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Clayton Christensen on innovation





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On the cover: Illustration by Taylor Gallery

Cambridge 02138

Humanities hubris, hoop humor, undergraduate prolixity

ANTIBIOTIC RESISTANCE

THANKS for the fine article on antibiotic-resistant bacteria by Katherine Xue ("Superbug," May-June, page 40). Patient demand and doctors' compliance turned antibiotics into monster-makers. A favorite teacher of medical microbiology at the University of California, San Francisco, Ernest Jawetz, stressed the importance of prescribing an antibiotic only after culturing



the affected area. Too many doctors skipped that step to accommodate patients, so resistant organisms grew and turned hospitals into danger zones. A psychiatrist, I never prescribed antibiotics, but heard the warnings again at Harvard School of Public Health. Unfortunately, the facts of microbial life were brushed aside by doctors too willing to please rather than counsel their patients. The profuse distribution of hand sanitizers

7 WARE STREET

Meet Harvard²

BEGINNING with this issue, New England readers will see a renamed, redesigned, and—most important—reconceived special section in their copies of *Harvard Magazine*. Harvard² ("Harvard Squared") replaces the previous regional section, which has included a campus-events calendar, features on aspects of New England life, and a review of a local restaurant. (In both incarnations, the contents serve those who live in or visit the area often; those farther flung around the globe can access the regional coverage readily online.)

Harvard² intends to offer much of the previous content—and more. We will look beyond the University to include other arts and cultural events in the calendar listings, and feature the cultural, historic, and natural amenities that have increasingly attracted residents and visitors—for good reason. Harvard faculty and staff members, students, and magazine colleagues will share their favorite ideas—as will local alumni. And we will broaden our coverage of dining options to encompass the people, places, and products that contribute to the region's culinary scene.

Harvard² will also have a new and more

useful home at harvardmagazine.com and through our mobile app, to facilitate your use of the region's resources. We're fortunate to work and live in this rich and engaging environment, and look forward to making it more accessible to you. We welcome your comments and suggestions.

WITH THIS ISSUE, we extend our profound thanks to Katherine Xue '13, a former Ledecy Undergraduate Fellow at the magazine and, this past year, a full-time colleague. She has contributed important feature articles on the sciences (with others still in the pipeline), and a great variety of vivid news reports online and in *John Harvard's Journal*. Katherine leaves, as planned, for the genome-sciences doctoral program at the University of Washington. She goes with our warm best wishes—and our hope that she will continue to combine her interests and skills, in writing and in science, in the years ahead.

We also welcome our first Daniel Steiner Undergraduate Editorial Fellow, Francesca Annicchiarico '16, a Dunster House resident and social studies concentrator from Portogruaro, Italy. She began reporting in mid May, as the spring semester ended, and will serve readers into mid summer. We're lucky to have her.

—JOHN S. ROSENBERG, *Editor*

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To Sit at the Welcome Table

HARVARD IS, at nearly 400 years old, still a work in progress. It endures because it changes. In its most recent century, one of the ways it has changed most dramatically is its ever wider inclusion of students and faculty from groups who were for many years not seen as an accepted part of its community. The outreach to students of limited financial resources began with President Conant's program of national scholarships in 1934 and has become, through our financial aid initiatives, a commitment to affordability that now means one in five of our undergraduates are from families with incomes below \$65,000 per year. Once a place where Booker T. Washington observed that he felt like "a huckleberry in a bowl of milk," Harvard today is committed to building and supporting a student body of broad ethnic and racial diversity. Our incoming undergraduate class includes more African American and Latino students than ever before, 10.7 and 11 percent of the class respectively.

For women, as for minorities and low income students, things at the university have changed significantly. When I arrived here as Dean of the Radcliffe Institute in 2001 and immersed myself in the history of women at Harvard, I learned that I would not have been permitted to enter the undergraduate library until it opened to women in 1967, the fall of what would have been my senior year. That year, there was one tenured woman in the Arts and Sciences faculty.

Harvard has changed, but not enough. Today only about a quarter of the tenured faculty is female, and just one in ten of the faculty are Black, Latino, or mixed race. While these numbers suggest progress, they also underscore that we have a considerable way to go. We can and must do better. What's more, such statistics only tell us about access; they don't address the issue of inclusion: of how individuals who join our community regard their experience here. Just as we endeavor to attract the very most talented individuals, so we must provide an environment that fully nurtures those talents. This spring, a number of events have underscored the work that remains before us.

A theatre piece entitled "I, Too, am Harvard," written and performed by a group of African-American students in the College, powerfully highlighted issues of marginalization and exclusion. It has sparked campaigns to address these concerns, here and at other universities. Its creators have reminded us that America is far from a post-racial society and that our national heritage and history of racial injustice persists.

An intensifying national focus on issues of sexual assault on college campuses has heightened our attention to the challenges sexual assault poses to the very foundations of inclusion and belonging: the fundamental safety and well-being of members of our community. Students have recounted experiences that have absolutely no



place in a community that depends on openness and trust as an essential element of its very purpose. We must and will do better in committing ourselves to battling sexual assault and supporting its survivors.

In 1925, Langston Hughes published a poem entitled "I, Too" that served as inspiration for our talented undergraduates, as it has for so many individuals over the past nine decades. Relegated to eat in the kitchen, Hughes proclaims "Tomorrow, I'll be at the table." 2014 is well beyond tomorrow. It is time for Harvard to ensure the fundamental justice that guarantees every member of this community an honored seat at the welcome table. Every group that makes up this richly diverse institution must feel confident in affirming, "We, Too, are Harvard." We are at once many Harvards, one Harvard. That is our strength.

Sincerely,

A handwritten signature in dark ink, reading "Drew Faust".

is another example of selling non-remedies to an uninformed and gullible public. Bacteria adapt: what doesn't kill them makes them stronger.

E. JAMES LIEBERMAN, M.P.H. '63.
Potomac, Md.

KATHERINE XUE's article is a wake-up call for urgent action to protect antibiotics. The author is right to note that the Food and Drug Administration's (FDA) voluntary plan for countering routine livestock use of antibiotics is but a small step in light of the maturing scientific consensus that the widespread overuse of antibiotics on industrial farms contributes to the spread of antibiotic-resistant bacteria.

The FDA's plan to promote "judicious" use of antibiotics by the livestock industry, adopted late last year, relies on voluntary compliance by the pharmaceutical industry and ignores the biggest use of these drugs: to compensate for crowded, unsanitary, and stressful feedlot conditions. Letting industry police itself won't work. We don't give our kids antibiotics to prevent disease because we don't keep them in squalor; we should not risk these "miracle drugs" so that livestock can be kept more cheaply.

Today, 80 percent of the antibiotics in the U.S. are sold for use by farm animals rather than people. We can't stop the crisis of antibiotic resistance unless the livestock industry is part of the solution. FDA can move to require stricter controls now.

PETER LEHNER '80
*Executive Director, Natural Resources
Defense Council
New York City*

THANKS FOR PUBLISHING "Superbug," but there is one important perspective missing. No one will ever get an antibiotic-resistant infection in the hospital if they don't get an infection in the hospital in the first place. Yes, better antibiotic stewardship in hospi-

tals is important, as is reducing unnecessary antibiotic use in people and animals, and so is research on new antibiotics. But leading hospitals have shown that it is possible to markedly reduce the risk of healthcare-associated infections in hospitals—in some cases essentially to zero—through assiduous attention to the details of patient care, and many other hospitals are making remarkable progress by following their lead. Hospital-acquired infections due to sensitive strains of *Staphylococcus aureus* and *Enterococcus* species are no picnic either. We should be doing everything we can to eliminate infections like central-line-associated bloodstream infections, catheter-associated urinary-tract infections, and surgical-wound infections, without regard to antibiotic resistance; the problem of antibiotic-resistant infections in healthcare settings will then become almost invisible.

RICHARD S. HOPKINS '68, M.D., M.S.P.H.
Tallahassee

I WAS PLEASED to see the article on antibiotic resistance. However, its explanation for why most "large pharmaceutical companies have abandoned antibiotic research and discovery" described the industry's symptoms but failed to diagnose the nature of its disease.

The FDA makes approvals of antibiotics more difficult than for other drugs, which has predictably left the world with a paltry antibiotic pipeline. For antibiotics, the FDA has historically stiffened its already stringent "safe and effective" test by layering on demanding comparative tests. It has also historically refused to allow clinical tests by pathogen and required sponsors to prove efficacy in each of dozens of organs. These and other policies have brought us to the brink of an agency-wrought public-health nightmare.

Current FDA commissioner Margaret Hamburg '77, G '78, M.D. '83, deserves credit for moving the agency away from some of its worst policies, but time will tell whether she forced enough change fast enough to save the millions of lives at risk.

MICHAEL J. ASTRUE, J.D. '83
Belmont, Mass.

The author was general counsel of the U.S. Department of Health and Human Services (1989-1992) and chair of the Massachusetts Biotechnology Council (2000-2002).

I WAS especially glad to see that the article emphasized the importance of rapid diag-

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nostics. However, this discussion was focused on developing rapid diagnostics for use in hospital settings. Given that most antibiotic over-prescribing occurs in response to common ailments presented in outpatient clinical settings, I think deploying rapid diagnostics in primary-care practices would be even more important.

I am always struck by how quickly primary-care doctors prescribe antibiotics when it is not at all clear, in fact is perhaps unlikely, that a bacterium is the cause of the ailment at hand. Why not stop and run a test, especially since the illness is not life-threatening (as it can be in the hospital setting)? I suspect the cost of lab work is the cause. How short-sighted, given that the cost of increasing antibiotic resistance seems far more significant and far-reaching. There is something wrong with the incentives in our healthcare system. The availability of rapid diagnostics could help. I understand that rapid diagnostics already exist in outpatient clinical settings in Europe. Why not here? Perhaps scientists at the Harvard-wide Program on Antibiotic Resistance can learn from their colleagues in Europe.

JEAN M. MURPHY, M.P.P. '86
Arlington, Mass.

THIS ARTICLE on "superbugs" may have accidentally stumbled across the answer to America's great question of the era: why are we all getting so fat? In discussing the use of antibiotics in livestock farming, the author points out that "for reasons still poorly understood, small amounts of antibiotics regularly mixed into feed make young animals gain weight up to 8 percent more quickly...." What about small amounts of antibiotics regularly mixed into meat consumed by humans? This needs further research.

MARIAN HENRIQUEZ NEUDEL '63
Chicago

HUMANITIES HUBRIS?

WHILE IT IS REASSURING to learn that faculty members in the humanities are trying to arrest and reverse the decline in their number of majors, two things occur to me upon reading "Toward Cultural Citizenship" (May-June, page 35).

First, why weren't those same faculty members contacting alumni who teach in the humanities at schools where there is no similar decline? For example, at my own institution (a private liberal-arts col-

lege in Minnesota), the number of history majors is growing steadily and approaching its all-time high. The classics, religion, and English are in fine shape as well. Maybe we, and other schools like us, know something that Harvard doesn't. But, as usual, our experience and insights aren't sought. Instead, Harvard comes up with its own plan, which leads to my second observation.

According to the article, the authors to be read in the new humanities colloquium consist entirely of white males from Western cultures. Is this the 1960s? Maybe Harvard's enrollment problem is related to its taking an approach that today's students reject. In high school, they are increasingly taught world history and world literature. They come to college eager to study other cultures and other peoples. When they study U.S. history, it's not their grandparents' curriculum. The research conducted by Stanford's Sam Wineburg shows that high-school students name non-whites such as Martin Luther King Jr. and Rosa Parks as the greatest Americans, which he connects to the way they are taught U.S. history in school.

Don't get me wrong. I teach medieval and early modern European history. Shakespeare and Luther are among the writers I believe every college student should read. But if we tried to build our curriculum entirely around U.S. and European history and assigned only white male authors, we would be losing majors, too. Asian history is the most popular specialization in our history major, and has been for a few years. Courses on gender history and queer history fill every time they are offered. Our students love medieval European history, too. But it is the diversity of offerings and of the voices they read and hear in our classes that keeps them coming back for more, and draws them to major.

So, Harvard humanities faculty, how about not looking down your noses at alumni in fly-over country, and see what you can learn from us?

ERIC J. CARLSON, PH.D. '87
Professor and chair of history,
Gustavus Adolphus College
St Peter, Minn.

IT IS ENCOURAGING to learn that Harvard professors are concerned about the sharp decline in student majors in the humanities and the corresponding impact on the

University's ability to teach the skills "that remain exceedingly important to being a citizen and an educated person."

This alarm is rather ironic since Harvard and other "elite" universities have for decades systematically eliminated required undergraduate general-education courses in the humanities. It should also hardly come as a surprise that persistent attacks on Western ideas and institutions, the allure of race, class, gender, and critical theory in the classroom, and the politically correct hostility to dissent and the free expression of ideas have undermined the "relevance" of the humanities for college students. The claim that Harvard is doing "an enormously courageous thing" by rediscovering the primacy of the humanities in undergraduate education is too self-serving and self-congratulatory by half. But, better late than never.

SHELDON M. STERN, PH.D. '70
Newton, Mass.

HOOP HUMOR

MY BROTHER AND I, both Harvard grads, were amused to see our father, E.C.K. Read '40, highlighted in the most recent Yesterday's News (May-June, page 23). His exploits as *Harvard Lampoon* editor and winner of the Wellesley Hoop Race are part of the family lore. Ned was also featured that year in *Life Magazine* and, much to his own amusement before he died, was invited to address the Wellesley class of '39 at its fiftieth reunion. Separately, his [1973] Letter to the Editor [of this publication] about postgraduate nightmares of being late for an exam, without his pants or #2 pencils, triggered a firestorm of corroborative responses.

His classmate, Jack Kennedy, may have been better known, if less "notorious."

JOHN C. READ '69, M.B.A. '71
Briarcliff Manor, N.Y.



Visit harvardmag.com/extras to read the letters triggered by Read's dream letter.

COLLEGIATE PROLIXITY

NOAH PISNER'S "Word-upmanship" (The Undergraduate, May-June, page 30) is truly a delight.

But really, he should be more precise. If *lexiphane* means "someone who shows off by using big words," then his substitutes miss out: *prolix* has something to do with Latin "pouring out," hence "windy," but not "showing" (please turn to page 86)

Right Now

The expanding Harvard universe

IN THE DNA CAVE

Human-Family Reunions

TO THE trained interpreter, the human genome is a record of the human past. Ancient environments leave their imprint through natural selection; meanwhile, patterns of genetic similarity among different individuals hint at aspects of their shared history, ranging from family relationships to mass migrations that happened thousands of years ago.

With the advent of powerful new sequencing technology, genomes past and present are shedding new light on early human history. “Genetics tells you about the movements and relationships of people,” says David Reich, professor of genetics at Harvard Medical School. “These were dark spots, black spots, unknowns for a lot of archaeology.”

The past that has come to light is more complex than researchers had suspected. In 2010, as part of the effort to sequence the Neanderthal genome, Reich and colleagues came to a surprising conclusion: sometime in the distant past, not long after moving out of Africa, mod-

ern humans interbred with Neanderthals. In fact, pieces of Neanderthal DNA live on today, in people of European and East Asian heritage.

