruling that land occupied by the Institute cannot be built upon except in accordance with the deed of gift by which the real estate was acquired. Transferring any MIT real estate to a joint holding with Harvard thus becomes impossible.

1925 The *Crimson* publishes its first *Confidential Guide*, offering frank advice and opinions about courses from an undergraduate perspective.

1930 Due to significant thefts of books from the stacks, Widener Library has instituted a new policy: requiring that all books and bags be inspected at the library exits.

1940 The Democratic Party offers an all-Harvard ticket: Franklin Delano Roosevelt '04, LL.D. '29, and Henry A. Wallace, LL.D. '35. Although Republican candidate Wendell Willkie declares, "We've had enough of Harvard; let's have a little of Illinois and Indiana common sense," the editors note that Willkie buttons predominate on undergraduate lapels.

1955 George A. Buttrick, Plummer professor of Christian morals and preacher to the University, welcomes female students to join Harvard undergraduates at morning prayer in Appleton Chapel. (Women had been required to sit apart in Memorial Church during chapel services.)

1960 Harvard alone wins an A from the American Association of University Professors for meeting its faculty pay minimums: \$12,000 for a professor; \$8,750 for an associate professor; \$6,750 for an assistant professor.

1980 The \$250-million Harvard Campaign, a five-year effort to buttress undergraduate education, the College faculty, ...libraries, labs, and museums, public-policy programs, and "day-to-day upkeep of the College," ends its first year with almost \$86 million in gifts and pledges.

1990 To comply with the Drug-Free Schools and Communities Act Amendment of 1989, requiring colleges and universities to punish students and staff who violate drug and alcohol regulations or risk federal funding, Harvard provides both groups with information on drugs and alcohol compiled by the University Health Services.



Illustration by Mark Steele

have resulted in some job realignments. For instance, because Hogarty manages real-estate, dining, and facilities services and comes from a purchasing background (most recently at Columbia's medical center), she has assumed responsibility for purchasing, where there are opportunities for savings on travel, office supplies, scientific equipment, and so on. (Oversight had previously been with the finance staff, whose central mission is budgeting, auditing and compliance, risk management, and treasury services.) Human-resources functions from diverse administration units have been centralized, and Lapp expects to consolidate communications as well.

More generally, Lapp, the finance staff, and the deans are working on a multiyear financial plan, something she calls a "very important discipline to have." Her seat on the Harvard Management Company board

provides insight on the endowment, and she and HMC president Jane Mendillo both serve on the financial management committee—all steps toward coordinating investment strategy, budgeting, cash management, and capital plans and financing.

Of wider public interest will be the remaking of campus physical planning, building plans, and management of construction projects, all under the umbrella of a new University capital planning and project management organization; Lapp is conducting a national search for a new vice president now. She aims to have a five-year capital plan—"something that most major enterprises do"—so the Corporation can have a clear view of individual school and overall objec-



Katie Lapp

tives and investments, within the context of a coherent financial plan and budget.

Much attention has focused on Harvard's ambitions in Allston, and the decision last December to halt construction on its \$1.4-billion science complex, the first major project there (see "Arrested Development," March-April, page 47). In a tangible sign of the changed circumstances, Christopher M. Gordon, chief operating officer of the Allston Development Group, relinquished his position during the summer. "The work I came here to do will be happening at a slower pace and intensity," he said in a statement in early June, "and that reality led to today's announcement." Gordon, who came to Harvard in 2005, had also been responsible of late for overseeing the Fogg Art Museum renovation, now under way (see page 46), and for planning the renovation of the undergraduate Houses, as yet unscheduled—a role Lapp's new vice president will assume.

She intends, more broadly, for all capital programs—in Allston, Cambridge, and the Longwood Medical Area—to be part of a "cohesive," integrated plan. "I feel pretty strongly that as we look at the future in Allston," Lapp said, "that it not just be a geographic district," but rather a part of the University's priorities as a whole. In her experience, she said, given clear procedures for proposals, standards for review and approval, and responsibilities for decisionmaking, even difficult decisions such as those on real-estate projects can be made, and made better. Lapp's own role at the center of financial and capital planning puts her in a position to facilitate the conversations.

She is also in the center of some of Harvard's liveliest intramural politick-

In Other Financial News...

Retirements in the Faculty Ranks

The 180 senior faculty members University-wide who were offered retirement incentives last December had to indicate their intentions as of June 30. About 70 percent of those eligible are from the large Faculty of Arts and Sciences, whose ranks are weighted toward senior, full professors. Data on their response will not become available until a reconsideration period expires in late summer. Depending on their decisions, and any appointments to fill openings, the faculties could be reconfigured significantly, with possibly large financial consequences. For context, see "The New Tenure Track," page 48, and look for news updates at harvardmagazine.com.

Due the Union

The Harvard Union of Clerical and Technical Workers and the University agreed on a new two-year contract, effective July 1, that delivers \$1,000 pay increases to full-time covered staff members this fiscal year (and pro-rated increases to part-term workers), and approximately 3.5 percent increases in fiscal year 2011. Under the prior contract, they realized increases averaging 4.9 percent in the year ended this past June 30. Nonunion staff and faculty members had compensation frozen during the past fiscal year, and

will see pay increases averaging 2 percent in the current one.

Help from the Hospitals

Harvard Medical School's (HMS) affiliated hospitals have agreed to provide \$36 million of financial support during the next three years—welcome relief for an institution that has of late relied on income from the now-shrunk endowment for nearly 30 percent of its operating revenue.

HMS does not own its teaching hospitals. That can be a mixed blessing: Duke has regularly received significant funds from its hospital system, for instance, but the University of Pennsylvania as a whole was financially threatened when its hospital suffered enormous losses several years ago. The medical school and its affiliates have a complicated relationship, with Harvard offering clinical teaching appointments to hospital staff members; shared and sometimes competing streams of research funding; and other interactions.

Several years ago, when a number of the hospitals were under financial pressure, Harvard advanced payments from endowed professorships to support their teaching mission. Now, the flow of funds is reversed, with Massachusetts General Hospital pledging to pay HMS \$11 million and its sister hospital, Brigham and Women's, another \$9 million.

Drilling Deep

President Barack Obama, J.D. '91, appointed three people with Harvard ties to the seven-member National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, charged with recommending how to “prevent—and mitigate the impact of—any future spills that result from offshore drilling.” The commission’s co-chairs are Bob Graham, LL.B. '62, former governor of and U.S. senator from Florida, William K. Reilly, J.D. '65, who as administrator of the Environmental Protection Agency oversaw the government’s response to the *Exxon Valdez* oil spill in Alaska in 1989. They are joined by School of Engineering and Applied Sciences dean Cherry A. Murray, a physicist.

...and Reviewing Research

Dean Murray may be accruing lots of frequent-flier miles on the Boston-Washington, D.C., route: she was also appointed to a 21-member National Research Council panel studying how to “assure the ability of the American research university to maintain the excellence in research and doctoral education” required to help the United States remain competitive and prosperous in the twenty-first century. She served on a previous National Academies committee that produced *Rising Above the Gathering Storm*, a 2007 report that made the case for increased federal spending on scientific research. The new report is expected next year.

Basketball’s Bad Bounce

The Ivy League and the University announced on July 1 that Harvard had “declared an unintentional secondary violation” when in 2007 assistant men’s basketball coach Kenny Blakeney (not



SUNPOWER, SUNSHOWER: Solar thermal energy panels installed atop Canaday Hall in July will provide 60 percent of the hot water to Harvard’s freshman dormitories and other Faculty of Arts and Sciences buildings in Harvard Yard. The sun heats a non-freezing, eco-friendly glycol solution—the kind used in ice cream—which circulates to the Canaday basement, where it preheats water. The \$586,000 system, built to last a quarter-century or more, will pay for itself in 10 years, and prevent the emission of 4,150 tons of carbon dioxide over its life cycle—the equivalent of removing 32 vehicles from the road.



Cherry Murray

JUSTIN IDE/HARVARD NEWS OFFICE

then employed by the University) held conversations with the coaching staff during a time when he was observing prospective student-athletes. The incident was first reported the following year (see “Questions about Recruiting,” May-June 2008, page 76). The Ivy League investigated then and cleared Harvard of violations of league rules. Subsequent conversations with the National Collegiate Athletic Association resulted in the new finding; secondary violations are “inadvertent” and provide at most a “minimal advantage” to the recruiting team. Harvard has imposed unspecified recruiting limits for this academic year.

Arboretum at Risk

A population of voracious Asian longhorned beetles was discovered in early

summer on the grounds of the Faulkner Hospital, located across Centre Street from the University’s Arnold Arboretum, in Boston’s Jamaica Plain neighborhood. The beetles, which feed on maples and other hardwoods, have no known

predators, and must be controlled by cutting down and chipping infested trees; since the first Massachusetts population was discovered in Worcester in 2008, 27,000 trees have been felled. The Arboretum began a survey of its collection in early 2009, and as of this July, no beetles had

been found. As many as 100,000 trees within a 1.5-mile radius of the Faulkner population are now being inspected—they must be climbed—and restrictions have been imposed on transporting firewood and other materials in the area.

Putting the Arrest to Rest

The Cambridge Review Committee, appointed to examine the widely publicized arrest for disorderly conduct of Henry Louis Gates Jr., Fletcher University Professor, at his home in July 2009 by Cambridge police sergeant James Crowley, reported on June 30 that the incident was “avoidable” and that it had been escalated by mutual “misunderstandings and failed communications.” The committee’s recommendations focused on better communications, training, and police-community relations, and notably did not emphasize the racial elements of the story that figured so prominently in reporting and commentary at the time. For details, see harvardmag.com/gates-report.

Nota Bene

HANDLING HUMAN RIGHTS. After a decade of coordinating human-rights studies across Harvard, the University Committee on Human Rights Studies (UCHRS) has been dissolved. Its curricular, academic, and communications

work will be handled by a directorate consisting of the leaders of human-rights centers at the Law School, the Kennedy School (both of which are recruiting new directors), and the Harvard School of Public Health (HSPH), plus Jacqueline Bhabha, who has been chair of the UCHRS. She is now University adviser on human rights and director of research for HSPH's François-Xavier Bagnoud Center for Health and Human Rights (www.harvardfxbcenter.org).

DOWNRIVER. Upon his retirement from Harvard Business School on June 30, McArthur University Professor Robert C. Merton, who shared the 1997 Nobel Prize in Economic Sciences, rejoined the finance faculty of MIT's Sloan School of Management, where he had previously served as a professor for 18 years. Merton was a founder of Long-Term Capital Management, an early hedge fund, which collapsed during strains in the world economic system in 1998.

HEALTHCARE'S HEAD. President Barack Obama made a recess appointment of Donald M. Berwick '68, M.D.-M.P.P. '72—professor of health policy and management at the Harvard School of Public Health, and president and CEO of the Institute for Healthcare Improvement—as direc-

tor of the agency that oversees Medicare and Medicaid. Berwick will have a central role in implementing the new national health legislation.

HEADED WEST: Lindsley professor of psychology Stephen M. Kosslyn, who serves as dean of social science in the Faculty of Arts and Sciences, is leaving Harvard to become director of the Center for Advanced Study in the Behavioral Sciences, at Stanford, effective January 1.

REREGISTERED. Barry Kane, registrar for the Faculty of Arts and Sciences since 2003—and therefore the chief overseer of the increasingly online processes of course enrollment, classroom assignments, examination scheduling, grading, and course evaluation, departed in mid July to assume the position of assistant dean and registrar at Wellesley College.

MISCELLANY. Juan Manuel Santos, who earned a mid-career Master of Public Administration degree at the Harvard Kennedy School in 1981 and was a Nieman Fellow in 1988, has been elected president of Colombia....BioMed Central, a journal and open-access publisher, recognized Harvard, the University of Zurich, and the Chinese Academy of Sciences as the open-access institutions of the year. Harvard was cited for its online depository for faculty members' research (see "Open Access," May-June 2008, page 61)....Among those in residence at the New York Public Library's Cullman Center for Scholars and Writers for 2010-2011 are Annette Gordon-Reed, recently appointed

to positions at Harvard Law School and the history department within the Faculty of Arts and Sciences (see Brevia, July-August, page 65), and Larissa MacFarquhar '90, a *New Yorker* staff writer.... Harvard Medical School's executive dean for administration, Daniel Ennis, who had served in that role since 2007, has departed to become senior vice president for finance and administration at Johns Hopkins. Rick Mills, dean for education and global program administration, will assume the executive deanship on an interim basis....Lecturer in urban planning and design Eric S. Belsky has been appointed managing director of Harvard's Joint Center for Housing Studies (www.jchs.harvard.edu); he had been executive director for a dozen years. Belsky succeeds Nicholas P. Retsinas, who led the center from

1998 until June 30, and who will join the faculty of Harvard Business School, where he has been a lecturer.... Marne Levine, M.B.A. '05, formerly chief of staff to Harvard president Lawrence H. Summers and recently chief of staff of the National Economic Council (which Summers directs), has moved to Facebook Inc., where she serves as vice president of global public policy....The Harvard Kennedy School has revoked the master's in public administration earned in 2000 by Russian spy Andrey Bezrukov, formerly of Cambridge, for violating the school's policy on misrepresentation in his application. Bezrukov used the name Donald Heathfield and posed as a Canadian while registered at the school.



Stephen M. Kosslyn

JON CHASE/HARVARD NEWS OFFICE



Robert C. Merton

KRIS SNIBBE/HARVARD NEWS OFFICE



Donald M. Berwick

COURTESY OF DONALD M. BERWICK



Nicholas P. Retsinas

COURTESY OF NICHOLAS P. RETSINAS



Eric S. Belsky

COURTESY OF ERIC S. BELSKY



PRODIGIOUS PLANT. The University's *Amorphophallus titanum* flourished and faded in little more than 24 hours, from early Sunday afternoon, July 11, to early evening Monday, July 12—its progress recorded in photographs by Harvard University Herbaria research associate Doug Goldman. When fully open, the titan arum was four feet tall and nearly three feet wide. The rare Sumatran specimen is known as the carrion flower or "corpse plant" because its fetid odor recalls decomposing meat. Although in full bloom it appears to be one enormous flower, it is actually an inflorescence of hundreds of tiny flowers hidden behind a huge, petal-like structure at the base of an enormous stalk. For further details, see harvardmag.com/titan-arum. The images show the plant on July 10 and fully open (photographed from above) on the evening of July 11.

Photographs by Doug Goldman

ing. Under the rubric of a “new funding model,” Lapp and her team are charged with changing the way the core administrative functions—finance, legal, human resources, communications, information technology, the offices of the president and provost, and so on—are paid for. The annual sum, now about \$165 million, has been raised by, among other means, assessing the schools’ endowment distributions and interest earned on University cash accounts above the rate credited to

the schools. Because the distributions are declining, and because the cash accounts had also been endowed, in effect (and therefore depreciated sharply in fiscal year 2009), this model is under strain (see “Two Radically Different Worlds,” January-February, page 46).

As Lapp acknowledged, no one wants to assume more expenses. Beyond trimming those central costs—by \$5 million in the past fiscal year and again this year—she found in her conversa-

tions with deans “a need for the central administration to be more clear about what is in the administration, how we’re structured, what are our processes, and so on,” as a first step to building consensus on how to proceed in fiscal year 2012. That would seem a fair example of her open, communicative approach to wrestling with the administrative challenges of a highly decentralized Harvard in an era of financial restraint and greater appreciation for efficiencies.