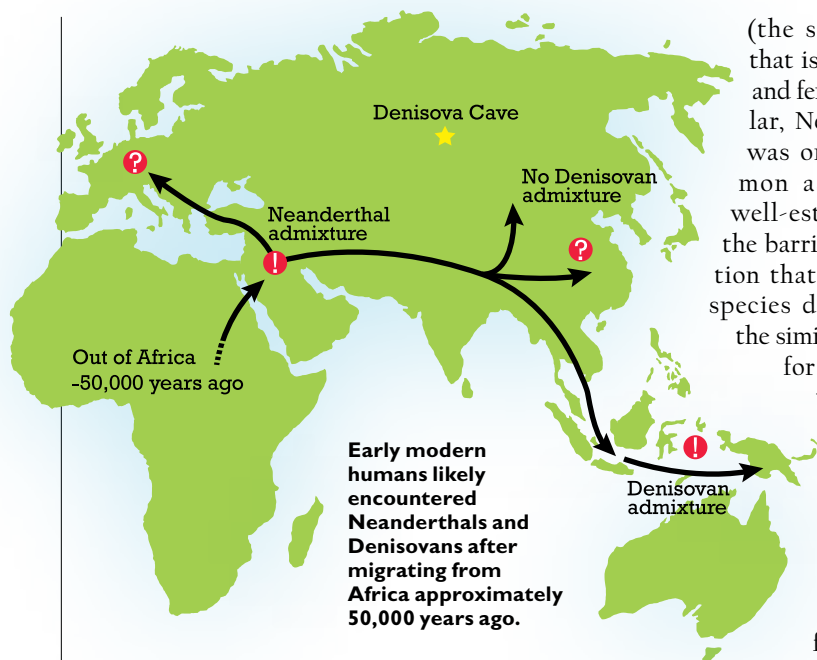
In a paper published in *Nature* this January, Reich’s lab identified the lingering traces of this genetic mixture by comparing the genome of a Neanderthal with those of about 1,000 present-day humans. “In each

person, you have a personal map that shows where the little bits of Neanderthal ancestry are,” Reich explains. “Each person’s map is quite different...You might have Neanderthal ancestry at your beta-globin gene, and I might not, or vice versa.”

In Europeans and East Asians, these pieces summed to an average of about 2 percent of the genome. But the areas of Neanderthal ancestry were not randomly distributed; in some regions of the genome, in fact, nearly two-thirds of Eurasians showed Neanderthal descent. Natural selection seems to have favored the associated genes, which disproportionately af-



The ancestors of modern humans interbred with other early hominids, including Neanderthals.



fect skin and hair, and Reich's team hypothesize that they helped modern humans adapt to their new, non-African environments.

Other details about the interbreeding have surfaced as well. Nothing in the archaeological record so far suggests when or where humans and Neanderthals met, but using genetic evidence, Reich estimates that their last encounters occurred 47,000 to 65,000 years ago. Likewise, he and colleagues found that humans today are most closely related to a Neanderthal individual whose remains were found in the Caucasus Mountains, even though Neanderthals were known to have lived primarily in Europe.

Nevertheless, many aspects of the interbreeding remain in the dark. "We don't really know how many matings there were," says Reich. "We don't know if it was Neanderthal males and modern human females, or the reverse, or equal numbers of both." Nor is it clear *why* the interbreeding occurred—whether it was consensual, or influenced by factors like warfare or a need for mates at a time when modern humans were likely outnumbered.

The evidence does show, he says, that "when modern humans and Neanderthals met and mixed, they were already at the edge of biological incompatibility." The recent study located genomic "deserts" where Neanderthal DNA was rare, suggesting that natural selection may have purged Neanderthal gene variants harmful for humans. On the X chromosome

(the sex chromosome that is shared by males and females) in particular, Neanderthal DNA was one-fifth as common as elsewhere—a well-established sign of the barriers to hybridization that develop as two species diverge. Even so, the similarities necessary for genetic mixture to have occurred

remained: "Neanderthals and modern humans are closer to each other than might have been thought before," Reich emphasizes. "They met,

they interbred...they produced offspring, and those offspring were raised by one or both parents and contributed to the modern human gene pool."

More broadly, Reich has found that species boundaries among early hominid groups were by no means *fixed* boundaries. In 2010, the genome sequencing of an ancient finger bone from a Siberian cave identified an entirely new hominid group, distinct from both humans and Neanderthals, which Reich and collaborators

named the Denisovans. The Denisovans, too, once interbred with the forebears of modern humans—Polynesians and Aboriginal Australians show evidence of Denisovan ancestry—and Reich's team now suspects that Neanderthals interbred with Denisovans as well. More genome sequences, both ancient and modern, are needed to understand all the hypothesized admixtures, but the familiar human evolutionary tree already seems more tangled than previously thought.

Genetic evidence has its limits. It is difficult or impossible, Reich says, to detect migrations of closely related people using genomic techniques. For instance, the powerful techniques that identified pieces of Neanderthal DNA have not been used successfully to detect a genomic signature from the barbarian invasion of Rome, despite its occurring much nearer the present—though Reich thinks that more careful study, combined with additional samples of ancient DNA, may shed light on this and other events in human history. "Genomics tells you something that's quite complementary to archaeology," says Reich. "It's another very rich source of information about the past."

~KATHERINE XUE

DAVID REICH WEBSITE:

http://genetics.med.harvard.edu/reich/Reich_Lab/Welcome.html

GOLIATH FALLEN

A Hemlock Farewell

THE DARK but delicate beauty of hemlocks has inspired writers for centuries—Henry David Thoreau, Emily Dickinson, Ernest Hemingway, and Robert Frost among them. David R. Foster, senior lecturer on biology and director of the Harvard Forest, recently joined that list with the publication of his new book, *Hemlock: A Forest Giant on the Edge* (Yale). His message is melancholy: within the next 10 years, hemlocks in forests across the United States are projected to die off completely.

A tiny insect, the woolly adelgid, which originated in Asia, is killing these giant evergreens. It's slowly been doing so for

nearly 60 years, Foster says, and at last, the hemlock population has reached a critical point. There's nothing science can do to stop it. The adelgid "basically sucks the sap out of the tree and deprives the tree of nutrients and sugar for energy—that's why it's a slow process," he explains. "It's not something that comes in and eats all the needles and just kills the tree outright—it takes a while because it's basically competing with the tree for the tree's own resources."

It seems ironic that these massive trees could be laid low by something so small. Hemlocks can grow more than 150 feet tall, with large canopies that shade forests

and streams. The woolly adelgid measures just three millimeters long.

In *A Forest Giant*, Foster and his coauthors (eight Harvard Forest researchers) reflect in essays on the eastern hemlock's unique value to human culture, ecosystems, and scientific research. They also document the tree's demise, turning the tragedy into a major scientific study. "This is a fundamental research question in all of science: what's the role, what's the importance, of an individual species?" Foster points out. "Since the hemlock is such an unusual species, we expect, and the results certainly seem to show, that it plays

Below: Harvard Forest director Al Cline stands next to a fallen hemlock, 1938. Right: Eastern hemlocks at Harvard Forest's Slab City wildland

a unique role, so its loss has a major impact on the way the whole ecosystem operates."

Although Foster says the loss of trees from insects or disease, especially in conditions of climate change, is a natural part of many ecosystems, scientists can learn a great deal from "foundation species" like hemlocks that influence all the surrounding species in their ecosystem, shaping and controlling conditions from the bottom up. In this case, the hemlock has an extraordinary capacity to absorb sunlight: in a thick hemlock forest, only about 1 percent of sunlight reaches the ground. The deep shade the hemlock creates "is tolerated by few other plant species and creates cool, damp conditions," Foster explains. "Thus hemlock creates an environment

that is advantageous to some [species]—salamanders, brook trout in cool streams, a handful of other plants, including young

HARVARD FOREST ARCHIVES



DAVID FOSTER



PHOTO: JULETTE FINCH

THE HARVARD CAMPAIGN FOR ARTS AND SCIENCES



SENIOR GIFT CO-CHAIRS FROM THE CLASS OF 2014 SHARE A SLICE OF THEIR HARVARD EXPERIENCE.

(FROM LEFT) FRONT ROW: ARLEEN CHIEN, PREETHA HEBBUR, KAVYA SHANKAR;
BACK ROW: TERAH LYONS, JOSHUA ZHANG

hemlocks—and that is quite distinct from that of other forests.”

Hemlocks have had an unusual history—in the eastern United States they became abundant after the glaciers melted and forests recovered, about 10,000 years ago. The species was prevalent until about 5,000 years ago, when it essentially disappeared, most likely due to a combination

of climate change and the outbreak of some type of insect or pathogen, Foster says. The trees then recovered—but not, measured in geological time, for long. “They were really hit at the time of European settlement by deforestation, farming, and so on,” he continues. In modern times, they staged another comeback and were “actually poised to become an in-

creasingly big part of the landscape. When I arrived at Harvard in 1983, there was this long history of studying hemlock because of its important role, so I simply picked that up as a very compelling tree and as a very compelling subject for study. The Arnold Arboretum had a beautiful old forest of hemlock, called Hemlock Hill, and we started studying that about 10 years ago.”

Meanwhile, the woolly adelgid had arrived in the Southeast in the 1950s. It began spreading north in the mid 1970s, arriving in New England in the early 1980s, according to Peter Del Tredici, senior research scientist at the Arboretum, where adelgids have already killed hundreds of trees on Hemlock Hill. The insect is now present through an entire range of hemlocks, from North Carolina to southern Vermont, southern New Hampshire, and southern Maine.

Foster and other Harvard researchers expect to spend the next few decades



Visit www.harvardmag.com/extras to view several videos on the decline of the hemlock.



Hemlock woolly adelgids on an eastern hemlock branch

DAVID LEE

{Where Two Worlds Meet}



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ALUMNI SHOW GRATITUDE THROUGH ANNUAL SUPPORT

Clare Putnam Pozos '04 followed a well-traveled path to Harvard College, while her husband, Tony Pozos '04, blazed a new Crimson trail in his family. They're both grateful to Harvard for shaping their futures, and they've demonstrated their appreciation through annual gifts to the Harvard College Fund.

Due to this loyal commitment, the Pozos are among the more than 19,000 members of the 1636 Society, which recognizes donors who give to Harvard every year, beginning with five consecutive annual gifts (three for recent graduates).

"Harvard helped us become the people we are today, and we feel it's important to show our support by contributing every year," Clare says.

Clare's parents, grandfather, and great-grandfather went to Harvard (Classes of 1973, 1940, and 1918), and she is thankful she followed the advice her father imparted her freshman year. "He encouraged me not to get stuck in the library every weekend because the people I would meet at Harvard would be some of the most important people in my life," she says.

Clare lived in Quincy House and was involved with the Hasty Pudding Theatricals, the Crimson Key Society, and The Seneca, a networking group for undergraduate women. A history concentrator focused on 20th-century American history, she met Tony in a tutorial section junior year. She went on to law school and is now an assistant U.S. attorney in Washington, D.C.—along with being mom to infant daughter Caroline.

Tony, meanwhile, came from a family with limited resources. "Harvard gave me the best financial aid package and supported me all four years," says the Santa Cruz, California,



Diego Depetris '09 (left, with girlfriend Jena Mills '11) and Tony Pozos '04 and Clare Putnam Pozos '04 (right) are members of the 1636 Society because of their loyal support of Harvard year after year.

"HARVARD WAS AN INCREDIBLE EXPERIENCE OF PERSONAL AND INTELLECTUAL GROWTH."

—DIEGO DEPETRIS '09

native. "Harvard's commitment to making the University accessible is very important to us."

An Eliot House resident, Tony was a history concentrator specializing in international relations. Among his pivotal experiences as an undergraduate: conducting independent research with Akira Iriye, Charles Warren Research Professor of American History emeritus, and spending a summer in Madrid developing his thesis on Franco. Tony believes these pursuits helped prepare him for a law career and his current work investigating international fraud cases.

PAYING IT FORWARD

Coming to Harvard—a journey made possible by financial aid—was also life altering for Diego Depetris '09, who was born in Argentina and grew up on Long Island, New York, the son of a tile worker and a house cleaner.

Depetris, an Adams House resident, was on a path to medical school, but his Harvard experiences in the classroom and beyond shifted his thinking, and he wound up concentrating in history and heading for the business world. Depetris held several positions after graduation before joining Frog, a product strategy and design firm in San Francisco. He plans to attend business school in the fall.

Depetris, also a member of the 1636 Society, relishes receiving thank you notes from undergraduates who benefit from his scholarship support. "I feel we should keep that chain going," Depetris reflects. "I don't think I can ever pay it back, but I hope to pay it forward and provide that same kind of opportunity to future generations of Harvard students."



studying the ripple effects of the hemlocks' deaths, including possible changes in the planet's carbon-dioxide levels. "This is a study that will go on for probably the next 20 years, before hemlocks completely die out in forest settings. Then it'll be a hundred years before the forests fully recover" from the loss of the species, he says.

As a *species*, at least, the hemlock will not

die: individual specimens can be sprayed with an agent that will kill the insect, keeping the tree alive. But there's no way to provide such protection to hemlocks in the wild—their end is assured. "We recognize that many practical as well as philosophical questions arise from our exploration of this great eastern conifer," Foster writes in *A Forest Giant*. "Hemlock's dilemma may provide

insights that can aid society as we grapple with the many tumultuous changes that occur in nature and our land." ~LAURA LEVIS

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<http://harvardforest.fas.harvard.edu/hemlock>

TRUE BLUE

Crafting Color

AMONG NATURAL OBJECTS, blue is perhaps the rarest color. Chlorophyll in plants creates their familiar green—giving way, in some species, to carotenoid and anthocyanin pigments that create the brilliant purples, reds, oranges, and yellows of fall. Cave paintings from prehistoric times show browns and reds—earth colors derived from minerals in soil—but no blue. Indigo and lapis lazuli later broadened the palette, but their color remains uncommon in living things.

When blue does appear—in a blue jay's feathers, for instance, or a morpho butterfly's wing—it is often created through unusual means. Most colors in nature are chemical in origin. Pigment molecules ab-

sorb certain wavelengths of light, corresponding to particular colors, while reflecting others; chlorophyll, for instance, reflects green. By contrast, some colors—and frequently blue—are *structural*: when light reaches the narrow grooves of a compact disc or the microscopic ridges of a peacock's tail feather, it bounces and scatters. Wavelengths of light that match the nanoscale distance between ridges are amplified, while other wavelengths cancel out. The materials lack hue of their own without their particular structure. Grind them up, and their color disappears.

A team of researchers led by Vinodhan N. Manoharan, McKay professor of chemical engineering and professor of physics, is working to create structural colors in the lab. Their inspiration comes in part from research on the cotinga, a tropical bird whose bright blue color comes from sponge-like pockets of air in its feathers' coating of keratin, the protein that makes up hair and fingernails. As light travels through this maze of keratin and encapsu-

lated air, some wavelengths of light cancel each other out, while others reinforce one another to create the color blue.

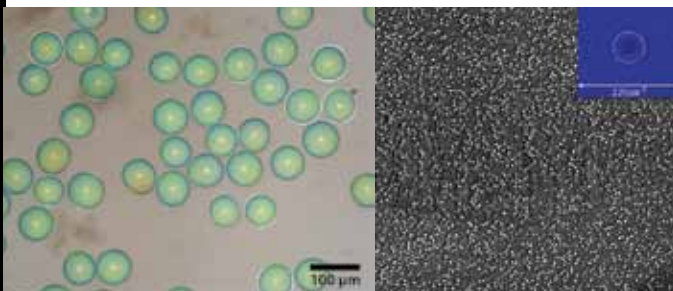
In the engineers' formulation, microscopic flecks of color function like feathers in miniature. Each is a tiny, water-filled microcapsule containing a suspension of even tinier particles of plastic, which bounce light like the cotinga feathers' air-filled pores. What's more, the capsules shrink as they dry, packing the plastic particles inside more densely, thus changing the color produced—until a dose of ultraviolet light cures the capsules, freezing their hue. In this way, chemically identical materials can yield a spectrum of color, from red to green to blue.

Manoharan and his colleagues are now working to intensify the colors produced; red, in particular, needs work. They hope their structurally colored materials may one day function in screens and displays, as well as in nontoxic paints and cosmetics. For paints especially, structural color has another advantage: light absorbed by traditional pigments triggers chemical reactions that cause them to fade over time. For structural colors, which could potentially endure, the future is bright.

~KATHERINE XUE

Inspired by the bright blue feathers of the cotinga (above), Harvard researchers are developing structural colors that mimic its vivid hue (below). Each fleck of color is a microcapsule (middle) filled with nanoscale plastic particles (right) that scatter light of a particular wavelength. The capsules shrink as they dry, changing

the density of the particles within and, therefore, the color produced (bottom).