THE UNDERGRADUATE

Subtraction and Decision

by SPENCER LENFIELD '12

SUMMER ENDS, and almost before I’ve settled into my room for junior year, course selection will be upon us. After making it through four of these cycles, you get to be a kind of pro. You don’t have to check where buildings are, like a freshman, and you don’t have to worry about balancing classes from prospective concentrations, like a sophomore. You just look at the catalog, note the time, note the place, and choose. What could be easier?

Except choosing is, to conflate Oscar Wilde with the Lovin’ Spoonful, rarely easy and never kind. Even when the choice has no bearing on your graduation requirements or concentration demands, even when the class is completely elective—it’s hard. And so this summer I found myself doing the same thing I was doing exactly two years before: combing the course catalog online, looking at language classes, and trying, without much success, to decide what, if anything, I wanted to take.

I love learning languages, and when I found the pamphlet on the offerings at Harvard in my admission packet, fireworks went off in my head. Sanskrit! Kikuyu! Uighur! There were more languages than anyone could hope to learn in a lifetime. Would learning Chinese open more doors, or Hindi? Would

learning Irish help me understand *Finnegans Wake* any better? Or should I keep working on my two high-school languages—Latin and French? I was wracked with indecision. I figured that the “shopping week” I’d heard so much about would help me decide.

It didn’t. By the time I’d visited the classes and worked out the competing demands of Expos, freshman seminars, the Core, and potential concentrations, I didn’t have any room left in my schedule.

I was a little disappointed, but by the time I’d realized how busy four classes kept me, I didn’t have time for any regrets. Every semester after that, there seemed to be too many other classes I wanted or needed to take. And though I’ve taken some French since then, I still haven’t started a new language at Harvard.

“HALFWAY through college? How did that happen? And when?” one of my classmates asked me this past June. He was echoing the thoughts of a lot of



my friends as we left school and headed into the summer between sophomore and junior years. "It just seems like it goes so fast," someone else said. "Can you believe that two years ago, we hadn't done any of this?" And two years from now, the summer after our own commencement will be over, and we won't be returning to the College at all. The amazement doesn't come from the fact that we're half done. It's that the halfway point came so quickly. No matter how many grueling nights and endless weeks were involved in getting here, it's hard not to think, "It's half over...already?"

What makes it hardest is the realization that there are so many things you'll never get to do. In that summer before freshman year, it's easy to daydream about taking biochemistry and nineteenth-century French art history. In September, you go to the activities fair and imagine how you'll simultaneously write for the *Advocate* and refurbish used scientific instruments for third-world hospitals. The world seems to hold limitless potential, and it makes you feel a little omnipotent, albeit in a bewildered kind of way. You think, "I could do any of this!" You may not be able to find Robinson Hall, but being tinker, tailor, soldier, and sailor seems well within your compass: you could be

an ROTC engineering concentrator in the knitting and sailing clubs.

Two years later, the world feels smaller. The summer after the sophomore year of college is one of those occasions when you become aware not just of the *passage* of time, but of an uptick in its *velocity* as it hurtles past. You realize how many remarkable professors there are from whom you might never take a class, and how many smart, talented, kind students graduated before you ever got a chance to meet them. You question the decisions you made about how to spend your first two years, and then you contrive to squeeze the most from the two ahead. Halfway through college is when you truly know—on the level not just of fact, but of unnerving gut feeling—that sometimes opportunities, once missed, never come back.

But it's not such a melancholy thing. Even though that limitless, unbounded energy you have at the beginning of college is fun, it doesn't mean very much. It's shapeless, unapplied, and inexperienced. During the next two years, you start to learn your limitations and, through those decisions, you start to develop a sense of self. When you realize that you find biochemistry duller than you'd imagined, or your smoke allergy gets in the way of your joining the *Advocate*, these things turn out not to be so bad. It's a humbling process to learn that you can't do it all—you

can only do some of it—but it's also what separates you from an incoming freshman. You learn, among other things, that growing up doesn't mean learning to be good at everything. Growing up is the translation of potential into reality, and decisions are the means by which that happens.

RIGHT NOW, I'm trying to choose among three very different languages that correspond to three different parts of what I do. Should I take Greek, the other foundational language of the West? Or German, which would open up a rich intellectual and artistic tradition that complements the English and French I already work with? Or Hindi, the language of the "jewel in the crown" of the erstwhile empire I study and which has so much of a past of its own, in which so much scholarship remains to be done?

I asked around about language classes this past spring, and I was reassured when a friend who decided to start Spanish last semester told me, "The introductory language classes are great, and you should absolutely take one if you get the chance." All three languages I was considering now offer "intensive" tracks (which move at twice the pace of the standard courses); I was seriously considering this option until another friend informed me that "taking intensive Greek is the single hardest thing I've ever done in my life," involving at least two dozen hours of work per week. As



Madeleine Schwartz (left)
and Sarah Zhang

New Fellows

Harvard Magazine's Berta Greenwald Ledecy Undergraduate Fellows for the 2010-2011 academic year are Madeleine Schwartz '12 and Sarah Zhang '11, who were selected after an evaluation of writing submitted by nearly two dozen student applicants for the two positions. The fellowships are supported by Jonathan J. Ledecy '79, M.B.A. '83, and named in honor of his mother; the fellows, who join the editorial staff during the year, contribute to the magazine as "Undergraduate" columnists and initiate story ideas, write news and feature items for print publication and harvardmagazine.com, and help edit copy.

Schwartz, of New York City and Kirkland House, is pursuing a joint concentration in history and the classics. She interned at the *New Yorker* this summer; in Cambridge, she is an editor for the *Harvard Advocate* and a writer for the *Crimson*. Zhang, of Acton, Massachusetts, and Lowell House, is a neurobiology concentrator. She has written for numerous campus publications and is a supervisor of student volunteers at the Harvard Square Homeless Shelter. During the summer, she lived in Cambridge and worked in a neurobiology laboratory while participating in the Program for Research in Science and Engineering, a community of undergraduates pursuing hands-on laboratory experiences.

Photographs by Stu Rosner

much as I like learning languages, I'm not sure there's a single one I could invest so much time and energy in, especially on top of other courses.

Ultimately, the problem is about not having enough time. At 20, you're still young—barely out of adolescence—but I hope it's not too audacious to say that it's nevertheless the first time you begin to feel the real longing for more time on the clock that can only come with the comprehen-

sion of aging. Yes, there's still plenty of time left, but you start to feel the sting of having to decide between languages—let alone careers or cities, people or principles—because it's clear that deciding to learn German might mean that you never get around to learning Greek. This is a little hard to accept when, just two years ago, it felt as though anything and everything was possible. But all the possibilities in the world mean nothing on their own.

It's the one you choose that ends up mattering. Those decisions come too soon, and it's no use rushing them. As Goethe said, "Choose well, for your decision is brief but endless"—or maybe that was Plato. I guess I'll just have to wait and see. ▢

*Berta Greenwald Ledecky Undergraduate Fellow
Spencer Lenfield '12 may still be shuffling three different study cards at the end of shopping week, but he's okay with that.*

SPORTS

Muse of Movement

Fitness guru Dawn Murdock Stenis reforms Harvard—literally.



IN HIGH SCHOOL near Chicago and at Hope College in Holland, Michigan, Dawn Murdock Stenis played sweeper on the varsity soccer teams. Sweepers are the kingpins of a soccer defense: they play at the very back, behind everyone except the goalkeeper, and direct the side's response to an attack. "Usually the goalie and the sweeper are the two bossy people on the field," she explains. "But in college, our goalie wasn't really comfortable being bossy, so I got to be super bossy. I have two younger siblings... and for as long as I've been in the work force, I've pretty much been the boss. It's a

good fit: stuff just works better when I'm in charge. I joke about it, but most people around me seem to agree."