RACHEL SARNAI

VINODHAN N. MANOHARAN WEBSITE:

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I2N Nepal in Pictures
An evolution on display at Harvard's Asia Center



Extracurriculars

Events on and off campus during July and August

SEASONAL

The Farmers' Market at Harvard

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

Organized by Harvard University Dining

Services, this outdoor market offers local goods—fresh produce, breads and baked sweets, herbs, seafood, pasta, chocolates, jams, and cheeses—along with cooking demonstrations, guest chefs, and children's

(From left) Detail of a nineteenth-century North American Indian totem pole at the Peabody Museum; Jamie Wyeth's *Kleberg* (1984) at the Museum of Fine Arts; an oaten pipes hydroid from *Sea Creatures in Glass* at the Harvard Museum of Natural History

activities. (Tuesdays in Cambridge and Fridays in Allston through October)

Bastille Day

www.harvardsquare.com

Celebrate at this annual Harvard Square party with food from Sandrine's and other local restaurants, music, and dancing into the night on Holyoke Street. (July 13)

THEATER

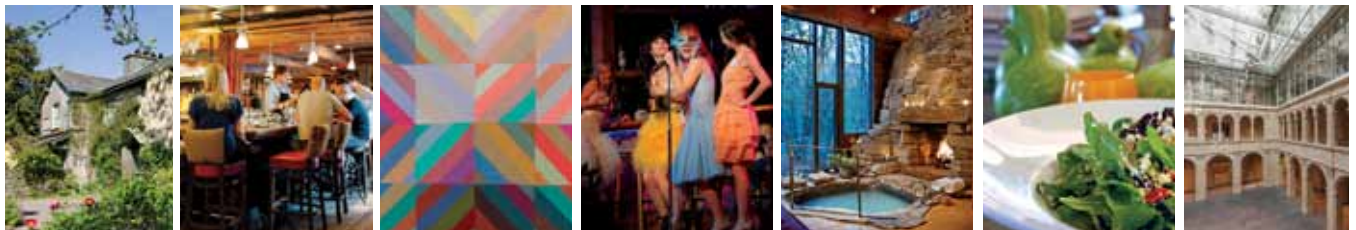
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www.americanrepertorytheater.org

Announcing: Harvard²

Harvard Magazine is excited to launch **Harvard²**, the newly redesigned regional section for alumni living in New England. It explores local history, architecture, travel destinations, arts and cultural happenings, and the multifaceted culinary scene—and the ways they inspire and enrich daily life in Cambridge, Boston—and beyond.

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THOMAS EARLE/HPAC

Delectables at the Harvard Farmers' Market, in Cambridge

The world premiere of *Finding Neverland*, portraying the relationship between the Llewelyn Davies family and James Matthew Barrie as he writes *Peter Pan*, is staged by ART artistic director Diane Paulus. (July 23-September 28)

RECREATION

Charles River Canoe and Kayak

www.paddleboston.com/boston.php

Take a leisurely paddle (no current) and learn more about the birds, fish, and other wildlife that inhabit this increasingly clean urban waterway. (Until mid October)

Sunday Parkland Games

www.thecharles.org/projects-and-programs/parklandgames

From bocce and badminton to soccer and hula-hooping, adults and children can meet at the Weeks Bridge for fun and/or lessons co-sponsored by the Charles River Conservancy. (Sundays through September 28)

EXHIBITIONS & EVENTS

Harvard Museums of Science and Culture

<http://hmssc.harvard.edu/>

The HMSC is a consortium of the Collection of Historical Scientific Instruments, the Harvard Semitic Museum, the Peabody Museum of Archaeology and Ethnology, and the Harvard Museum of Natural History.

Spotlight



HARVARD FILM ARCHIVE

Fritz Lang's science-fiction dystopia *Metropolis*, filmed in Germany in 1925, will be screened, along with other early works, such as *The Spiders* and *Dr. Mabuse, the Gambler*, and Lang's later American hits *Fury* and *The Big Heat*. "Lang is—with Hitchcock and Eisenstein—one of the most influential filmmakers ever, especially in his pioneering use of morally ambiguous protagonists and his fascination with technology and striking visual effects," says David W. Pendleton, the Harvard Film Archive programmer. "His silent films, especially *Die Nibelungen*, *Metropolis*, and *Spies*, helped establish conventions and expectations...still visible in Hollywood blockbusters today."

Harvard Film Archive

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

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Collection of Historical Scientific Instruments

http://chsi.harvard.edu/chsi_specex.html

Body of Knowledge offers a close look at skulls, spines, and other skeletal remains while explaining the history of anatomical studies and practices.

Peabody Museum of Archaeology and Ethnology

www.peabody.harvard.edu

Change and Continuity: Hall of the North American Indian. Objects produced by the diverse cultures of indigenous peoples highlight historic interactions with Europeans during a time of profound cultural change.

Harvard Museum of Natural History

www.hmn.harvard.edu

Sea Creatures in Glass. Hand-crafted models of jellyfish, anemones, sea slugs, and the like by Leopold and Rudolf Blaschka (who also created the museum's glass flowers) are newly restored and on display.

Museum of Fine Arts

www.mfa.org

Jamie Wyeth looks at the artist's approach to realism, his career, and his role in a famous family of creators. The more than 100 works on display include portraits of his wife, Phyllis Wyeth, and of Andy Warhol, Rudolph Nureyev, and John F. Kennedy. (Opening July 16)

Isabella Stewart Gardner Museum

www.gardnermuseum.org

Carla Fernández: The Barefoot Designer: Passion for Radical Design and Community. The multifaceted exhibit examines the artist's work to explore, preserve, and integrate the rich heritage of Mexican textiles and indigenous artisans by using "clothing as canvas." (Through September 1)

MUSIC

Harvard Summer Pops Band

www.hcs.harvard.edu/~hub/events/summerband.shtml

The 130-member ensemble performs highlights from the Disney film *Frozen*, the music of Gustav Holst, and other martial and melodious works. (July 24 at 4 P.M. in Harvard Yard; July 27 at 3 P.M. at the Hatch Shell in Boston)

Sanders Theatre

www.boxoffice.harvard.edu

The Harvard Summer School Chorus performs a program of "Copland and Foss: Great American Choral Music." (August 1)
The Harvard Summer School Orchestra presents its annual concert. (August 2)

The Institute for Contemporary Art

www.icaboston.org

In addition to art exhibits, the ICA hosts two new summer concert series on the waterfront. The line-up for **Wavelengths** includes the radical performance artist Peaches and the synthetic pop sounds of



Centre Street Gate by Kathy Rubado, on display at the Arnold Arboretum

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STAFF PICK: Funkin' It Up

The Grammy Award-winning, New Orleans-based Rebirth Brass Band brings its unique blend of heavy funk with a hip-hop edge and horn-blasting street jazz to Cambridge this summer. The two shows offer Northeasterners the rare chance to really let go—sing, shout, and dance “second-line” parade-style—without traveling to the South’s musical wellspring. “Rebirth... is more like a party than a machine,” according to *The New York Times*. “It’s a working model of the New Orleans musical ethos: as long as everybody knows what they’re doing, anyone can cut loose.” Founded in 1983 by high-school friends in the city’s Tremé neighborhood—tuba and sousaphone player Philip Frazier, his brother, bass drummer Keith Frazier, and trumpeter Kermit Ruffins—the group played on the streets of the French Quarter, reviving that tradition, and soon recorded hits like “Do Watcha Wanna,” and later played another, “Feel Like Funkin’ It Up,” in the opening scene of *Tremé*, the HBO series about post-Katrina spiritual recovery. The band now performs all over the world and will no doubt be trumpeting their newest release, *Move Your Body*, which features the infectious “Rebirth Groove.”

July 26, The Middle East, Cambridge
August 14, The Sinclair, Cambridge
www.rebirthbrassband.com



Rebirth Brass Band

Hooray for Earth. (Fridays, July 11-August 29) **Harborwalk Sounds** offers free concerts by Berklee College of Music students, performing bluegrass, funk, Cuban jazz, and more. (Thursdays, July 10-August 28)

NATURE AND SCIENCE

The Arnold Arboretum

www.arboretum.harvard.edu

A magnificent link in Boston’s Emerald Necklace, the arboretum is a treasure trove of native plants, old-growth trees, flowers, rare specimens, and walking trails. The current

exhibit **Arnold Arboretum in Plein Air** features paintings by Kathy Rubado and Carol Schweigert that capture the landscapes of this urban sanctuary through the seasons.

Events listings are also accessible at www.harvardmagazine.com.

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Lives in Art

Early American artifacts help animate history

by NELL PORTER BROWN

THEY WERE CALLED to meals by a Grand Banks schooner's foghorn, and then ate from Staffordshire plates. Leather fire-buckets served as wastebaskets. And some light could be had from an early colonial device: a bulrush stalk soaked in tallow and "burned at both ends."

"It never occurred to us that other people didn't have a house like this," said Warren "Renny" Little '55 during a recent tour of his family's summer retreat, an eighteenth-century farmhouse known as Cogswell's Grant. "I knew nothing about the stuff," he said—his parents' pioneering collection of American folk art and antiques that still crowd the interior—although he and siblings Jack and Selina were warned not to lean too far back in the stiff wooden chairs. When something did break, he added, "Mother was very good about not yelling."

Their parents, Bertram K. Little '23, Div

'26, and Nina Fletcher Little, spent summers at the farm from 1938 until they died in 1993. The property, which also includes a historic salt-hay barn and pastoral acres along the Essex River, is now a museum owned and operated by Historic New England.

For 60 years, the senior Littles collected Americana they found beautiful and curious. In researching items, they recorded stories about their owners and makers; now each piece in its own small way illuminates the historic narrative of early America. "You don't need to be an art historian to be a collector. The desire to collect things that have an emotional connection to us is almost universal," says Historic New England site manager Kristen Weiss, A.M.-CMS '98, who gives tours



(Top) The bucolic Essex River property Cogswell's Grant, named for the 1636 royal grant given to John Cogswell, is now a house museum open to the public. **(Above)** American artifacts fill the home; a bedroom highlights the birds especially loved by pioneering collector Nina Little.

and runs events—such as the open-air painting workshops and a talk on folk-art portraits this summer. "People come here to learn about the family, what they were so passionate about, and about the history they wanted to share."

Tours cover the beehive oven (uncovered during the Littles' painstaking house-



In the hallway, an 1814 oil painting depicts the launching of the U.S. frigate *Washington* at the Portsmouth, New Hampshire, Navy Yard. In the rear stands an ingenious 1907 carved crane decoy that folds up to fit into a hunter's pack.

“The desire to collect things that have an emotional connection to us is almost universal.”

restoration project) and a rare tape loom (circa 1668-1700) used to weave fabric edging, along with one of the few surviving pre-Revolutionary wood carvings of the royal coat of arms. There are also boxes—wooden, tin, and Shaker-made—and evidence of Nina Little's particular affection for birds and eggs: clay and wooden statues and decoys of sandpipers, terns, ducks, and cranes fill shelves and nooks. And of Bertram Little's penchant for early lamps and candle holders, and depictions of architectural structures. Among the more than 2,500 objects in the 10-room house, visitors will also find weathervanes, hooked rugs, farm tools, lanterns, clocks, redware pottery, painted folk art and furnishings—and plenty of portraits of not-so-prominent people by little-known New England artists.

“What's interesting about folk-art por-

traits,” Weiss explains, “is that by the nineteenth century, a boom in itinerant painters and more people having money meant that average, middle-class people could now also have their portraits done.” Of special note are the McArthur family portraits by Royal Brewster Smith—among the many subjects and artists Nina Little traced, identified, and wrote about in more than 150 articles, five books, and several museum catalogs that fostered wider scholarship about, and appreciation for, these artifacts.

The unsmiling McArthurs hang together in the room Little used growing up, which was later reserved for the grandchildren. “The way the people stare down at you from every point in the room!” exclaimed Little, with a laugh. “Those paintings gave my little nephew nightmares.” But as a child himself, Little was intrigued by much of what his parents brought

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“They went for what appealed to them visually, and for the stories they could learn.”

home, especially the painting and collage (circa 1850) by his bed. It depicts the ocean-bound ship that brought the first Odd Fellow, Thomas Wildey, to America in 1817. Across the bottom of the painting, the history of the fraternal order is written on yellowed sheets of paper and five carved wooden figures represent the original members.

“There are a lot of quirky things here,” said Little, who spent much of his own career leading museums, such as the former Higgins Armory in Worcester, and other educational and cultural programs. His parents, he points out, were drawn to objects that others wouldn’t have noticed, or might even have trashed. “They were not snobs,” adds Weiss. “They went for what appealed to them visually, and for the stories they could learn. Nina Little’s *Neat and Tidy* is a whole book on the history of boxes and how they were made and used and decorated. It’s wonderfully strange and

very interesting.”

Influenced by Bertram Little’s cousin, Edna Greenwood, whose own Americana collection is at the Smithsonian, the couple began acquiring pieces in the 1920s, and ultimately filled Cogswell’s Grant and their year-round home in Brookline, Massachusetts. By the 1960s, they had decided to donate the property, bound by conservation restrictions, to Historic New England, of which Bertram Little had been director from 1947 to 1970.



According to Little, when Richard Nylander, their family friend and then-curator with the organization, came to inventory the house in the early 1990s, he planned to spend a few weeks. It took more like two years. Every antique was photographed, numbered, and catalogued, and noted, too, were the hundreds of other more “modern” objects, such as an old glass jar of Bactine in the medicine chest; the family’s



(Clockwise from top left) A child’s room includes imposing family portraits and a nineteenth-century hooked rug with an unusual leopard design; Nina Little’s study, preserved just as she left it; Nina and Bertram Little in the garden, 1973

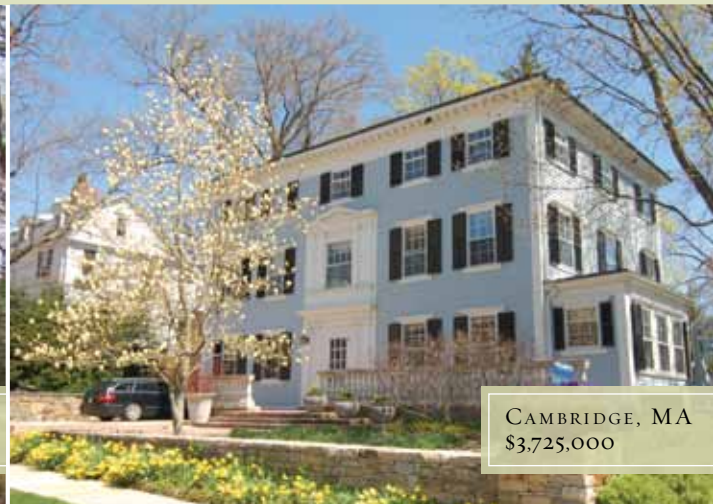
extant wine and whiskey bottles and fruit preserves in the cellar; Nina Little’s flower-print purse that still hangs on the back of her study chair, near her manual Smith-Corona typewriter (on which she wrote dates and notes on jelly-jar labels that she then affixed to their objects), a 1920s phone (it still has a dial tone); and, on a closet shelf, her husband’s straw hat, banded by a sage-green silk necktie. “People ask why the roof isn’t wood-shingled,” reported Little. “Well, because it’s not a historic museum, per se. It’s a house and we lived in it just the way it is now.”

Walking through the preserved rooms is like seeing a series of nesting boxes being slowly unpacked to reveal layers of American lives through history, all made tangibly real through ordinary objects



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both artful and personal. In her later years, Nina Little slept on the first floor in a rope bed, using a green-and-gold, yarn-sewn bed rug from 1821 made with hand-spun yarn and natural dyes. Lying there, she looked up at a gracefully carved flying goose hung from the ceiling; to her left was a box from a dry-goods store with compartments meant for spools of thread that instead held part of her beloved egg collection.

In the upstairs hallway, a wooden wind

harp set in a window plays when river breezes blow in. On a table are two hinge-boxed slates that children once used to learn their school lessons. Little opens them and reads out the names of his and his brother's children, with the dates they had visited their grandparents. All were

written in white chalk by Jack Little, along with a request: "Please don't erase."

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ALL IN A DAY: Retreat and Recreate: Peddocks Island



Skip the clogged commute to the Cape and start your vacation right now by riding the ferry to Peddocks Island in Boston. At 184 acres, Peddocks is the largest of the Harbor Islands and offers the most diverse terrain—woodlands, fields, and beaches—along with perfect views of the sun, both rising and setting, *and* the Boston skyline. "It's big enough so you can lose yourself for a day," notes Mike Dyer, vice president of development and external affairs at the Boston Harbor Alliance, "but has enough mystery to captivate you for the weekend."