Indeed they do—in fact, by the thousands. Each week during the academic year, 10,000 men and women of Harvard wanting not only victory, but fitness, troop into the Malkin Athletic Center (MAC) and Hemenway Gymnasium to achieve their daily triumphs over the sedentary life. Once inside, they storm more than 100 cardio workout machines (treadmills, elliptical trainers, rowers, bikes, StairMasters, and the like), lift weights, and stretch, grunt, and sweat in about

100 group-exercise classes, ranging from aqua aerobics to Zumba, a dance fitness program (see <http://recreation.gocrimson.com/recreation/group/index>). As area fitness program manager, Murdock Stenis supervises the whole shebang.

"Movement works!" she says, with the conviction of a seasoned teacher, trainer, and all-around jock. She personally teaches 10 to 12 exercise classes weekly. Eight to 10 fitness staff and 50 or more class instructors report to her, along with 11 personal trainers.

In college, Murdock Stenis had a moment of epiphany. She had considered following her father into labor relations, and started as a business major. "Now mind you, I hate math and I'm terrible at it," she confesses. "My freshman and sophomore years I studied like the dickens, and stuff

just wouldn't sink in because I totally didn't care about it." Then, at the start of her junior year, her grandfather died of cancer at 66—"way too young," she says. "He was active in his work for GM for 30 years, but as soon as he retired, he just stopped moving. In my opinion, that killed him. That was my 'holy cow!' moment—grandchildren should not lose their grandparents that soon. I came back from the funeral and changed my major [to physical education] and decided that I was going to make the world move."

Studying subjects like kinesiology, Murdock Stenis "couldn't get enough," she explains. "It came to me easily. I'd be reading things on the biomechanics of human movement or exercise physiology, and I'd be thinking, 'I know what that is—that's when my muscles burn,' or 'That's like when I was injured and couldn't extend my leg.'" Her grades went

Murdock Stenis warms up for indoor cycling, an intense interval workout with music.



Murdock Stenis leads an aqua aerobics class at the Malkin Athletic Center pool; water offers 12 times the resistance of air.

Michigan. "It sounded great—I love teaching group exercise," she says. "But when you own the business, you don't get to do the parts of the business you love. There's huge overhead, and way too much work." (She often found herself plowing snow at 3:30 A.M. to be ready for the gym's 5:30 A.M. opening.)

Eventually she divorced, sold the gym, and in 2003

from straight Cs to straight As, and a career path opened up.

That path wasn't new, exactly: Murdock Stenis grew up a tomboy ("the oldest child, a perfectionist, a Type A personality") with two younger sisters (one, Janine, now teaches classes for her at Harvard). The family joke is that "Dawn is her father's first son." She had a Gale Sayers football in her toy box and as a four-year-old was entranced by Nadia Comaneci's incomparable performances at the 1976 Montreal Olympics. In high school, she became a gymnast as well as a starting varsity soccer player. "If I'm not good at it, I'm not doin' it!" she declares with a smile, "and I expect to be good right away."

Shortly after graduating from college, she tore a medial collateral ligament in one knee in a skiing mishap. Six weeks in an ankle-to-hip brace ensued, another transforming experience. "That's the one time in my life that I became sedentary," she says. "And once that brace came off, I was tired, and got lazy. It's inertia: bodies at rest stay at rest. I was stuck to the couch—I got 'Velcro butt'—and gained 30 pounds in one year. But I lived across the street from a gym, and one of my girlfriends said, 'You should try step aerobics, because you love to dance.' She took me to my first step aerobics class, and I loved it.

"I also realized that I needed to have accountability for working out," she continues. "I grew up having a coach and other athletes around me, pushing me. When it came time for me to do it all by myself, I wasn't all that disciplined.

That's how I got into group fitness. There are a few people in this world who *are* self-motivated about exercise—they are usually called marathon runners, and everybody knows *they* are a little bit crazy. The rest of us need others to motivate us.

"Human beings are pack animals, social creatures, and we feed off the energy of the people around us. So hopefully, we'll surround ourselves with high-energy people." (She pays a staff member to train *her* because "I'm not going to push myself as hard as I need to be pushed.") "So many people tell me, 'Oh, I'm not a class person, I'm not into the group-exercise thing. But then you talk to them a little more and you find that they're not doing nearly enough. Maybe it's because they're not doing the group thing, or they haven't found the group thing they like. The classes come in so many forms."

Part of Murdock Stenis's preparation for her Harvard job came from five years as co-owner, with her former husband, of a 15,000-square-foot gym in Traverse City,

came to work at Harvard. (She's now married to John Stenis, a foreman in Harvard's electrical distribution department.) Officially she works for Town Sports International, which operates fitness centers in Boston, New York, Philadelphia, and Washington and has a long-running contract with the University to provide staff and services at the MAC, Hemenway, and the Business School's Shad Gymnasium. "The idea of Harvard being not-for-profit, and doing health and fitness to change lives, not for the almighty dollar, was incredibly attractive to me," Murdock Stenis explains. "Here, we get to do what we do simply for the results. There's so much freedom."

Freedom to design new specialty programs like Harvard Slim Down, for example, now in its third year. (The eight-week fitness/weight-loss program offers a wide variety of group exercise classes plus personal training). She has introduced the pre- and postnatal "fit mamas" class, hip-hop and belly dance, yoga for pain or injury relief, and the "pedomination challenge," in which small walking teams from across the University compete by logging their daily step totals on pedometers. "My job is to identify what the Harvard community needs, and see if we can give it to them," says Murdock Stenis. Gym and exercise-class attendance is growing. Yet, as she points out, "You talk with people in the gym, but that only takes us so far, because my goal is to reach the people who *aren't* coming in the door. Those are the ones who really need us." ~CRAIG LAMBERT

Gridiron Blogging

"Cleat," *Harvard Magazine's* canny football correspondent, will blog about the fall season on the magazine's website, <http://harvardmagazine.com/football>. To

receive e-mail notification of new posts, sign up at <http://harvardmag.com/highlights>.



Wrought from Ruins

What can become of an old Pennsylvania steel town?

THE MAYOR OF Braddock, Pennsylvania, John Fetterman, M.P.P. '99, trudges around this decimated steel-mill town—with its vacant buildings and grimy air—in size 13 high-tops and gas-station-style work shirts, carrying the weight of a restless but resolute energy. He frowns a lot. Never does he crack that politician's "meet and greet" smile. Nor does he particularly go out of his way to solicit attention, although with a shaved head and six-foot-eight line-backer frame, he is hard to miss. "My looks worked against me at first," he says, "because people thought I was a skinhead."

Fetterman is an outlier in an outlying town. He is a white man with an Ivy League degree and some family money who spent his twenties in existential wanderings—following interests in social work, business, and public policy. But about seven years ago he chose to put down adult roots in this bombed-out historic town

THE CAR SOLUTION



on the Monongahela River, eight miles from Pittsburgh. Home to Andrew Carnegie's first steel mill, in 1875, and first free library, Braddock has lost 90 percent of its population since World War II—and many of its grand old buildings to lack of maintenance and landlord absenteeism.

Older residents still remember having to fight the crowds to walk down the main street. Now Braddock is a predominantly African-American community of about 2,800 people with rampant unemployment and the highest poverty rate in Allegheny County. Some neighborhoods boast pockets of well-kept, often Victori-

an-style, houses, but the downtown strip holds mostly boarded-up buildings and weedy lots. There are a few bars, a convenience store and used-furniture store, and Hidy's Café serves terrific burgers—but the Family Dollar store is the brightest presence. The town's hospital closed

down earlier this year. About 560 people work at Braddock's last big employer, the original Edgar Thomson Steel Works, down from more than 5,000 in its heyday. Most of them don't live in town. The blast furnace still runs 24-7, generating white smoke and a constant humming. "I know what living in Cambridge is like," allows Fetterman, 41. "I would rather be here. It's just where I feel like I belong."

In 2001, feeling alienated from the dot-com revolution, Fetterman came to town to establish and run a county-sponsored program for school dropouts, which he set up from scratch. (He'd created and run a

computer lab for young people in Pittsburgh in the 1990s.) The job suited his energy and resourcefulness, and he quickly built relationships with the 16- to 24-year-old crowd—helping them earn GEDs, get jobs, or find volunteer work, even mediating for them with families, social-service agencies, and the police. Four years later they helped vote him into office.

As mayor, Fetterman's M.B.A. from the University of Connecticut has come in handy. But business alone leaves him cold. He has experienced social work, an abiding interest, as "calcified in terms of being able to do anything really interesting and adaptable," he says. "It also wasn't empowering to me, or the people in its system."

John Fetterman stands inside the defunct Carrie Furnace Works (1884-1982), which he hopes will be turned into a museum and national park down the river from Braddock.

He did enjoy the Kennedy School, getting the most out of ex-politicians on the faculty like Alan Simpson of Wyoming or Philip Sharp of Indiana, who now runs the think tank Resources for the Future. Taking the education and social-policy track, Fetterman focused at one point on analyzing a new program in Boston, "Technology Goes Home," which handed out computers to school children—and tussled with the

mayor's office over the anticipated results. "People thought they'd be doing their homework and learning," he says. "I said, 'No, they're going to be looking for lyrics and talking to their friends.' I think that was borne out in the end." But research and academic public policy were too removed from the daily lives of people he wanted to work with.

IN BRADDOCK, Fetterman has managed to fuse what he likes best about these disciplines into a political role as social entrepreneur and "micro-philanthropist." "Making significant improvements in and beating back what many would say is the inevitable decline and implosion of a post-industrial community— isn't this why you go to a public-policy school?" he asks.

of its tough-minded residents through his own brand of innovative, often improvised, urban renewal. "I dig this town's malignant beauty, its people and its history," he adds. "To me, this is a place that should be saved."

So far, he has integrated the arts, the green economy, robust kids' programs, and private and public capital in rehabilitating about half a dozen decrepit downtown buildings that he has bought and fixed up, primarily through his all-volunteer nonprofit 501(c)(3), Braddock Redux. He and a core group of supporters turned an old convent across from the Thomson plant into a barebones hostel for visitors. The adjacent former Catholic school is now the Unsmoked gallery, which has showcased artists from Pittsburgh and New York City and offers studios upstairs that rent for \$100 a month. "What else would it be used for?" he explains. "The arts are good for any community and our art openings and events bring in all kinds of people who wouldn't otherwise take an interest in what's going on here."

"Don't people in these jurisdictions deserve to live in an improving set of circumstances? It's never going to be equal, but that doesn't mean that people can't be safe, have opportunities for their children—and not have to watch 90 percent of their town get carted off to the landfill."

He is wholly engaged in a struggle to elevate this town and the lives

Fetterman at home with his young son, Karl



NELL PORTER BROWN

Connecting the Harvard Dots

If graduating seniors wondered whether Commencement marked the end of all their Harvard fun and learning, Robert R. Bowie Jr. '73 was there on Class Day to tell them, "Hell, no!" In fact, the new president of the Harvard Alumni Association (HAA) promised, all young alumni will discover the "tremendous power of the Harvard network"—and its surprising reach.

Bowie (pronounced "BOO-ey") told seniors about an HAA-organized spring-break trip to Egypt for alumni and undergraduates, during which a passerby noticed a Harvard cap worn by John Corbett '13. The man was an alumnus and rabbi who was renovating a temple in Cairo and met with the group at length, providing insights into Egypt, its history, and contemporary life that the travelers would not have gleaned first-hand otherwise. "No matter where you find yourself in the world at any point in your life," Bowie concluded, "it is quite likely that a Harvard connection is close by."

Such examples underlie Bowie's vision for strengthening alumni ties to undergraduates. The HAA ran similar trips this year to Ghana and Greece, and is developing additional ways to support such cross-generational relationships by bringing the value of the University network to bear. "I would like Harvard to be there to support alumni at each stage of their lives—to be as far away or as close as they like," Bowie explained during a recent interview. He and HAA deputy executive director Philip Lovejoy and

others met this summer to discuss ways to expand digital communications to the same end, especially on the interactive front. "Alumni can think about the HAA as 'My Harvard,'" Bowie says, "and take advantage of a huge array of opportunities and elements like clubs, Shared Interest Groups, reunions, and online social media to personalize their experience."

Bowie has come by this construct naturally. "I was surrounded by Harvard from the beginning. My heroes were the Harvard hockey team—with Olympic gold medalists Bill ['56] and Bob ['58] Cleary—and the football team," he says. "When I was a youngster and they opened the [Stadium] gates at halftime and anyone could get in, I would be there." Though he now lives in Monkton, Maryland, he grew up in Cambridge, the son of centenarian Robert R. Bowie, J.D. '34, who was a Law School professor from 1946 to 1955 and founded what is now the Weatherhead Center for International Affairs in 1958. The younger Bowie transferred to Harvard from Denison, and never took the place for granted: "Every morning I woke up and I was filled with joy to be an undergraduate at Harvard," he says enthusiastically. "There is nothing like having your world shaped by great professors." His tutor was Lowell professor of the humanities William Alfred, a playwright and poet. "He would talk about literature as he sat and fed the squirrels peanuts," Bowie recalls. "He was a wonderful man and mentor and so influenced my love of poetry and literature."

After graduating, Bowie moved to Washington, D.C., to be near

About two dozen new people, mostly artists, have moved into town, lured by Braddock's primary marketable asset, cheap real estate: the average home costs about \$6,200; a pristine home with a little land, about \$25,000. But many were also drawn by the town's faded industrial aesthetic and the chance to be urban homesteaders, community organizers, and participants in Fetterman's vision, captured in a mandate—"Destruction breeds creation: create amidst destruction"—on his own Braddock-themed website, which utilizes the town's zip code: www.15104.cc (which he also has tattooed on his forearm).

From Braddock's ruins, he believes, something new can rise that balances what its residents need—jobs, services, commercial enterprises—with what newcomers can contribute. "Braddock isn't and shouldn't be turned into something Harvard Squarish; that's not what we are," he says. And it's not a town for slackers. "You can't come here and drink your Pabst Blue Ribbon and sit back and say 'Reality

bites,'" he asserts. "This place is irony-free. We need people who want to roll up their sleeves and work on improving the lives of everyone who lives here."

Sometimes the cultural chasm pulls in seemingly opposite directions. On the *Colbert Report* last year, Fetterman made the case for a Subway fast-food shop to open in town. "I could hear the groans: 'Why wouldn't I want a funky vegan bistro instead?'" he says. "That'd be great, too. But I need something to fit with the needs and desires of the people who live and work here. Like big-box stores. I'd rather see local businesses, but people here do need a supermarket and where else can I get 300 hot dogs and 20 packs of buns for kids to eat at the fair this afternoon?"