Where Georges Island's Civil War-era Fort Warren attracts umpteen visiting school children a year and

(Clockwise from top left) An island overview; visitors can take a seat after touring the historic Fort Andrews chapel; evidence of the still-active summer-cottage community; and one of many First World War-era buildings at Fort Andrews

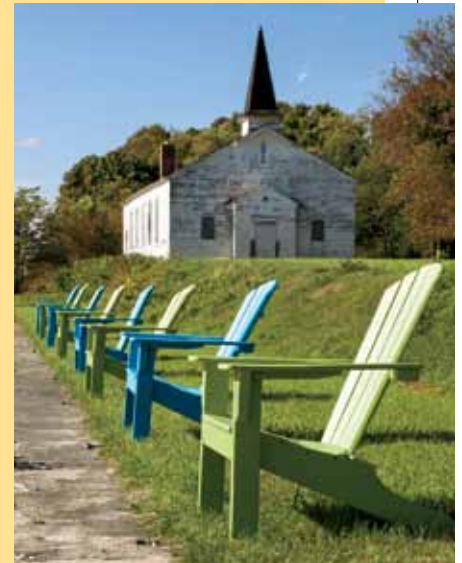


Spectacle Island's Cinderella tale proves that landfills can become stunning urban parks, Peddocks, alone, offers yurt camping. Stay in one of the luxurious canvas-sided yurts just built this year, or go more rustic at a traditional tent site. Then spend the rest of the time exploring the island's own military history, its summer-cottage colony, or go bird-watching, hiking, fishing, or swimming at sandy Petty Cove.

The island is divided by hills, or headlands: East, Middle, and West. The ferry docks at East Head, where the camping is located, and where visitors can walk among the remaining World War I-era brick buildings of Fort Andrews, including the newly renovated chapel (now open for public and private events), and learn some island history. Native Americans used Peddocks, says Dyer, before European farmers arrived in 1634. By 1776, more than 600 militiamen were stationed there to guard against British troops; the fort itself was active from 1904 through the end of World War II.

Hiking trails run throughout the island. The quarter-mile loops are good for smaller legs; for tougher types, a 2.5-mile route extends into the uninhabited West End. Hilly, tree-lined trails, rolling grasslands, and native roses and hedgerows abound. It may not be "wilderness," but as a haven in a major American city, Peddocks gets wondrously close to unspoiled nature. And any time spent there is far more rejuvenating than hours spent sitting in a hot car on Route 3.

Peddocks Island/National Park Service
Ferry runs from June 20 through September 1
www.bostonharborislands.org/passenger-ferry
For camping, www.reserveamerica.com



CLOCKWISE FROM TOP LEFT: DOG SEARLS; JUSTIN KNIGHT/
BOSTON HARBOR ISLANDS ALLIANCE; AND LIZ COOK/BOSTON
HARBOR ISLANDS ALLIANCE (2)



Food Fiesta

Latin American culinary heritage thrives in East Boston.

MOST New Englanders know East Boston only as the home of Logan Airport. But a recent tour of the wide range of Latin American restaurants and bakeries there proves that the community is a gastronomic destination on its own.

Food adventurers can walk or bike the streets and stop in for sweets like Mexican *pastel tres leches* (cake infused with sweet milk) or Peruvian-style *alfajores* (powdered cookies sandwiching *dulce de leche*), grab a savory Salvadorean *pupusa* (a thick corn tortilla stuffed with cheese or finely ground pork) to go, or settle down for a plate of Bolivian *silpancho* (potatoes or rice covered by *schnitzel*-style beef topped by a fried egg and cilantro or *pico de gallo*).

The affordable food is fresh and homemade, typically by the owners, their family members, or another local business.

"East Boston has the most diverse Hispanic population in the city," says Merry "Corky" White '63, Ph.D. '80, a cook, food writer, and Boston University anthropology professor. That blending of cultures and chefs produces both "a mixing across ethnic foodways and a preservation of foods within each group," she explains, "because everyone now lives in the same neighborhood and



Que Padre owner Victor Duran (top) serves Mexican and Bolivian specialties: beef *saltenas* and the "Sonora hotdog"—with bacon, beans, and jalapeño sauce. (Above) La Sultana Bakery sells cakes and pastries and has a savory breakfast and lunch buffet as well. Saleswoman Marleny Carmona proffers a plate of rice, stewed yuccas, shredded pork, and a beet salad with eggs, peas, and carrots.

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because all the older generation still want, and are making, their own dishes the way they always ate them.”

White teaches a course called “Boston: An

Ethnographic Study” that gets undergraduates out of the classroom and into the city’s diverse communities to learn about politics, history, architecture, urban economics—

and food. In East Boston, she starts the tour at the MBTA Blue Line’s Maverick Station, named, she says, for Samuel Maverick, who farmed the area in the 1630s with the help of slaves—“a fact that always surprises my students.”

Comprised of five islands linked by land-fill over time, East Boston by the mid 1800s was an industrial and shipbuilding center and a main port for ships, such as Cunard Line vessels, that brought the first waves of Irish immigrants. (Joseph P. Kennedy was born there in 1888.) Italians, Russians, Poles, Jews, and others followed. Some of their descendants still live in East Boston, reports White, among both waterfront gentrifiers and the newer immigrants, who are primarily from El Salvador, Guatemala, the Dominican Republic, and Colombia. Italian landmarks—Santarpio’s, Jeveli’s, and Spinelli’s bakery—are still there, as are bars like Kelley’s Square Pub. “Barney’s Grill is left over from the Irish, then it was Italian,” White adds. “Now the TVs only play *fútbol* and they serve Corona” instead of Guinness.

White shops at the many family-owned markets for ingredients such as *panela* (brown-sugar loaves), fresh *arepas* (hefty corn-flour pancakes, good topped with fried cheese, meat, or jam), and jars of *panca* pepper paste. Following are some more of her favorite places to shop or eat.

La Sultana Bakery (www.lasultanabakery.com). Simple breads and frosting-heavy Colombian cakes of all colors, along with

CURIOSITIES: Nepal in Pictures

In thousands of photographs taken between 1975 and 2011, Kevin Bubriski has helped document the dramatic evolution of daily life in Nepal, from its years as a Hindu kingdom to what he calls “the current precarious peace.”

The artist’s latest book, *Nepal: 1975-2011* (published in May by Peabody Museum Press and Radius Books), reveals his favorite prints, 30 of which are on display for the first time in *Shadows of Shangri La: Nepal in Photographs*, at the Harvard University Asia Center. Ranging from black-and-white portraits of villagers in the 1970s and 1980s to scenes with soldiers during the country’s civil war (1996-2006) and colorful depictions of commercialism and poverty in modern-day Kathmandu, the photographs are not politically driven. Rather, they aim to show “only one person’s experience, not a culture, historic period, ethnographic group, or complex social or economic condition,” he writes. “They are selected moments within the edges of a framed world.”

Bubriski first took pictures in Nepal while surveying and building water systems as a 20-year-old Peace Corps volunteer, adopting the street artist’s approach: “letting people present themselves as they are,” he said in a recent interview from his home in Vermont. One shot taken during the king and queen’s 1978 visit to Jumla (a remote northwestern mountain town that at the time was more than ten days’ walk from the closest road), he caught the awed expressions of residents who, he reports, “revered the king as the reincarnation of the Hindu god Vishnu.”

By 2010, Nepal had become a republic and the royal palace in Kathmandu was a public museum. Checking his camera at the gates, as required, Bubriski toured the monarch’s former bedroom, bathroom, and rear gardens. Markers showed where nine family members were killed in 2001, allegedly by the crown prince. That, he adds, juxtaposed with an image he took outside the palace gates of teenaged Nepalese tourists standing around with their cell phones and cameras, “shows the incredible transformation that has occurred within this country.”

When last in Nepal in 2011, on the Tibetan New Year, Bubriski saw other signs of change while visiting the Boudhanath Stupa, a pilgrimage site for Tibetan Buddhists living in Kathmandu. In the past, people gathered there, perhaps to “throw roasted barley flour in the air and cheer for the new year and the long life of the Dalai Lama,” he explains, but “any political expressions at the Stupa are forbidden now.” He was moved to see one elderly woman in a soft pink hat circumambulating the monument, holding a prayer wheel and rosary beads (above), and framed the moment she passed Nepali policemen in full riot gear waiting, he says, “for a call to action.”

—N.P.B.

“Shadows of Shangri La: Nepal in Photographs”
Harvard University Asia Center; through September
<http://asiacenter.harvard.edu>; 617-496-6273



KEVIN BUBRISKI

The Many Faces of Boston

The ancestors of most Bostonians may have hailed from Ireland and Italy, but the current top two immigrant groups are from China and the Dominican Republic, according to *City of Neighborhoods: The Changing Face of Boston*, an exhibit at the Boston Public Library. Overall, about 27 percent of city residents were born abroad, a quarter of them in Asia. Nearly half of East Boston's inhabitants are foreign-born, the majority from Latin and South America. Boston also has the third-largest Haitian population in the country (after New York City and Florida), and a growing Cape Verdean community. These dramatic trends are illustrated through maps, U.S. Census data, photographs, and drawings that make clear that this ever-changing population influences the city's physical landscapes and culture in countless ways—and always has.

Advertising trade cards from the 1850s to the 1910s depict Irish immigrants' social and economic climb from the laboring classes to civil-service jobs.



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Boston Public Library | Through August 22
www.bpl.org/exhibitions/current-exhibitions/city-of-neighborhoods

hot buffets that include the ubiquitous *chicharrón* (deep-fried chunks of pork and skins).

La Topacio (no website; 617-567-9523). Try the Salvadorean *pupusas* with pickled slaw, or the *picado*—chunks of chicken, beef, *chicharrón*, and sausage served over French fries, often in a sauce with peppers and onions.

Rincon Limeño (www.rinconlimeno.com). The Peruvian *alfajores* can be bought at the register, or dine in on shrimp *ceviche*, grilled steak with fried plantains, or the Colombian *montañero* (flank steak, fried pork rinds, and runny eggs over rice).

Lolly's Bakery (www.lollysbakery.com). Dense, warm bread puddings (a Colombi-

an favorite), Dominican cake dribbled with *dulce de leche*, rice pudding with a cinnamon kick, and yellow cake filled with flan.

Que Padre (www.quepadretraqueria.com). The Mexican and Bolivian specialties include *silpancho* and *saltenas* (pastry pockets filled with a juicy blend of chicken or beef, with potatoes, eggs, and peas). ~N.P.B.

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JOHN HARVARD'S JOURNAL

COMMENCEMENT 2014



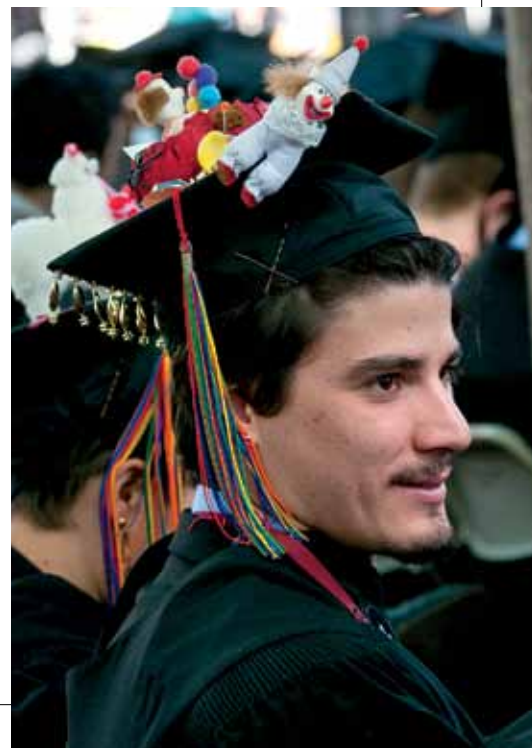
Graduating, Briskly

THE LATE, cool spring was not the exact type of the long, cold winter, but it was a passably fair relic. Tuesday morning, the stellar seniors processed to the Phi Beta Kappa literary exercises under a shower of elm seeds from the Old Yard canopy, kept comfortable in their gowns by breezes and a temperature of 58 degrees—the day's high. Wednesday dawned with showers of real rain drops, at 50 degrees and falling. By Commencement morning, May 29, it was downright autumnal—44 degrees, nearly a record low—but with brilliant blue sky overhead: a tradeoff every Commencement official gladly made. Encountered en route toward the Yard at 6:35 A.M., University marshal Jackie O'Neill, who runs the Morning Exercises, said, "Just one day a year," allowing a measure of grateful relief to mix with her usual calm. Thus set up, the show

proceeded with brisk efficiency, less than usually interrupted (and enlivened) by protracted student cheering.

Nonetheless, there were moments of spontaneity. The Commencement program, as official a document as there is, specified that the "Soloist" would perform "My Country, 'Tis of Thee." Once seated at the piano, honorand Aretha Franklin moved right into a soulful rendition of "The Star-Spangled Banner," instead. When Faculty of Arts and Sciences dean Michael D. Smith spoke at center stage, beginning the presentation of student degrees, he doffed his cap, bowed,

Ready to take on the world (top) are Harvard Kennedy School class marshals Theodore Zagraniski (M.P.A.), I-Chun Hsiao (M.P.P.), and Jonathan Chang (M.P.A.). Displaying Ph.D.-powered pride are crimson-gowned Jin Cheng "George" Ye, Anouska Bhattacharyya, and Cammi Valdez. Francisco Andreu '14 dolls up his mortarboard.



FROM TOP: STU ROSNER (2), JIM HARRISON

www.harvardmagazine.com/commencement

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JIM HARRISON



JIM HARRISON



STU ROSNER

and followed the usual salutations ("Madam President, Fellows of Harvard College, Mister President and Members of the Board of Overseers"), but then, turning to honorand George H. W. Bush, added a simple, third element: "Mr. President." Successive deans followed suit, until dean for medical education Jules L. Dienstag, presenting the M.D.s, included (for Michael R. Bloomberg, M.B.A. '66, and Franklin), "Mr. Mayor and Madame Queen [of Soul]." When degrees were conferred on Franklin, Bloomberg, and Bush, the band played a few bars of "Respect," "New York, New York," and the "Bulldog, Bulldog" fight song, respectively: prearranged, but nice.

Finding Fortune, Seeking Service

THIS WAS HARVARD'S billion-dollar year, and Commencement. In September, the Uni-

versity unveiled its worst-kept secret of the millennium, to date: that The Harvard Campaign sought to raise \$6.5 billion. The fundraisers did their work, and Harvard recorded its first billion-dollar gift year, and then some. Billionaire hedge-fund managers Kenneth C. Griffin '89 and Bill Ackman '88, M.B.A. '92, made nine- and eight-figure gifts toward the Faculty of Arts and Sciences' own \$2.5-billion component of the campaign. Harvard Business School (\$1 billion) dedicated Tata Hall, funded by a gift



JON CHASE/PAC

(Clockwise from upper left) Pearl Bhatnagar '14 blossoms with graduation spirit. Memorial Church memories: a Baccalaureate-service selfie encompasses seniors Raina Gandhi, Jen Zhu, and Maria Barragan-Santana. Dunster House seniors Monica Nesselbush (holding pole), Victoria Wenger (middle), and Chloe Soukas (at left) show the flag. Canine critic Zoë, the seeing-eye dog of Kristin Anne Fleischner, J.D. '14, attends Commencement suitably attired. Second Lieutenant Taylor Evans '14, already a veteran of five years in the Marine Corps, has his officer's insignia pinned on by his family.

from billionaire Ratan Tata, AMP '75, chair of India's Tata Group. And Commencement itself featured representatives from that cohort, including the speaker at the afternoon exercises, former New York mayor Bloomberg (the desktop financial terminal/media

billionaire), and the College's Class Day orator Sheryl Sandberg '91, M.B.A. '95 (whose own first billion came via Facebook's IPO).