Among his biggest projects has been transforming a former Presbyterian church, which he and his father bought for \$50,000 in 2003, into a youth center. The center, named for Nya Page, a Braddock toddler sexually assaulted and left to freeze to death by her father, will soon open thanks in part to the more than \$1

million Levi Strauss & Company pledged to Braddock Redux in a deal Fetterman brokered last year, when the company chose to build its 2010 advertising campaign, "Ready to Work," around Braddock and its residents. (Townspeople were paid to star in print ads and commercials airing nationwide this past summer; "I did not get a penny personally from this deal," Fetterman repeatedly points out. "Not even a free pair of jeans.")

As Fetterman talks, three boys walk by, wearing Braddock Youth Project (BYP) T-shirts that group members designed and silk-screened themselves. The BYP was developed by Fetterman with one of his primary collaborators, the KEYS Service Corps, the local AmeriCorps unit. BYP teenagers work extensively on the expanding two-acre Grow Pittsburgh organic urban farm that has replaced trash-filled vacant lots along part of the main drag, Braddock Avenue. The boys are carrying watering cans and jokingly ask if the mayor wants his flowers drenched.

In 2003, for \$2,000, Fetterman bought

the "action of Watergate and everything that was going on" (his father had worked closely with presidential advisers Henry Kissinger '50, Ph.D. '54, L'55, and John J. McCloy, LL.B. '21). He became a legislative aide to then-U.S. Senator Charles Mathias (R-Maryland), and says he got the job because in Cambridge he had lived next door to Mathias's father-in-law, former Massachusetts governor Robert F. Bradford '23, LL.B. '26—another sign of powerful personal networks, he allows. In time, he graduated from the University of Maryland School of Law. Today he is the founding partner of Bowie & Jensen, LLC, a firm focused on business and intellectual-property litigation and transactions.

On the side, Bowie has worked for and chaired the HAA's schools and scholarships committee (he was a 2009 recipient of the HAA's Hiram Hunn Award for alumni service) and is a key participant, and former board member, of the Harvard Club of Maryland, where he also chaired the schools and scholarships committee and interviewed applicants for decades. For his work as founder of the club's Early College Awareness Program, which reaches out to junior-high-school students whose families have not traditionally planned for college, he won the 2005 Excellence Merit Award from Baltimore County. He currently helps run three sessions a year that celebrate college attendance with students and guidance counselors.

In his spare time, Bowie has written eight plays that have been performed in Baltimore-area theaters, and numerous poems



Robert R. Bowie Jr.

posted at www.bowie.com. "Without the arts we are a rudderless boat," he says. He also supports the arts directly by serving on the governing boards of the Everyman Theater and the Single Carrot Theater, a start-up drawn to the city because of its fertile downtown arts community. "Really fine art gives you a sense of getting out of your own little world and a sense of purpose and vision that you can live off," he says. "As a culture, we have not really integrated the arts into our lives the way we should. We're all too busy making money and losing money and getting old."



A Braddock youth takes on "Mayor John" with little success.

sources have been good. And I am not spending extravagant sums."

He does have some critics. Not all the artists and newcomers have found him as supportive as they would like; some are overwhelmed as well by the work involved in being a change agent. Some large

the abandoned furniture warehouse across the street from Carnegie's majestic stone library and transformed it into an industrial-style loft home, using many parts salvaged from Braddock debris. (He and his wife, Gisele, have a toddler, Karl, and a dog named Kale.) In a hip twist, he put two old freight-car containers on the roof, now used for his wife's closet, yoga practice area, and storage space. At his invitation, local graffiti artists decorated his home and yard during the renovation, so all the kids know where he lives: at the heart of their energy and activity—across from the library, next to the youth center, and a few doors down from well-used basketball courts he had built.

FETTERMAN HIMSELF grew up in York, across the state, a mid-sized, fairly prosperous place where he played offensive tackle for his high-school football team. His father, Karl, started and still runs a commercial insurance company. "Our family is comfortable, but we're certainly not Rockefeller rich," he says. "Gisele and I live very frugally." The mayoral post pays \$150 a month.

Fetterman is a politician, but more for the bully pulpit and authority to act than any personal vanity. But his daily work is entrepreneurial and essentially extra-governmental. Braddock Redux is a small, nimble entity able to make decisions and act quickly without being mired in a political process. He doesn't have to write grants, for example, every time he wants to do something in town. "I have the financial freedom to say, 'Hey, it's 98 degrees out here and everyone's sweating and unhappy. Let's buy tickets on Fandango and take the kids to the movies this afternoon. Let's just do it!'" Is the money going to run out? "So far, so good," he says. "Levi's has been good to us and my own family re-

projects, like the renovation of the eight-story Ohringer Building, have had setbacks: the artist tenants were evicted in 2007, after which Braddock Redux bought the structure for \$15,000. But last year Fetterman got a \$100,000 Heinz Foundation grant to put up a green roof that kids in the BYP are helping create.

"We're not ready to bring in Adobe Systems or Google," he says, "but there are things we can all agree on that are fundamental and doable now."

Politically, in Pennsylvania, the county is the most powerful and primary local governing body, but each borough within it has a local elected council. The mayor's role, technically, is to monitor the police department—a job Fetterman generally leaves to the police chief, with whom he is on good terms. Some Braddock council members have criticized Fetterman for bringing negative attention to the town, and not knowing enough about the logistical aspects of town administration, while the borough manager, in an article in *Rolling Stone*, essentially said the mayor was "full of s...t" and accused him

of wanting to create "Fettermanville."

Fetterman says he feels empathy for the older people on the local borough council who "lived through the implosion of their town" and has tried to work with them, but they generally have "nothing constructive" to offer on how to improve conditions in Braddock....I don't want to get distracted with petty issues, old personal grudges, and quibbling," he adds. "We know how that movie ends because that's what's happened in the past and that's how Braddock got where it is." He depends on what he considers a better working relationship with other local nonprofits working hard in Braddock before he arrived, with the county economic development team, and with the Democratic county executive, Dan Onorato (currently running for governor). In 2009, Fetterman was reelected by a margin of nearly three to one.

In his mind, it does not take much to improve people's lives in little ways on a daily basis, while working on the more intractable problems, like bringing in employers. "We're not ready to bring in Adobe Systems or Google, we are not at that level," he says, "but there are things we can all agree on that are fundamental and doable now: opening playgrounds that are staffed for children; running a summer-jobs program that gives kids meaningful jobs." He notes that KaBoom (a national nonprofit that creates play spaces where there are none) is installing a new play-

Asian American Alumni to Gather

Register now for the Harvard Asian American Alumni Summit 2010, which takes place October 15-17 in Cambridge. Asian Americans form one of the fastest-growing segments of the University alumni body, and President Drew Faust will welcome attendees at this inaugural conference. The event also brings together a diverse array of alumni speakers, including Christopher Lu, J.D. '91, assistant to President Obama and secretary for the Cabinet, AOL Media and Studios president David Eun '89, J.D. '93, and William F. Lee '72, co-managing partner of WilmerHale and the first Asian American elected to the Harvard Corporation. An authors showcase will feature novelists Gish Jen '77, V.V. (Sugi) Ganeshanathan '02, and Tania James '03, and physician-authors Pauline W. Chen '86 and Darshak Sanghavi '92 will discuss the difficulties of twenty-first-century doctoring. For further details and registration, visit <http://summit.haaa.net>. Early registration rates end September 15.

ground this fall, down the hill from the youth center and his house, thanks to a matching grant offer from KaBoom. (He is paying \$5,000 and the local Heritage Community Initiative is paying \$2,500.) “I’m looking to do the most advanced things that are relatable to this community. Even though people thought it was strange to grow organic vegetables by the steel mill, it’s not such a radical concept that people are going to reject it.”