Amid these mind-numbing sums, it was not hard to fathom a finding in the *Crimson's* senior survey: 31 percent of respondents entering the workforce have jobs in finance and consulting, and another 15 percent in technology and engineering. Ten years hence, those same seniors expect finance and consulting to exist only in their rear-view mirrors (just 6 percent in toto), with the academy, health, arts, government, and entrepreneurship looming much larger. Time will tell.

For now, two very different students is-

sued effective calls to service on Commencement morning. Senior English speaker Sarah Abushaar '14 (a Leverett House resident born in the United States but raised in Kuwait City, an economics concentrator who has worked in several finance-industry positions) recalled being shushed by her parents as a child, lest her prattle in Syria cause trouble: "You'll get taken by secret service if they hear you." The walls everywhere, we were told, could hear our revolutionary ideas and would send us to prison." How different things are in Cambridge, she found. In place of an Arab spring, "[T]his graduation is sending 6,000 revolutions into the world in the 6,000 revolutions

graduating as part of the class of 2014... if we take those waiting revolutions, those great ideas...out with us into the real world, into the real Tahrir Squares, and make something of them! Revolutions not in arms but in minds...more powerful and permanent...and pervasive. For, this isn't a Ukrainian revolution or an Arab Spring, but a global revolution.

"This is the Harvard Spring of 2014. This is the *Harvard Spring!*"

Graduate English speaker Philip Harding, M.P.P. '14 (headed for work on government innovation in Washington, D.C.), recalled George Washington coming to Harvard "uncertain of his future and his

Honoris Causa

Five men and three women received honorary degrees at Commencement. University provost Alan M. Garber introduced the honorands in the following order, and President Drew Faust read the citations, concluding with the recipient's name and degree. For fuller background on each honorand, see <http://harvardmag.com/degrees>.

Seymour Slive. Cabot founding director of the Harvard University Art Museums emeritus and Gleason professor of fine arts emeritus, an authority on seventeenth-century Dutch art. Doctor

of Arts: *A living portrait in ebullient erudition and humane inspiration, he has masterfully illumined the works of Dutch masters, his own career a rare work of art.*

Patricia King, J.D. '69. Carmack Water-

house professor of law, medicine, ethics, and public policy, Georgetown Law Center, and fellow of the Harvard Corporation, 2005-2012. Doctor of Laws: *Bridging disciplines and overcoming barriers, elucidating ethics and embracing beneficence, a trusted*

trustee whose sagacity and tenacity always bend the arc toward justice.

Joseph E. Stiglitz. University Professor, Columbia University, and co-winner of the Nobel Prize in economic sciences, 2001, a prominent critic of inequality and globalization. Doctor of Laws: *Demarking the limits of markets, discerning global discontents, a paramount progenitor of information economics who bestrides the spheres of theory and policy.*

Peter H. Raven. President emeritus, Missouri Botanical Garden, and Engelman professor of botany emeritus, Washington University, a scholar of biodiversity, species evolution, and conservation. Doctor of Science: *A grand sycamore in the garden of science, he has nourished our knowledge of the phyla of flora and cultivated care for the precious diversity of life.*

Isabel Allende. Author of 20 books, including *The House of the Spirits*. Doctor of Letters: *Conjuring memories blown by winds of exile, leavening realism with dashes of magic, she fills her splendrous house of stories with spirits and shadows, anguish and love.*

Aretha Franklin. The "Queen of Soul," winner of 18 Grammy Awards. Doctor of Arts: *With sweet passion, almighty fire, and amazing grace, she reigns*



George H. W. Bush

sublime as the electrifying empress of soul; for this, our highest honor, she is a natural woman.

Michael R. Bloomberg, M.B.A. '66. Entrepreneur, philanthropist, and 108th mayor of New York City. Doctor of Laws: *From Hopkins to Harvard, Wall Street to City Hall, a resolute leader and fervent philanthropist whose entrepreneurial spirit and zeal for innovation have helped our nation's biggest burg to bloom.*

George H.W. Bush. Forty-first president of the United States. Doctor of Laws: *With faith, courage, and service true, his eyes ever fixed on points of light, he piloted our nation through change-ful skies; his cap was Blue, his house was White, and now his robe is Crimson.*



Isabel Allende



Joseph E. Stiglitz

fate. He had received an offer he could not refuse: though he felt unworthy, he wrote to his family and said he felt 'a kind of destiny' was driving him to Cambridge...to take command of the...fledgling Continental Army"—the ultimate startup.

That public entrepreneur, Harding continued, "took ideas that existed only as words and writings and turned them into reality for millions and generations to come." He then challenged his audience: "Whether you are driven to solve the world's largest public or private problems, find a cure for that dreaded disease, alleviate human suffering, generate knowledge and push education forward, work across religious and cultural divides, create effective legal frameworks, construct the future world we live in, or use technology to enable new discoveries and innovations—Whatever 'kind of destiny' is compelling you today, imagine the countless lives that are waiting for you to step up." The focus of that mission he made clear in a final plea to "let us *not* just go change the world, but let us go *serve* the world with *passion*."

The Crimson, White, and Blue

THE WEEK'S events encompassed the standard graduation fare. Sandberg told the seniors to "open yourselves to honesty." U.S. ambassador to the United Nations Samantha Power, J.D. '99, laid a heavy burden on her hearers at the Harvard Kennedy School: "Your job is to make sure that democracy matures, expands, deepens, and delivers."

Bows were made to the arts and humanities. With the renovated Art Museums nearing completion, their former director, Seymour Slive, was among the honorands.



STU ROSNER

Emily Pulitzer, A.M. '63, who provided vital support for that project, was awarded a Harvard Medal, as was Anand G. Mahindra '77, M.B.A. '81, who endowed the humanities center (see page 77). The Graduate School of Arts and Sciences celebrated Keith Christiansen, Ph.D. '77, chair of European paintings at the Metropolitan Museum of Art (page 78). The class of 1989 had classmate Alan Gilbert, music director of the New York Philharmonic, at the podium for its Boston Pops reunion concert. And although President Drew Faust began her afternoon talk by emphasizing scientific discovery (page 19), as she often has this year, the third leg of her argument focused on the search for meaning: the essence of humanistic inquiry.

Divisive public matters were broached. In her Baccalaureate talk, Faust touched on the Occupy movement, divestment, and sexual assault—issues that have vexed her (see pages 22-23 on the latter two). Education, especially, was in the air. Bloomberg, who assailed what he perceived as closed-mindedness on campuses as in the larger society (page 19), hailed the Graduate School of Education for retaining Colorado state senator Michael Johnston, M.Ed. '00, as its speaker; some students objected to his focus on basing teacher evaluations on test scores. Chief marshal Richard Barth '89, a found-

Honorand Aretha Franklin pulled a switcheroo, to a soulful national anthem.

er of Teach For America, is now CEO of the Knowledge Is Power Program—and thus a champion of charter schools. The Business School's speaker, Salman Kahn, M.B.A. '03, of the Kahn Academy, represents a vision of education that has more terminals than teachers. (In *higher* ed, *The New York Times* twitted Harvard just before the Commencement afternoon program by posting a story suggesting that Stanford's surging applications, soaring admissions yield, and prowess in computer science had made it the nation's premier university—knocking off you know who.)

In a society that must sort out such issues—with the passion Harding prescribed, but with more open minds than Bloomberg discerned in Washington and elsewhere—perhaps the way forward was best represented by looking back to the service of the final honorand at this Commencement.

Amid the day's upside-down atmosphere, a different sort of reversal was staged. By conferring a degree on President Bush—Yale's baseball captain, who took his team to the College World Series finals in 1947 and 1948—Harvard effectively mirrored Yale's 1962 graduation. When John F. Kennedy '40, LL.D. '56, was honored in New Haven, he famously quipped, "It might be said now that I have the best of both worlds, a Harvard education and a Yale degree." So for these two sports-minded presidents, one Crimson, one Blue, and their alma maters, the score is now a bipartisan 1-1. Perhaps fittingly, Harvard's 363rd Commencement fell on President Kennedy's birthday.



JIM HARRISON

Crimson stethoscopes at the ready (from left): M.D.s Sarah Messmer and Jana Jarolimova and Shruthi Rajashekara, M.D.-M.M.S. '14

Commencement Confetti

Seniors Say...

The *Crimson's* class of 2014 survey (<http://features.thecrimson.com/2014/senior-survey>), which elicited 758 responses, revealed that lucrative finance and consulting jobs will employ 31 percent of working graduates, a statistic that has stayed steady in the past several years (after falling sharply between 2007 and 2009)—despite the recovery in other fields and restraints on the financial sector caused by changes in regulation and market conditions. White students were more than four times as likely to be legacies than students of color, according to their self-reported accounts. Seventeen percent of respondents said they had cheated while at Harvard, only 12 percent said an honor code would have changed their behavior, and 24 percent approved of the new code (see page 26)—versus 64 percent who had too little information or no opinion. Recruited athletes were nearly three times as likely to be economics concentrators, and twice as likely to be government concentrators, than classmates—and twice as likely to admit to academic cheating. Twelve percent of women said they had been sexually assaulted as undergraduates—but only one-sixth of those reported the assault.



Two Newmarks

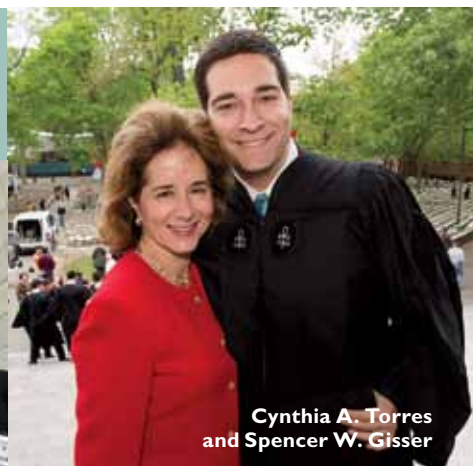
Withal, 92 percent of respondents would choose Harvard again.

Real Life: Day One

Given the crowds and the scarcity of nearby hotel rooms, many families bunk far afield. On Commencement morning, begowned students and their parents could be seen queuing at some of the suburban MBTA stations, trying to apply their expensive book learning to figuring out how to buy subway passes, presumably for the first time, for the early commute underground into Harvard Square.

Degrees Data

Harvard conferred a bumper crop of 7,301 degrees and 33 certificates: 1,662 from the College, 1,003 from the Graduate School of Arts and Sciences (including 590 Ph.D.s), 909 from the Business



Cynthia A. Torres and Spencer W. Gisser

EASY ENROLLMENT. A banner hung over the Old Yard walkway by Thayer Hall welcomed the graduating seniors to the Harvard Alumni Association. Two graduates should have no trouble figuring out how to engage. Spencer W. Gisser '14 is the son of Californians Cynthia A. Torres '80, M.B.A. '84, the HAA's incoming president, and her husband, Michael V. Gisser '77. From an ocean farther east, Samuel James Jerome Newmark '14 is the son of Brooks Newmark '80, M.B.A. '84, a member the British House of Commons and the HAA's first-vice-president-elect, and Lucy Keegan Newmark. Father Brooks is in line for the HAA presidency. The Newmarks' eldest son, Benjamin, graduated from the College in 2010.

School, 750 from the Law School, 700 from the Extension School, 661 from the Education School, 566 from the Kennedy School...and on down to 112 from the Divinity School and 71 from the School of Dental Medicine.

Theses Three

Radcliffe awarded the Captain Jonathan Fay Prize for the most imaginative, original theses to three College seniors. Mathematics concentrator Levent Alpoge wrote "The Average Elliptic Curve Has Few Integral Points" (you knew this, right?). Elizabeth Byrne, a human development and regenerative biology student, conducted research on hormonal contraception, genital immune activation, HIV, and the microbiome of the female genital tract. And history and science



MAKING READY. As battalions of workers deploy tens of thousands of folding chairs, plus tables and tents, for Commencement doings in Tercentenary Theatre and the Old Yard, other objects must give way. With 24 hours to go, the colorful "Common Spaces" chairs were stowed in the utility area behind Canaday, far from the celebratory throngs to come. Meanwhile, trash barrels behind the platform at Memorial Church held Morning Exercises signs awaiting their appointed places.



JIM HARRISON

HARVARD MAGAZINE/JC

concentrator Sandra Korn examined "Sex, Science, and Politics in the Sociology Debate."

Harvard Heroes

At the dinner for honorands in Annenberg Hall Wednesday night, President Drew Faust preceded her remarks about one Harvard pillar (retired Corporation member Patricia A. King, J.D. '69, soon-to-be LL.D. '14) by hailing two others: Robert D. Reischauer '63, stepping down as Senior Fellow of the Corporation—concluding 18 years of leadership on the University's governing boards; and John P. (Jack) Reardon Jr. '60, who is stepping down as director of the Harvard Alumni Association, but staying aboard to work on governance, fundraising, and other matters. Both received thunderous ovations. On Thursday, Reischauer, who plays ice hockey, donned a class-appropriate jersey given to him during the afternoon program—where Reardon received a surprise Harvard Medal (see page 77). To his amusement, Reardon has also been named a "Harvard Hero," an annual recognition for staff employees, and so was to be hailed anew in that mid-June



ROSE LINCOLN/HFAC

ceremony. Spoiler alert: Look for Reischauer to be among the honorands *next* May. (Robert E. Rubin '60, LL.D. '01, also concluding his Corporation service, left campus after the board meetings on Wednesday, and did not attend Commencement.)



JIM HARRISON

An iceman goeth: Senior Fellow Robert D. Reischauer

Rebooting

Longtime Commencement volunteer Cynthia Rossano observed that the video screens early that morning broadcast the information that this was the 364th graduation exercises. The subtraction of one, by keystroke, set matters aright before too many mobile-phone photos were dispatched.

Pfister on Fungi

Donald Pfister—Gray professor of systemic botany (an expert on fungi) and former master of Kirkland House—became a student favorite as interim dean of Harvard College this academic year. (The sentiment was reciprocated: he choked up while attempting to present the bachelors' candidates for their degrees, paused, said, "I'm emotional," was cheered, and then continued getting his charges graduated.) Although President Drew Faust's afternoon remarks pointed up, depicting Tercentenary Theatre as a roofless space for



JON CHASE/HFAC

CELEBRITY SIGHTINGS. President Abdullah Gül and First Lady Hayrünnisa Gül of Turkey shared the happy day with their younger son, Mehmet Emre Gül '14. An image from Commencement appeared on the Presidency of the Republic of Turkey's home page the next day. During the conferral of honorary degrees, when Provost Alan Garber said, "In 1945 he married his sweetheart, Barbara Pierce," President George H.W. Bush gestured to Barbara Bush, in the audience.

learning, Pfister's gaze was earthward: his last message to undergraduates, in the morning's compendious *Crimson*, noted that inky-cap mushrooms, of the genus *Coprinus*, were growing in the Yard that day.

Final Words of Wisdom

Washington Post columnist Alexandra Petri '10, an Ivy Orator emerita, continues to enlighten the new crop of graduates annually. This year's pearls of wisdom, published on May 21, conclude: "The longer your life goes on, the smaller the proportion of it that you will have spent at college. Try to live life in a way that reflects this information. I have not successfully identified the precise moment in your 20s when telling people about That Time in College stops being a good icebreaker and makes you seem like a sad man- or womanchild who needs to go out and do real-life things now, but I assure you it is there. Don't be caught on the wrong side of it."



JIM HARRISON

YOU DON'T HAVE TO BE BRITISH. Commencement lends itself to headline headgear. Harvard Alumni Association president Catherine A. Gellert '93, mistress of ceremonies for the afternoon program, indulged in a fascinator (in taupe, left), as did reunion marshal Courtney Greene, an associate director of the Harvard College Fund (in red and black). And of course, mortarboards provide a platform for speech. Dunster House's Angela Lee and Linxi Wu wore the strip of red tape favored by advocates making a statement about sexual assault on campus (see page 23); according to www.ourharvard14.com, "Red tape symbolizes the institutional barriers preventing students from creating the safe and inclusive environment necessary to put a stop to sexual violence and fully support survivors."