What’s next? “People say, ‘What’s your five-year plan? Well, I don’t have a five-year plan and I didn’t have one five years ago,” he says. “It’s not because I’m not organized or not thinking of the future. I just think that as long as you never forget the things that are really important and balance the needs in this community, then you are moving in the right direction.” At the Aspen Ideas Festival in July, where he spoke on three panels, he latched onto a new expression: Most Advanced Yet Most Acceptable. “This is what I’ve been doing intuitively,” he says. “It’s about what we can do for all the residents here that will *resonate*, while refraining from advancing some utopian version of progress that would fall flat on its face. Five years ago I never would’ve thought we’d even get this far.” ~N.P.B.

Hiram Hunn Awards

NINE ALUMNI are to receive this year’s Hiram S. Hunn Memorial Schools and Scholarships Awards, presented by the Harvard College Office of Admissions and Financial Aid. Hunn, a member of the College class of 1921, recruited and interviewed prospective students for more than 55 years in Iowa and Vermont. The recipients will be honored at an October 15 ceremony.



Richard M. Bargar

Richard M. Bargar ’72 and Terry Bargar, of Andover, Massachusetts. Bargar and his wife were recruited for schools and scholarships work by Dean L. Fred Jewett ’57 to revitalize interviewing in the greater Andover area, where the number of interviewers has grown from 20 to 50. During his 20-year tenure as the local



Terry Bargar

schools and scholarships committee chair, Rick has organized more than 2,200 interviews from that region, while Terry has interviewed candidates in the Cambridge admissions office for the last decade.



Christopher T. Bayley

Christopher T. Bayley ’60, J.D. ’66, of Seattle. For 45 years, Bayley has been a stalwart presence for Harvard in the Pacific Northwest, following the tradition of his father and grandfather. In his role as interviewer and chairman of his local schools and scholarships committee, he has served four College deans of admissions and seen the local applicant pool grow to more than 300 candidates, while broadening the geographic and socioeconomic background of that group. Bayley is also a member of the University’s Board of Overseers.

Clifford W. Erickson ’58, of Minnetonka, Minnesota. Erickson has been an admissions volunteer for more than 40 years—ever since listening to the radio broadcast of the 29-29 Harvard-Yale game of 1968, courtesy of the Harvard Club of Minnesota. In 1974, he became the club’s schools and scholarships chair and went on to expand the state’s Harvard Book Prize to cover more than 70 schools and help increase outreach efforts to attract students from previously untapped areas, such as Bemidji, Hibbing, and Duluth.



Robert C. Fazio

Robert C. Fazio ’71, of Ridgefield, Connecticut. Fazio has traveled throughout Fairfield County interviewing candidates for 34 years, 22 of them as chair of his local club’s schools and scholarships committee. He has “struck gold” with a future Harvard lacrosse captain—now physician—and endured the frustrations of a post-interview extraction (unsuccessful) of a student’s snow-trapped car from his own driveway.

Enid Llort ’79 and Michael W. Stewart ’79, of Jacksonville, Florida. This well-traveled husband-and-wife team have served in various capacities for three decades in Montreal, Atlanta, Sacramento, and Miami. Now in Florida, the couple cover a



Clifford W. Erickson



Enid Llort



Michael W. Stewart

6,000-square-mile region and chair the schools and scholarships committee of the First Coast Harvard Club. Llort has also served as the HAA Regional Director for Eastern Florida and the Islands (2006-2009), and Stewart is president of the First Coast Harvard Club.

Warren “Gus” C. Reed ’71, of Pittsboro, North Carolina. A beloved fixture in the admissions office, Reed originally worked as an admissions officer, (1977-2003), and then continued on in “retirement” as an active force in schools and scholarships work. In Halifax, Nova Scotia, where he used to live, he was president of the Harvard Club of Atlantic Canada (2003-2007); he is now secretary of the Harvard Club of the Research Triangle in North Carolina.



Warren C. Reed

Michael H. Popernik ’59, of New York City. A veteran of more than two decades of schools and scholarships work, starting in Rochester, New York, and then as committee chair in both Los Angeles and New York City, Popernik has been a prime mover in finding students for Harvard from many sources. Popernik himself applied to Harvard from a small Ohio steel town, an experience that has led him to recruit far and wide, especially for students from atypical backgrounds.



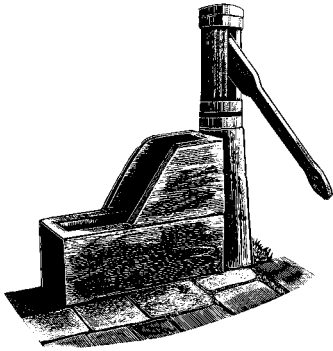
Michael H. Popernik

D. Donald Peddie ’41, of Minneapolis. A virtual schools and scholarships “Hall of Famer,” Peddie’s long-term loyalty to Harvard admissions spans more than 40 years, and the tenures of multiple deans. The energy and leadership he brought as the cochair of the local schools and scholarships committee for 30 years were once noted by President Nathan Marsh Pusey in a talk delivered to alumni in Minneapolis.



D. Donald Peddie

Brat. Faker.



"Your wooden arm you hold outstretched
to shake with passers-by."

RESPONDING to a national committee of petitioners urging the city to recognize "one of the most important journalists of his generation," the Cambridge City Council has designated a piece of real estate to honor David L. Halberstam '55, who died in a car crash in 2007.

The city will dedicate Halberstam Square, at the fork in the road between Bow and Mount Auburn streets, at a public ceremony on October 6 at 4 P.M. Speakers at the event will be Cambridge mayor David Maher, *Harvard Crimson* president Peter Zhu '11, Cambridge African-American Alliance president Renae Gray, Princeton professor Stanley Katz '55, Ph.D. '61, and Halberstam's daughter, Julia. A reception at the *Crimson* will follow. As an undergraduate, David Halberstam reportedly spent 50 to 60 hours a week in that Plympton Street sanctum. He served as sports editor and ultimately as managing editor. "He wore a trench coat and drooped a cigarette out of the side of his mouth," according to one account, to emulate not establishment men (as many classmates did), but "the old hard-drinking, underpaid, socially marginal news reporters of the past." In the evening, the Institute of Politics will host a forum about the role of investigative journalism in social change.

Halberstam recalled that, after Harvard, "I had to learn how to go out and interview ordinary people." He took a job at Mississippi's smallest daily, the *West Point Daily Times Leader*. He moved on to the Nashville *Tennessean* and reported on the civil-rights movement. He covered the Vietnam War for the *New York Times*, shared a Pulitzer Prize for his work, and later, as a freelancer, wrote a bestseller about the war, *The Best and the Brightest*. He wrote many big books, on varied topics, but his "inner, secret favorite" work, he once revealed, was a small one, *The Amateurs*, about sculling.

Fellow journalist William Prochnau met Halberstam in Vietnam and described him to Brian Lamb, the host of C-Span's *Booknotes*, as "a brilliant brat....He was 28 years old. He was a man of great passions, great angers. He felt the government was deluding itself as much as deluding the American people. It drove him to fits."



IMITATION GREEK. New Directions publisher James Laughlin '36, in a cheerful posthumous collection, *The Way It Wasn't*:



From the Files of James Laughlin, tells this story about the late Harry Levin '33 (who became a noted scholar of modernism and Babbitt professor of comparative literature) as a youngster: "Harry Levin, over the years the closest of my Harvard faculty friends, was still a non-teaching Junior Fellow when I was in college. My first recognition of his astounding mental powers came when the Classics Department put on Sophocles' *Philoctetes*, in Greek, in the Lowell House common room. Robert Fitzgerald, already an accomplished classicist, took the lead. The other big part in the play is that of Neoptolemus, son of Achilles, who went with Odysseus to Lemnos to persuade Philoctetes, to whom Hercules had given his magic bow, to join the siege of Troy. The director was Milman Parry, the famous scholar who showed the survival of the Homeric epic in the contemporary oral poetry of Yugoslavia. A few days before the performance Neoptolemus fell ill. Parry had no understudy. But he had heard of Harry Levin's fabulous memory. The story goes that Parry locked Levin in his study and taught him the whole long part phonetically. None of us who watched the play suspected that Harry was not a practiced Greek student. He was word and accent perfect."