KRISTEN SMITH/HFAC



JIM HARRISON

Talks, and a Text

PRESIDENT DREW FAUST and honorand Michael R. Bloomberg presented differing, yet complementary, views on the idea of a university and of universities' ideas today. Faust reprised themes from her installation and Harvard Campaign addresses to outline the academy's role in advancing discovery and meaning. Bloomberg focused less on that ideal than on perceived threats to it. There were plenty of lighter moments during the week, too. And a seventieth-reunion class report anchored the enterprise of learning in its most human context, dating from World War II. For reports on all the principal addresses, visit www.harvard-magazine.com/commencement.

Answers. Questions. Meaning.

President Faust set the stage for her remarks by summoning Tercentenary Theatre's storied history, then turned to her current concern:

...our accountability to the future, because these obligations must be "our compass to steer by," our common purpose and our shared commitment. What does Harvard—what do universities—owe the future?

She detailed three answers to her own question:

First, we owe the world answers.

Discovery is at the heart of what universities do. Universities engage faculty and

students across a range of disciplines in seeking solutions to problems that may have seemed unsolvable, in endeavoring to answer questions that threaten to elude us. The scientific research undertaken today at Harvard, and tomorrow by the students we educate, has a capacity to improve human lives in ways virtually unimaginable even a generation ago.

Second, she continued, "we owe the world questions." She expanded:

Just as questions yield answers, answers yield questions. Human beings may long for certainty, but, as Oliver Wendell Holmes put it, "certainty generally is illusion, and repose is not the destiny of man." Universities produce knowledge. They must also produce doubt. The pursuit of truth is restless. We search for answers ...by finding the right questions—by answering one question with another question, by nurturing a state of mind that is flexible and alert, dissatisfied and imaginative....In an essay in *Harvard Magazine*, one of today's graduates, Cherone Duggan [a former Ledecky Undergraduate Fellow at the magazine], wrote about what she called seeking "an education of questions."

I hope we have indeed given her that.

Such questions, she said, "are also the foundation for a third obligation that we as a university owe the future: we owe the world meaning":

Universities must nurture the ability to interpret, to make critical judgments, to dare to ask the biggest questions, the ones that reach well beyond the immediate and the instrumental....

We find many of these questions in the humanities: What is good? What is just? How do we know what is true? But we find them in the sciences as well. Can there be any question more profound, more fundamental than to ask about the origins of the universe? How did we get here?

Questions like these can be unsettling, and they can make universities unsettling places. But that too is an essential part of what we owe the future—the promise to combat complacency, to challenge the present in order to prepare for what is to come. To shape the present in service of an uncertain and yet impatient future.

Tolerance and Freedom

Michael R. Bloomberg talked about the open exchange of diverse ideas—and threats he perceived to that bedrock value, of late in academia, and more generally in the nation's politics. An edited version of his text appeared as a Bloomberg View the same afternoon, titled "Don't Major in Intolerance." This excerpt comes from the first half of his argument.

Universities lie at the heart of the American experiment in democracy. They are places where people of all backgrounds and beliefs can come to study and debate their ideas freely and openly....

Tolerance for other people's ideas and the freedom to express your own are inseparable values. Joined, they form a sacred trust that holds the basis of our democratic soci-

Commencement Highlights

From Class Day speeches to a run-through of Thursday's events, harvardmagazine.com brings you in-depth 2014 Commencement coverage.



Mystical Poet and American Novelist Launch Commencement Week

Phi Beta Kappa Literary Exercises feature Donald Revell and Andrea Barrett.

harvardmag.com/classday-14

Vivek Murthy: The "Vision and Values" of Medicine

The U.S. Surgeon General nominee speaks at the Harvard Medical School and School of Dental Medicine Class Day harvardmag.com/murthy



Sheryl Sandberg Preaches the Value of Honesty

Sheryl Sandberg of Facebook and *Lean In* gave the Senior Class Day speech for 2014.

harvardmag.com/sandberg-14

www.harvardmagazine.com/commencement



Michael R. Bloomberg

That protection, however, rests upon our constant vigilance....to ensure that equality under the law means equality under the law for everyone....You may find my actions immoral or unjust, but attempting to restrict my freedoms, in ways that you would not restrict your own, leads only to injustice.

Throughout history, those in authority have tried to repress ideas that threaten their power, their religion, their ideology or their re-election chances....

We cannot deny others the rights and privileges that we demand for ourselves; that is true in cities, and it is no less true at universities, where the forces of repression appear to be stronger now than they have been since the 1950s....

In the 2012 presidential race, 96 percent of all campaign contributions from Ivy League faculty and employees went to Barack Obama. That statistic, drawn from Federal Election Commission data, should give us pause....When 96 percent of faculty donors prefer one candidate to another, you have to wonder whether students are being exposed to the diversity of views

that a university should offer....

[T]he whole purpose of granting tenure to professors is to ensure that they feel free to conduct research on ideas that run afoul of university politics and societal norms. When tenure was created, it mostly protected liberals whose ideas ran up against conservative norms.

Today, if tenure is going to continue to exist, it must also protect conservatives whose ideas run up against liberal norms. Otherwise, university research will lose credibility. A liberal arts education must not be an education in the art of liberalism.

This spring, it has been disturbing to see a number of college commencement speakers withdraw, or have their invitations rescinded, after protests from students and—to me, shockingly—from senior faculty and administrators....

In each case, liberals silenced a voice... they deemed politically objectionable.

As a former chairman of Johns Hopkins, I believe that a university's obligation is not to teach students *what* to think, but to teach students *how* to think. And that requires listening to the other side, weighing arguments without prejudging them, and determining whether the other side might actually make some fair points.

ety. But that trust is perpetually vulnerable to the tyrannical tendencies of monarchs, mobs, and majorities. And lately, we have seen those tendencies manifest themselves too often, both on college campuses and in our society....

Our union...rests on the union of...freedom and tolerance. And it is that union of values that the terrorists who attacked us found most threatening. To them, we were a God-less country. In fact, there is no country that protects the core of every faith and philosophy—free will—more than the United States.

Laugh Lines

"Well-Shampooed Squirrels"

I first came to Harvard Business School 13 years ago. I remember the first few minutes after arriving on campus at Spangler. After confirming that...this truly was the



NEAL HAMBURG/HBS

"student center," I...inspected the marble fireplace near me, sat on a beautiful leather couch, put my feet on the finely crafted coffee table, watched the well-sham-

pooed squirrels happily prance outside in the lawn, and told myself, "Yes, I think this should do just fine."

Salman Kahn, M.B.A. '03

Harvard Business School Class Day

Noble Professions

And now, with this diploma in hand, most of you will go on to the noblest pursuits, like helping a cable company acquire a

telecom company. You will defend BP from birds. You will spend hours arguing that the well water was contaminated *well before* the fracking occurred. One of you will sort out the details of my pre-nup. A dozen of you will help me with my acrimonious divorce....

Let's be honest: Harvard Law is the best of the Harvard graduate programs. I can say this—we're among friends. The Business School is full of crooks. The Divinity School is just a bunch of weird virgins. The School of Design is like European burnouts. And don't get me started on the Kennedy School. What kind of degree



MARTHA STEWART/HLS

Mindy Kaling

do you get from there—public policy? Right—you mean a master's in boring me to death at a dinner party? I'm sorry. Let's

just be honest. The Med School is just a bunch of nerdy Indians. I can say that!... The rest of you are out of line. That's racial—how dare you.

Mindy Kaling

Star of *The Office* and *The Mindy Project*
Harvard Law School Class Day

After You, Alphonse

Michael Bloomberg visited me in my office at the Radcliffe Institute a few weeks after I had been invited to serve as Harvard's president—and he said that I was much taller than he had imagined.

President Drew Faust

The Honorary Dinner, Annenberg Hall
(Their subsequent hug proved the point.)

When Drew makes a fundraising call on you, you have to say yes. I will tell you a quick story. One time, this was 10 years ago maybe, my mother was 98, something like that, and I talked to my mother every day, and I said, "Mother, what did you do today?" She said, "I didn't go out—I had a

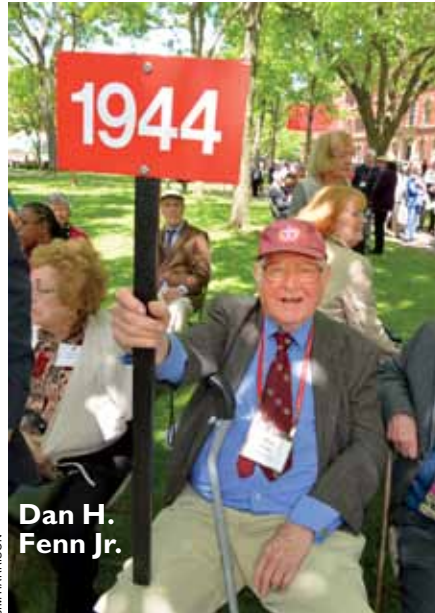
If...students graduate with ears and minds closed, the university has failed both the student and society. If you want to know where that leads, look no further than Washington.

In Washington...the two parties decide... questions not by engaging with one another, but by trying to shout each other down, and by trying to repress and undermine research that runs counter to their ideology. The more our universities emulate that model, the worse off we will be....

The Scribe Sums Up

Dan H. Fenn Jr. helped compile the College class of 1944's first report in 1947, when they began on a three-year cycle (versus five years today); it opened with a dedication page listing the 30 classmates "who left the Yard to serve their country and their kind and gave their lives in the fulfillment of that great responsibility." Sixty-seven years on, Fenn, still class secretary, submitted the class's fifteenth reunion report. Taking stock of 70 years, he found:

Around 100 of us became lawyers, and of those perhaps a dozen were judges at various levels. By contrast, well over 150 of us went into business, including many of our Ph.D.s...in various fields of research.... There were around 120 doctors...some dentists, and at least one veterinarian.



Dan H. Fenn Jr.

JIM HARRISON

In the Harvard tradition, we had around 20 ministers and just short of 100 professors and roughly 20 teachers.... Around 35 of us spent the bulk of our careers in government, with the CIA and the Foreign Service dominating. About a dozen of us were career military; nearly 20 spent their lives in nonprofit organizations....

Many of us had several careers, some at the same time like the man who, while

engaged in his business career, taught and played music professionally....

Five of us...won the Nobel Prize. That is really amazing...Phil Anderson, Merton Miller, George Saxton, Lloyd Shapley, and Bob Solow—can you believe it?

...[T]he term "paradigm shift"...came from one of our classmates in a seminal book on scientific revolutions.... We can boast of...the creator of the practice of daily intelligence briefings for presidents, at least two renowned composers, a couple of boat builders, a rancher, a baker, and a barber, the architect of the Capitol...and a courageous key early leader of the Civil Rights movement.

We can talk about one of the nation's first househusbands...several producers and publicists for Broadway shows, a notorious Manhattan Project spy...a leading judge of national, international, and Olympic figure skating...the editor of the *International Herald Tribune*, a vintner in Switzerland, and a metallurgist with over 25 patents who is responsible for a great many of the items we use on earth and in space today....

In the meantime, we managed to produce perhaps 2,500 sons and daughters—one of us had 14, another 11.

So, in the final analysis, I think we did all right!

visitor." I said, "Who was that?" She said, "I don't remember her name, but she was a very tall woman, and she talked about a scholarship in my father's name at Harvard." I knew exactly who it was, and I thought, "You really have to have a lot of guts to go on a fundraising call like that." It was the most underhanded—and effective—call ever.

Michael R. Bloomberg, M.B.A. '66, LL.D. '14
The Chief Marshal's Spread
Commencement Day

In Case Software Doesn't Pan Out

Latin Salutatorian Timothy Barry-Heffernan '14, a mathematics concentrator who also studied computer science, is from nearby Hingham, Massachusetts, and resided in Winthrop House. His talk, *De Septuagesima Secunda et Trecentesima Legione* ("On the 372nd Legion")—something to do with the number of College classes since Harvard's founding, adjusted for wars and other interruptions (or maybe it is the 373rd: oh, never mind)—obvi-

ously called out for a prop. Helmeted, he was quite a sight, pantomiming the basketballers' shooting form: *Et denique, in campo ludi canistri, adversarios dignos inusitadosque pugnativimus; sed sicut Ajax et Diomedes et Achilles arserunt in bello, ita Rivardus et Caseus et Currius Cincinnatos illos straverunt! Mirabile visu!* ("And, at last, on the basketball court, we fought worthy foes, whom we had never encountered; but just as Ajax, Diomedes, and Achilles raged in battle, so too did Rivard, Casey, and Curry lay low those men of Cincinnati! What a sight to behold!") If his Hewlett-Packard software gig gets stale, he might consider channeling the "King Tut"-era Steve Martin.

Harvard Names, Evolving

My personal connection to Harvard began back in 1964, when I graduated from



Timothy Barry-Heffernan

STU ROSNER

Johns Hopkins and matriculated here at the B School.... I've noticed a few things have changed since I was a student here. Elsie's, a sandwich spot I used to love near the Square, is now a burrito shop. The Wursthaus, which had great beer and sausage, is now an "artisanal gastro pub," whatever that is. And

the old Holyoke Center is now named the Smith Campus Center. Don't you just hate it when alumni put their names all over everything? I was thinking about that this morning as I walked into the Bloomberg Center on the Harvard Business School campus across the river.

Michael R. Bloomberg
Commencement afternoon address

(Baker Library | Bloomberg Center—the school's renovated library, expanded with faculty offices—is named in honor of Bloomberg's father.)

The Divestment Debate

ADVOCATES of divesting Harvard's endowment investments in the fossil-fuel industry—part of a movement urging such action by schools nationwide—have bedeviled University administrators all year. On October 3, President Drew Faust issued a statement calling climate change “one of the world's most consequential challenges”—but expressing the belief that divestment is neither “warranted or wise.” Instead, she sketched, broadly, Harvard's role in teaching and research on the environment; its efforts to reduce its greenhouse-gas emissions; and the role of Harvard Management Company's (HMC) new vice president for evaluating environmental, social, and governance (ESG) factors in investing.

Lacking further details (and the commitment to divestment they sought), advocates continued their campaign, seeking open forums for discussion of their cause. Faust responded with another statement on April 7. She wrote that The Harvard Campaign had raised \$120 million for work on energy and the environment, but disclosed no details. (Two gifts apparently figure significantly in that sum. One, totaling \$31 million to support the Center for the Environment, appeared in the 2013 annual financial report of the Faculty of Arts and Sciences [FAS], but has not been further characterized. Another, possibly larger, gift—no figure has been disclosed—is Evergrande Group's endowment and operating support for the new, Graduate School of Design-based Center for Green Buildings and Cities; for a fuller report on the nascent center and what is known about the gift, see <http://harvard-mag.com/green-14>.)

Faust's message linked to a graphic on various University research programs. She announced an initial \$1 million in innovation grants (a favored recent tool to jump-start campus-based entrepreneurship) for faculty and student projects at the iLab. And Harvard, she added, would sign the United



Nations-supported Principles for Responsible Investment (PRI; voluntary principles for ESG analysis of investments) and the Carbon Disclosure Project (CDP), a non-profit that seeks information on businesses' energy use and greenhouse-gas emissions.

The same day, the news office unleashed a supportive barrage of *Harvard Gazette* articles detailing professors' recent climate- and energy-related research, policy guidance, and work on related issues. Placards mounted on A-frames around the Science Center Plaza touted the University's own sustainability goals and progress toward its target of reducing emissions by 30 percent.

All this proved a skirmish in the continuing disagreements. On April 10, Harvard Faculty for Divestment released their own “Open Letter” to Faust and the Corporation. Referring to the October 3 and April 7 missives rejecting divestment, the 100 or so signers, from diverse disciplines and schools, declared, “We believe that the Corporation is making a decision that in the long run will not serve the University well.” If fossil-fuel divestment is a “political” act, the letter went on, “continued investment is a similarly political act,” and then laid out

Advocates of divesting fossil-fuel investments protest at the president's office at Massachusetts Hall.

the authors' case—legal, scientific, and ethical—for selling the securities.

Faust e-mailed back, coolly and succinctly, acknowledging “a variety of differing views.” On April 28, the faculty members acknowledged (and published) her note; asked her and the Corporation to “answer the specific questions” they had raised earlier; and expressed the “hope that you will engage and respond to the substantive issues”—particularly in light of expert faculty members' view of the PRI and CDP as “utterly ineffective.”

Amid the e-mail volleys, and absent any open forum for airing such views, student divestment advocates did what students do in the spring: stepped up their public protests at Massachusetts Hall, the offices for the president and her staff. On May 1, Divest Harvard members blocked both the front door and side entrances, interfering with access to work for one of Faust's aides, and an undergraduate was arrested. The pro-divestment professors promptly hailed this “act of civil disobedience” and reiterated the call for “an open forum” with Corporation and faculty members, students, and alumni, “for dialogue and conversation.”

In remarks at the May 6 FAS meeting, Faust addressed the situation tersely. She respected protestors' free-speech rights, she said, but a “blockade” infringes on others' rights and crosses into a “differ-

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H A R V A R D P O R T R A I T

ent zone.” She had met with divestment advocates seven times, she disclosed, and the Corporation Committee on Shareholder Responsibility had done so three times. She supported “reasoned and civil discourse,” but not blocking buildings or “videotaping me and then editing and portraying my words in ways that misrepresent them” (referring to an incident earlier in the semester). In the future, she said with an edge, she looked forward to faculty ideas on climate change rooted in “reason, rigor, respect, and truth.”

To underscore the point, in a subsequent interview she told the *Crimson* (“Faust Says She Will Work with Faculty, Not Divest Group, to Discuss Climate Change”) that an open forum on the issue was not on the table. The newspaper quoted her characterizing the Divest Harvard demand as “a chance to draw attention to itself,” rather than promoting substantive discourse.

Ratcheting up pressure on the issue, on May 7, Stanford announced its decision not to invest in coal-mining companies, given the severe climate impact of burning that fuel. (Smaller schools had previously decided to divest, but no research universities with Stanford’s heft and large endowment.) Stanford’s advisory panel on the issue includes students, faculty and staff members, and alumni. The trustees endorsed their recommendations, and acknowledged the role of the student Fossil Free Stanford group’s advocacy in catalyzing “an important discussion.” The chair of the trustees’ committee on investment responsibility told *The New York Times* that the decision on coal “is not the ending point. It’s a process,” as research on alternative energy sources progresses. She amplified, “Don’t interpret this as a pass on other things.”

Addressing Sexual Assaults

NATIONAL CONCERNS about sexual assaults on campuses, and institutional responses to them, erupted at Harvard, too, in early spring. Among the salient developments:

- On March 31, the *Crimson* published “Dear Harvard: You Win,” a long, anonymous, first-person account of an unwanted sexual encounter. It alleged that the College’s response was insensitive and shaped



Naomi Oreskes

When Naomi Oreskes wrote an article in 2004 summarizing the scientific consensus on climate change, she recalls, “I was treated as if I had thrown some kind of grenade.” Public discourse at the time treated global warming as an active scientific debate, but the history of science professor, who arrived from the University of California, San Diego, last fall, had assumed journalists were simply confused about the evidence. As she began examining her critics’ connections, though, Oreskes uncovered a very different story, and in *Merchants of Doubt* (2010), she and her coauthor, Eric M. Conway, described how deliberate, industry-funded misinformation campaigns had serially misled the media and obscured the scientific consensus on the harmful effects of smoking, acid rain, and the ozone hole—and now, climate change. Her research has also taught Oreskes the need for academics to “speak clearly and crisply” on issues of social and political importance; recently, she signed an open faculty letter calling for Harvard’s divestment from fossil fuels. Her new book with Conway, *The Collapse of Western Civilization* (Columbia), to be released in July, imagines a future with climate change run rampant. The ability to “range broadly,” she says, is the appeal of history of science. Trained as a mining geologist at Imperial College London, Oreskes began exploring the history of her discipline as a graduate student at Stanford. She published in both fields until, she quips, she had children: “I couldn’t have three careers.” With her hydrologist husband and their two grown daughters, she spends her free time outdoors, hiking, camping, and occasionally climbing: “I still like to be on rocks.”

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by antiquated procedures and standards. The article received enormous attention, given its graphic detail, the attention already focused on campus sexual assaults nationwide, and the presence of alcohol as a factor in the case—one of the frequent complications in determining whether sexual activity was consensual.

● President Drew Faust e-mailed the community on April 3 to announce the formation of a task force to “Develop recommendations about how Harvard can improve efforts to prevent sexual misconduct.” Former provost Steven E. Hyman, a psychiatric researcher, chairs the group. (On May 13, he wrote to Faust suggesting, on behalf of the task force, several short-term measures: that Harvard augment staffing and resources for the Office of Sexual Assault and Prevention Response—which was created in 2003, when he was provost; create a website with resources for people who have experienced sexual assault or harassment; improve student orientation and training by this fall; and survey the campus to determine the incidence of sexual assault. Faust immediately

accepted all the recommendations.)

The task force’s focus complements work done by the University’s new Harvard-wide Title IX coordinator, Mia Karvonides, hired in 2013. (Title IX refers to the relevant 1972 federal education amendments that prohibit gender discrimination). Karvonides has been overseeing efforts to bring Harvard policies into compliance with what the charge to the task force termed “evolving legal requirements”—an updating on which the University has trailed other institutions. Those requirements include new federal legislation, 2011 guidance from the U.S. Department of Education’s (DOE) Office of Civil Rights, and a cabinet-level task force convened by President Barack Obama. Among the substantive matters at issue on many campuses are language requiring affirmative consent to sexual activity, and, at Harvard, using “the preponderance of evidence” as the standard of proof in adjudicating cases (the 2011 DOE guidance)—rather than the Administrative Board’s stricter requirement that it be “sufficiently persuaded” a violation occurred. Almost all Ivy League schools had adopted the “preponderance” standard



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by this spring.

• Also on April 3, the *Crimson* broke the news that a member of the student group Our Harvard Can Do Better had filed a complaint with the DOE civil-rights office on March 28, alleging that the College's sexual-assault policies violate federal law. She and another lead complainant, and testimonials from 10 other students, focused on the conflicting guidance they received from House advisers about their options and on the inconsistent information on changing residences, among other issues. (Some 55 schools, including the College and the Law School, are now being investigated by the civil-rights office for issues related to their handling of sexual assaults.)

• At an Undergraduate Council forum on April 16, Faust disclosed that Harvard had filed its proposed, updated University policy on sexual assaults with the DOE office for review—potentially addressing the legal-compliance challenges. Securing approval, a mandated first step in improving campus conditions, is not automatic: Tufts and the government engaged in a public standoff over whether its revised policies comply with the federal standards; and the White House and DOE office subsequently issued a sample survey for investigating conditions on campuses, a checklist for sexual-misconduct policies, and other guidance—dozens of pages of new documentation for lawyers to process.

Each school will have to bring its policies into conformity with the University requirements, once those pass federal muster. On May 6, Dean



Mia Karvonides

MITCH GREEN

Yesterday's News

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

1914 The outbreak of World War I traps more than 40 faculty members and close to 30 traveling fellows in Europe and sends at least two professors with French citizenship home to fight.

1939 President Conant prepares to move his office from University Hall, where Harvard's presidents have worked since the building opened in 1815, to newly refurbished Massachusetts Hall.

1944 The summer heat has brought out the "whites" of the Navy V-12 students; skivvies, jumpers, and bell-bottom trousers hang out to dry under the willows of Eliot House.

1954 Hurricane Carol strikes with 120-mile-per-hour winds on August 31, toppling an oak and three of the oldest elms in the Yard, de-roofing the Newell Boathouse shed, and drop-

ping a finial through the roof of Memorial Hall.

The two most popular summer-session courses are Professor Howard Mumford Jones's "American Literature" and visiting author Frank O'Connor's "The Nineteenth Century Novel."

1959 Quincy House is rushed toward completion for September occupancy.

1969 Sixteen students have been required to leave Harvard because of their actions during the occupation of University Hall on April 9-10. Twenty others have been given a suspended requirement to withdraw while 102 more have been placed under warning.

1974 *Newsweek* reports that B is the average grade in American colleges. Harvard reports that the average grade for the College as a whole is a B+.

1994 Harvard Square landmark Out of Town News has been sold to an out-of-town owner, Hudson County News of New York.

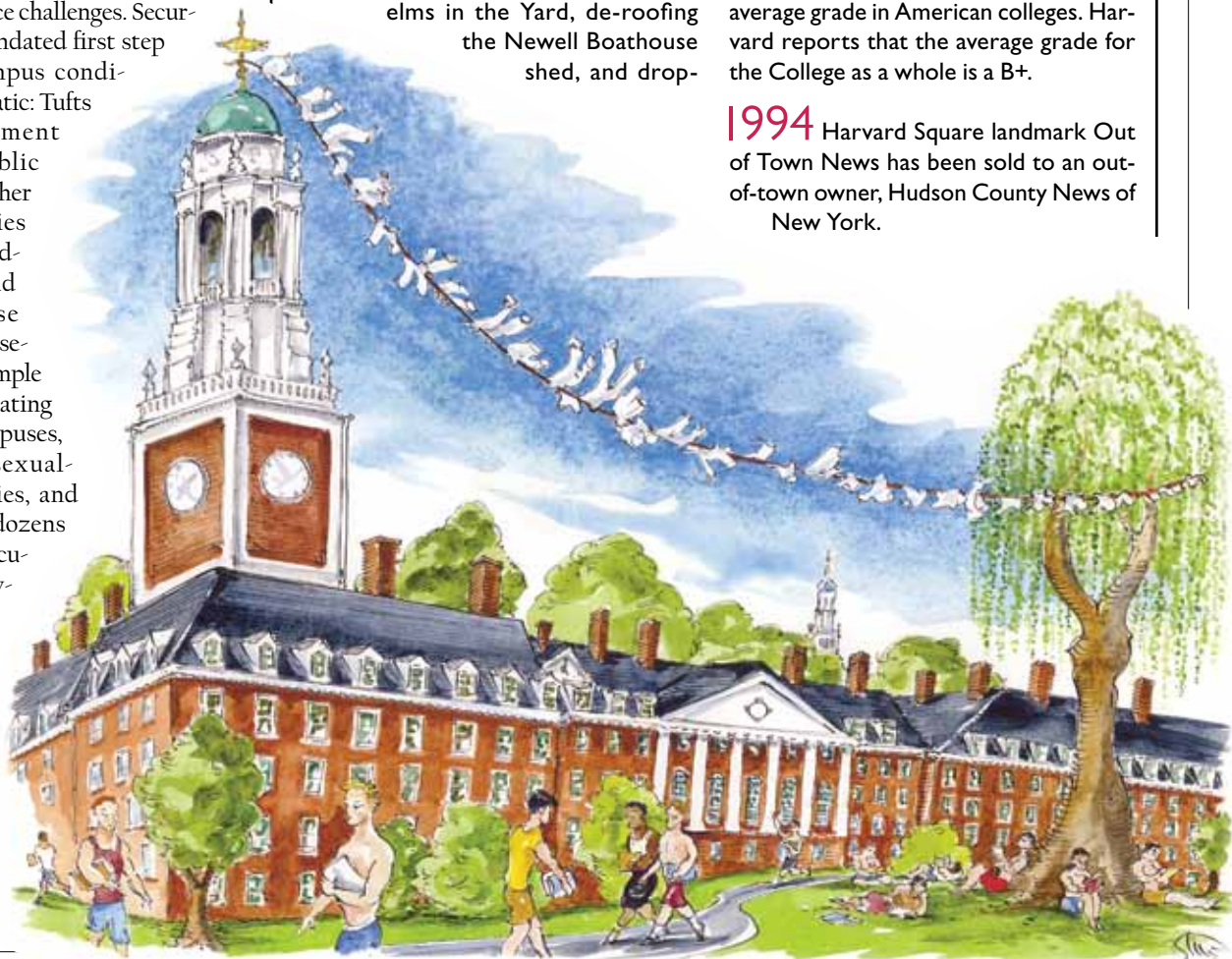


Illustration by Mark Steele

Michael D. Smith announced the Faculty of Arts and Sciences Committee on Sexual Misconduct Policies and Procedures to lead this work within FAS. Its chair, professor of history Alison Johnson, also serves on Hyman's prevention task force.

All that work may be the easy part. The task force is likely to recommend broader education for students and training for administrators, with an eye toward changes

in campus culture. The mix of young people exploring relationships, sometimes accompanied by access to alcohol, in a new setting away from home, has never been free of emotional complications, nor wholly guided by rationality, mature experience, or rules in a student handbook.

Lest anyone involved forget that Harvard, too, is a worldly community (even apart from matters of sexual conduct),

Dean Smith had the unhappy duty of informing the faculty on April 1 that three undergraduates had been expelled earlier in the year for violating rules on physical violence (in all three instances), plus diverse infractions concerning drugs, alcohol, and firearms (in two of the cases). The challenge in addressing sexual assault is that the University is populated by imperfect human beings, not angels.

Spring, Fevered

AMID the Divest Harvard protestors' late-April blockade of the president's office (see page 22) and the debate about sexual assault (see page 23), other issues roiled the end of the semester; several are summarized here.

A College Honor Code

FOLLOWING four years of research and outreach by its committee on academic integrity—a period punctuated by the 2012–2013 investigation of the largest recent case of suspected misconduct on an examination, and punishment of dozens of undergraduates—the Faculty of Arts and Sciences (FAS) on May 6 enacted an honor code for undergraduates.

“[T]o strengthen the dedication to academic integrity,” the College adopted a code described as follows:

Members of the Harvard College community commit themselves to producing academic work with integrity—that is, work that adheres to the scholarly and intellectual standards of accurate attribution of sources, appropriate collection and use of data, and transparent acknowledgment of the contribution of others to our ideas, discoveries, interpretations, and conclusions. Cheating on exams or problem sets, plagiarizing or misrepresenting the ideas or language of someone else as one's own, falsifying data, or any other instance of academic dishonesty violates the standards of our community, as well as the standards of the wider world of learning and affairs.

“Commitment” to the code, which takes effect in the fall of 2015, is to be demonstrated through an “affirmation of integrity,” the specifics of which will

be recommended by the dean of Harvard College and ultimately considered by the full faculty for inclusion in the *Handbook for Students*. Language circulated to the faculty in March included this language for the affirmation: “I attest to the honesty of my academic work and affirm that it conforms to the standards of the Harvard College Honor Code.” Cases concerning possible violations will be adjudi-



Jay M. Harris, dean of undergraduate education, led the academic-integrity committee as it drafted an honor code; it takes effect in the fall of 2015.

cated by a new Honor Board, not the existing Administrative Board; members will include undergraduates, resident deans, professors, administrators, and graduate students; the dean or his designee will serve as chair.

Adoption was never in doubt, and the measure passed overwhelmingly, but the faculty debate aired several criticisms. Some professors objected to the appropriateness of administering an oath or affirmation to the Harvard community, or part of it. Others questioned the efficacy of such procedures for promoting appropriate academic behavior, and pointed to broader measures shaping the campus culture. And there were, generally, concerns about an asymmetrical process that seems to single out student conduct without explicitly emphasizing professors' reciprocal obligations to the students whom they teach.

Rakesh Khurana, who becomes dean of Harvard College on July 1, will be responsible for implementation; he participated in the committee's work. For details about the code, its background, and the debate, see <http://harvard-mag.com/honor-14>.

Separately, in a sort of coda to the honor-code debate and the 2012–2013 academic-misconduct case, two central figures in that grueling investigation announced that they are leaving Harvard. John L. “Jay” Ellison, secretary of the Administrative Board since 2005, will become dean of students at the University of Chicago. Adams House resident dean Sharon L. Howell—an outspoken

critic of searches of resident deans' e-mail account headings after it appeared that Ad Board information about the investigation had been passed to news media—is moving to Northfield Mount Hermon School. (See below on the new communications-privacy policy.)

E-privacy Policy Approved

THE HARVARD CORPORATION in late March approved a new, University-wide policy on access to electronic communications. The

policy was drafted by a task force led by Green professor of law David Barron, following College administrators' controversial decisions to access information about e-mails during an Administrative Board investigation into undergraduate academic misconduct (see "E-mail Imbroglio," May-June 2013, page 46; on May 22, the U.S. Senate confirmed Barron's appointment as a judge on the First Circuit Court of Appeals).