~PRIMUS V

A signpost outside a gray wall at Pavlodar State University, in northern Kazakhstan, points the way to the red brick of Harvard and the gleaming spires of Oxford and Cambridge. Daniel Gutterman, LL.B. '55, of New York City, took the photograph this spring when he taught business transactions and law at Innovative University of Eurasia, also in Pavlodar.

THE MINDFULNESS CHRONICLES

(continued from page 45)

cally significant result. The comparison group showed no change at all.

More recently, in an experiment with her student Alia Crum '05, now a doctoral candidate at Yale, Langer extended these ideas to health in general. "We took a group of 84 hotel workers"—people who "mindlessly" claimed they never exercised, but spent their days on their feet cleaning rooms and pushing carts—"and told half of them that their work *was* exercise... just like being in a gym," Langer explains. One month later, the experimental group showed statistically significant changes—those room attendants had lost an average of two pounds each, lowered their blood pressure by 10 points, and reduced their waist-to-hip ratios; none reported any change in eating habits or working hours.

"Now contrast the way we talk about cancer to the language we use to describe a cold," says Langer. "We think of each cold as a new one—we're not 'in remission.'"

Many reported having done *less* exercise than usual. In the control group, however, there were no significant changes. "That group," Langer says, smiling, "actually *gained* body fat."

This is an instance of the well-documented placebo effect, Langer explains at the medical school conference, only in her version, there's no sugar pill. She has spent the bulk of her career trying to "make this process more direct," she says—to achieve the effect *without* the pills. "It's not the placebos at work here": it's the mindset we adopt when we take them.

Context matters, she explains ("I can see a candy bar from a great distance when I'm hungry," she tells the audience); in another experiment, she showed that merely inverting an eye chart so that the large "E" is on the bottom can make people read letters they couldn't see before. "Because it gets progressively smaller," she says, "the [standard] eye chart itself tells you, 'Soon, you're not going to be able to see.'"

Such findings have very real ramifications for many fields, but none more important than health and medicine. This is the topic of *Counterclockwise*, in which she argues that our mindless decisions—our deference to doctors' opinions, our willing-

ness to accept diagnoses, even the way we talk about our illnesses—can have drastic effects on our physical well-being. In a study currently submitted for publication, Langer, Shelley Carson (an associate of the department of psychology), and Aline Flodr '07 asked breast-cancer survivors whether they considered themselves in remission or cured. The "cured" group reported better general health, more energy, less pain, and less depression. The research was correlational: its findings suggest a relationship between variables, but cannot prove causation. But as Langer and her colleagues write, "[T]he extremely significant results of this study warrant further research and a possible rethinking of how to instruct breast cancer survivors to envision their relationship with the illness."

"Now contrast [the way we talk about cancer] to the language we use to describe a cold," says Langer, embarking on one of

her more controversial claims. "We think of each cold as a new one—we're not 'in remission.' Why is a cancer-free survivor 'in remission,' but someone who's never had it deemed 'healthy?'" (Few, if any, have challenged this claim in writing—Langer has not yet published the "cured versus remission" study—but cancer cells, unlike a cold virus, can and sometimes do remain undetected in the body after symptoms have disappeared.)

Langer believes that the more we adhere to labels and categories, the less open we are to possibility. "What if we called alcoholism an allergy instead of a disease?" she asks in *Counterclockwise*. "How many people trying and failing to have a baby are labeled 'infertile?' ... Why exercise and take medication if one is likely to die soon anyway?"

"In medicine, we pretend that human biological responses are predictable, but they're not," says Deepak Chopra, M.D., who credits Langer with a profound influence on his thinking as a young doctor, and later as an author and lecturer on spirituality and mind-body medicine (see "The Chopra Prescriptions," September-October 1989, page 22). "As doctors, we are trained and conditioned to look at the

human body as a frozen anatomical sculpture," he adds, "but you can have two patients with similar problems and medical histories whose outcomes will be totally different, depending on their own social variables and thinking."

This, too, is Langer's point, which she hopes both physicians and patients will heed. Doctors don't know when a patient will die, they know only what studies of other people have told them statistically. A "terminal" diagnosis, she says, may be a self-fulfilling prophecy. No records tell how often doctors' prognoses are wrong.

Although all her lectures differ somewhat, Langer often includes a PowerPoint slide with a quotation from Arthur Schopenhauer: "All research passes through three phases. First, it is ridiculed. Second, it is violently opposed. Third, it is accepted as self-evident."

Langer sees her work as largely still in stage two, but unquestionably headed toward stage three. "This theory [of mindfulness], it's so simple," she told the medical-school audience. "A third of people with virtually all disorders self-heal using placebos," she said. But it's not the placebo that affects recovery: "You're making yourself better."

This simplicity may be the key to her wide appeal. Her research describes practical problems and provides practical solutions that can be applied without changing a thing. "You don't have to meditate or go on a retreat," she explains. "You don't have to *do* anything." As a result, readers have flocked to her psychology books, and lectures fill to capacity. Now, with a film in the works, her audience is poised to expand exponentially—and Ellen Langer can't wait.

"Virtually all the world's ills boil down to mindlessness," she says. If you can understand someone else's perspective, then there's no reason to be angry at them, envy them, steal from them. Mindfulness, she believes, is a tool for the masses that can prop open our minds. "It's not something you have to strain to do, it's like those optical illusion brain teasers," she says. "Once you've seen there is another perspective, you can never *not* see that there's another point of view." ▽

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Don't Eat Amanitas

A bad-news mushroom

NORTH AMERICANS on rambles through the woods may come upon any of thousands of species of wild mushrooms. A very few are delicious. Probably none is more lethal than *Amanita phalloides*, the death cap. Ingesting it causes cell necrosis, especially in the liver and kidneys. Although scientists have learned the formu-

las of its toxins, no antidote exists. Death occurs in 20 percent to 30 percent of cases. Although now widespread in North America, the mushroom is not indigenous and may have been imported from Europe among cork or oak tree seedlings. It is a mycorrhizal fungus, often found growing among the roots of oaks. Campers, do not sauté a mess of these for dinner.

Instead, see an online exhibit devoted to the death cap at www.huh.harvard.edu/libraries/Amanita_exhibit/intro.htm. Consisting of materials from the Farlow Library and Herbarium of Cryptogamic Botany, the exhibit explores the naming of the fungus, poisonings by it from Australia to Alabama, the way it has been shown in botanical illustration from 1727 onward, and its appearances in literature and even music. The culprit is shown at left in Thomas Taylor's *Student's Hand-Book of Mushrooms of America Edible and Poisonous* (Washington, D.C., 1897).

The library has also mounted an online exhibit of images documenting the history of mycological illustration (see www.huh.harvard.edu/libraries/mycology/illustration.htm). It begins with the very first published depiction of a fungus, a woodcut from 1491, and goes on to show how advances in the technology of image reproduction led to increasing precision in illustration. Among the earliest works to be printed using li-



thography was *Illustrations of the Fungi of Our Fields and Woods* (London, 1864-65), by Sarah Price (at right), and one of the finest was Émile Boudier's *Icones Mycologicae* (Paris, 1905-10). Its image of *Cortinarius* is reproduced here (at top). Several species in this huge genus are poisonous, but if you're thinking of doing someone in, you might as well stick to amanita, remembering Isaac Asimov's advice, in *Ellery Queen's Mystery Magazine*, that "A salad with diced amanita/Will kill with the speed of a cheetah." ~C.R.



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