Changes to the policy since a draft was posted on February 26 (see "An E-privacy

Policy," May-June 2014, page 26) inviting community comment were mostly minor, but a subsection covering "Internal Investigations of Misconduct" now reiterates the need to weigh any decision to access electronic information against "University values"—identified earlier in the document as including "academic freedom and internal trust and confidence," for example. The policy also includes provisions for record-keeping to enable review by an independent oversight committee, which will be chaired by Goldston professor of law John Goldberg.

President Drew Faust thanked Barron and the task force for their "thoughtful and thorough work," adding that it reflected "the values that underpin our work as an academic community—transparency, trust, and respect for academic freedom—and as such will serve us well in the years ahead."

From Courses to Credits...
and Beyond?

As AN administrative measure, FAS also vot-

ed to move from tracking academic units in terms of courses to the credit-hour system in nearly universal use in higher education. The immediate motivation for converting each semester-long, half course into four credits (and thereby making an undergraduate course of study 128 credits) is the student-information system coming online in the fall of 2015. It is credit-based, as are the norms of reporting for higher-education accreditation.

But a careful parsing of the legislative language ("courses in the sciences, arts and humanities, engineering and applied sciences, social sciences, and medical sciences shall all earn four credits per semester course") reveals that it may, over time, become permissive, rather than prescriptive. Graduate School of Arts and Sciences students already take shorter biomedical "modules": and quarter- and nano-courses on specific topics, for which the semester term no longer obtains. Online courses offered through HarvardX are being disaggregated into shorter learning-unit modules, covering a single topic, problem set, or segment

STEPHANIE MITCHELL/HARVARD PUBLIC AFFAIRS AND COMMUNICATIONS



David Barron

Renewing the Coop

The Harvard Coop, a retailing fixture for 132 years, is changing with the times. Although it will remain a membership-based cooperative, its longtime annual rebate distributions will be supplanted by a 10 percent discount at the time of sale, beginning with purchases (in-store or online) made July 1. Thus, paid-up members will receive their final rebate checks this autumn, for the fiscal year ending June 30; henceforth, once current membership is validated at the register or during online checkout, patrons will realize their savings at once.

Coop president Jerry Murphy '73, M.B.A. '77, said that its board of directors had examined operations during the past few years, taking stock of changes in book retailing and of the expectations and wants of Harvard and MIT students, who are an important, year-round customer cohort, and of other members. Focus groups and other analyses of alumni and students showed, he said, that many students don't figure the rebate into their purchasing decisions and that most preferred immediate savings.

The discount—which will apply across the Coop's offerings, including trade books, texts, and insignia merchandise—in fact exceeds recent rebate rates (of late, an average of 8.5 percent or more of a patron's purchases). Furthermore, it will apply atop other promotions (for example, on best-selling books offered at a 30 percent discount, members will realize an additional 10 percent off the reduced price).

Murphy said that although it is possible some products may be



HARVARD MAGAZINE/UC

excluded from the discount in the future, the only such category now is fully digital text materials, for which pricing is evolving in the educational-publishing industry. To date, such materials account for a minuscule share of Coop volume; as such publishing evolves, it is even conceivable, of course, that university registrars' course-management systems or other entities will become the source for distributing e-teaching materials, taking them outside the conventional retailing system.

To receive the somewhat greater, and instant, discount, patrons must be current in their Coop membership, and able to provide verifiable evidence at the point of sale. To make things simpler for students, the Coop allows them to select their student ID number as their membership number: one less credential to carry.

of a larger course. And faculty members are clearly discussing shorter for-credit options that might take advantage of the extended January break, or opportunities for separating and mixing and matching labs from the courses with which they are now associated.

Any such formats would require faculty review and approval—but the discussion is clearly under way at Harvard, and much more comprehensively at MIT, whose president commissioned a report in which faculty advocated “unbundling of education” and achieving “greater modularity in

the MIT undergraduate curriculum, from a top-down approach that decomposes existing courses into modules to a bottom-up approach that re-engineers a curriculum by identifying the core concepts and associated modules that underlie them or build upon them,” with the aim of “providing greater flexibility for students to customize their degree programs.” These issues are explored fully at <http://harvardmagazine.com/credit-14>.

Gender-neutral Housing

ALMOST IN PASSING, the amendments to

the language in the *Handbook for Students*—which were adopted routinely at the May 6 FAS meeting—turn the pilot program on gender-neutral housing (initiated at the request of transgender students) into a regular possibility, subject to a review procedure. Thus, “Rising sophomore, juniors, and seniors may request to form mixed-gender rooming groups.” All occupants must voluntarily agree to the arrangement, and requests are “addressed and managed on a case-by-case basis, taking into account all circumstances, including space constraints.”

University People

Scholars at the Summit

The National Academy of Sciences has elected 11 professors to membership. From Harvard Medical School come:



Vamsi K. Mootha



Jeff W. Lichtman

Bruce P. Bean, Winthrop professor of neurobiology; Emery N. Brown, Zapol professor of anaesthesia; Timothy J. Mitchison, Sabbagh professor of systems biology; Vamsi K. Mootha, professor of systems biology and of medicine; and Martin R. Pollak, professor of medicine. New members from the Faculty of Arts and Sciences include: Daniel Eisenstein, professor of astronomy; Drew Fudenberg, Abbe professor of economics; Lawrence F. Katz, Allison professor of economics; Jeff W. Lichtman, Knowles professor of molecular and cellular biology and Ramon y Cajal professor of arts and sciences; Andrew W. Murray, Smith professor of molecular genetics; and Subir Sachdev, professor of physics. To learn more about their work, and about the 11 alumni from other institutions who were also elected, visit <http://harvardmagazine.com/nas-14>.



Andrew W. Murray

Classroom Champions

The Faculty of Arts and Sciences conferred Harvard College Professorships (its highest honor for distinguished undergraduate teaching and advising, consisting of a five-year title plus incremental research funding) on five faculty members: Mahzarin Banaji, Cabot professor of social ethics (a psychologist); David Cutler, Eckstein professor of applied economics; Hopi Hoekstra, professor of organismic and evolutionary biology and molecular and cellular biology; Melissa McCormick, professor of Japanese art and culture; and Greg Morrisett, Cutting professor of computer science. For background information on each, and details on other teaching and advising honors, see <http://harvardmag.com/faculty-14>.



Mahzarin Banaji



David Cutler



Megan Marshall

Pulitzer Portrait

Megan Marshall '77, RI '07, was awarded the Pulitzer Prize for biography, for *Margaret Fuller: A New American Life*. Among the finalists for this year's prizes were: Bernbaum professor of literature Leo Damrosch (biogra-

phy, for *Jonathan Swift: His Life and His World*); Rebecca Davis O'Brien '06 (local reporting, for coverage of heroin in the northern New Jersey suburbs; O'Brien was one of this magazine's Ledecky Undergraduate Fellows in the 2003-2004 academic year); and John Adams '69, A.M. '72, D.Mus. '12 (music, for *The Gospel According to the Other Mary*).

Radcliffe's Roster

Eleven faculty affiliates are among the Radcliffe Institute's 50 fellows for the 2014-2015 academic year: Ann Blair, Lea professor of history; Matthew B. Boyle, professor of philosophy; Noam D. Elkies, professor of mathematics; Nancy E. Hill, professor of education; Lakshminarayanan Mahadevan, England de Valpine professor of applied mathematics, of organismic and evolutionary biology, and of physics (the subject of the magazine's March-April 2008 cover story, “The Physics of the Familiar”); Erez Manela, professor of history; Alexander Rehding, Peabody professor of music (whose work on rethinking the humanities curriculum is featured in “Toward Cultural Citizenship,” May-June, page 35); Kathryn A. Sikkink, Ryan Family professor of human-rights policy; Carol S. Steiker, Friendly professor of law;



Ann Blair



Nancy E. Hill



Lakshminarayanan Mahadevan

Capital-Campaign Compendium

THE SCHOOLS of business, dental medicine, divinity, and government announced their capital-campaign priorities and ambitions this spring. With their targets included, some \$4.6 billion of the \$6.5-billion Harvard Campaign's aggregate goal has been detailed.

• *Harvard Divinity School* launched its \$50-million effort "To Illuminate, Engage, and Serve" on April 4. Dean David N. Hempton emphasized new professorships

Felix Warneken, associate professor of psychology; and Bruce Western, professor of sociology and Guggenheim professor of criminal justice (profiled in the magazine's March-April 2013 cover story, "The Prison Problem").

Campus Services Czar

Meredith Weenick '90, M.B.A. '02, has been appointed Harvard's vice president for campus services, effective July 14. Following a variety of experiences within Boston's municipal government, she became the city's chief financial officer in 2010. At the University, she will oversee facilities and property management, residential and commercial real estate, dining, engineering and utilities, transportation and parking, international student services, environmental health and safety, emergency management, and the Common Spaces program. Weenick will report to executive vice president Katie Lapp. (Harvard Magazine Inc. reports to campus services for financial and budgeting purposes.)



Meredith Weenick

STEPHANIE MITCHELL/HPAC

Parliamentary Professor

Gardiner professor of oceanic history and affairs Sugata Bose, an historian of India and grand-nephew of Subhas Chandra Bose, the Indian nationalist, was voted into India's parliament from Jadavpur, in the city of Kolkata, during that nation's watershed election in May. *The New York Times*, which reported on his campaign, indicated he would take a public-service leave.



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"Let's begin":
Business School
dean Nitin Nohria
during his cam-
paign address April
25; a sketch of the
iconic Baker
Library is project-
ed behind him.

great need, such as Haiti and Rwanda. Beyond the campaign goal, it also solicits support for professorships, laboratories and other spaces, and fellowships.

• *Harvard Business School* (HBS) began its \$1-billion campaign (with more than \$600 million already committed) much more visibly the next day, with case-based class discussions for alumni; student panels on innovations in the new experience-based curriculum; presentations on the iLab; and faculty-alumni panels on interdisciplinary research into social challenges such as healthcare, education, and energy policy.

(about one-quarter of the goal) in "global" subjects such as contemporary Jewish studies, the Hebrew Bible, women's studies, Buddhism, and African-American religious studies. More funds for financial aid and interdisciplinary collaborations are on the list, but the largest priority is the renovation of Andover Hall, the school's central facility, constructed as a seminary in 1911.

With material prosperity and instant gratification so often accepted as societal norms, said Hempton, who is also McDonald Family professor of evangelical theological studies, the core mission of Harvard's founders—religion and spirituality—is often ignored. He called the divinity school the perfect institution to inspire today's leaders to think about the most important questions in life, including death, the natural world, and spirituality, and President Drew Faust agreed: "Never have its subjects of inquiry felt more urgent—from the discussions of values and ethics buzzing across the graduate schools, to the tremendous appetite among undergraduates for the vexing question of how to live a life."

For complete coverage, see <http://harvardmag.com/divinity-14>.

• *Harvard School of Dental Medicine* quietly began its \$8-million campaign at the downtown Harvard Club of Boston, on April 24. The school seeks financial-aid funds (75 percent of the goal; the average debt of a 2013 D.M.D. graduate was \$162,000, noted the case statement), and support for global and community oral-health programs (25 percent), to give students and faculty members public-health experiences locally and in countries with

Dean Nitin Nohria outlined five priorities: intellectual ambition (funding for the research initiatives, and related faculty growth and building projects; \$250 million); innovation in education, including the experience-based curriculum, the HBX online venture, and executive education (see a project for the latter in Brevia, opposite; \$200 million); international research, education, employment recruiting, and dissemination of Harvard Business Publishing products (\$150 million); inclusiveness (financial aid and summer and postgraduate fellowships for social enterprise, entrepreneurship, and other pursuits; \$150 million); and integrating with other parts of Harvard (including the iLab, cross-faculty teaching, and programmatic investments in Allston when the School of Engineering and Applied Sciences [SEAS] and other units locate next to HBS's campus; \$100 million). Nohria also hopes to secure \$150 million of discretionary, current-use funds.

In remarks at a gala featuring spectacular video presentations about alumni experiences and leaders around the world, Faust said Harvard's campaign was "about leadership"—the core of HBS's mission. Citing the school's pioneering his-

tory, including the case method and such fundamental concepts as the value chain and disruptive innovation (see the profile of Clayton Christensen, page 38), she observed that pressing problems of economic and political development and scientific discovery "all demand approaches and solutions" grounded in organization, management, and innovation. Nohria, the final speaker, encompassed HBS's aims by emphasizing educational innovation, with a succinct, forward-looking tagline: "Let's begin."

Read a full report at <http://harvardmag.com/hbs-14>.

• *Harvard Kennedy School's* (HKS) \$500-million drive (with nearly two-thirds already pledged) launched during two symposium-filled days on May 15 and 16. In an interview, Dean David Ellwood reflected on governance at a time when the public is disillusioned, noting, "The American people have never been enamored with government, but what's unique about this moment is that we face a series of quite troubling public challenges"—middle-class stagnation, climate change, even threats to democracy itself. HKS students, he stressed, are "people who've really been in the world of practice."

On May 15, the president of Liberia, Ellen Johnson Sirleaf, M.P.A. '71, LL.D. '11, and Felipe Calderón, M.P.A. '00, K '03, the former president of Mexico, demonstrated that point in discussing leadership. Asked what prepares a leader for coping with difficult decisions, Sirleaf replied, "There's nothing...other than your inner will to



The Kennedy School's leadership panel (from left): M.P.P. candidate Jieum Baek; Liberian president Ellen Johnson Sirleaf; former Mexican president Felipe Calderón; M.P.A. candidate Amandla Agoro Ooko-Ombaka

The Undergraduate Mind

The Faculty of Arts and Sciences conferred the Hoopes Prize on 71 theses from among those nominated by professors and other advisers. Winners receive \$4,000 (plus \$1,000 for the adviser), and a place of pride, bound, on a special, prominent shelf in Lamont Library—an inspiration to rising young scholars. The honored theses this year ranged from Amsale Alemu's "Tilling Imagined Land: Student Protest and Generational Conflict in Twentieth-Century Ethiopia" to Matthew Yarri's "An Exoskeleton Device to Assist in Downhill Walking." The complete list appears under the "Hoopes Prize" tab at <http://prizes.fas.harvard.edu/icb/icb.do>.

Coming to the College

Nearly 82 percent of the 2,023 candidates offered admission to the undergraduate class of 2018 accepted—a generationally high "yield" in line with last year's result. As a result, just 15 to 20 wait-listed applicants are expected to gain admission. The admissions office reported that the entering class includes record numbers of African Americans (177) and Latinos (185), and the second-largest cohort of Asian Americans in College history. Stanford's yield continued to rise sharply, reaching nearly 77 percent, as did Yale's, climbing to 72 percent.

Earners-in-Chief

According to the University's annual disclosure, released in mid May, Harvard Management Company reported the following calendar-year 2012 compensation for its senior leadership and top-earning investment professionals: Jane L. Mendillo, president and CEO, \$4.8 million; Robert A. Ettl, chief operating officer, \$4.0 million; Andrew G. Wiltshire, head of alternative assets, \$7.9 million; Alvaro Aguirre-Simunovic, natural-resources portfolio

Brevia



CHAO CENTER CELEBRATION: Harvesting one of the fruits of its capital campaign the day before unveiling the fundraising effort publicly (see the facing page for a summary of priorities), Harvard Business School officially broke ground for the Ruth Mulan Chu Chao Center on April 24. It will replace the demolished Kresge Hall. When completed in 2016, the new facility—with meeting, office, and dining facilities, plus classrooms—will complete a rebuilt and renovated residential executive-education quadrangle at the eastern edge of the school's campus. For further details, see <http://harvardmagazine.com/chao-center>.

manager, \$6.6 million; Stephen Blyth, head of public markets, \$5.3 million; and Daniel Cummings, real-estate portfolio manager, \$4.2 million. The University's tax return for the fiscal year ended June 30, 2013, revealed that President Drew Faust earned \$771,000 in salary plus other compensation of \$270,000 (much of that attributable to use of the official presidential residence, Elmwood). Separately, her compensation for service on the board of directors of Staples Inc., reported in its proxy statement, was the standard cash fee for each board member of \$75,000, plus stock awards of \$175,000. For a full report, see <http://harvardmag.com/compensation>.

On Online Education

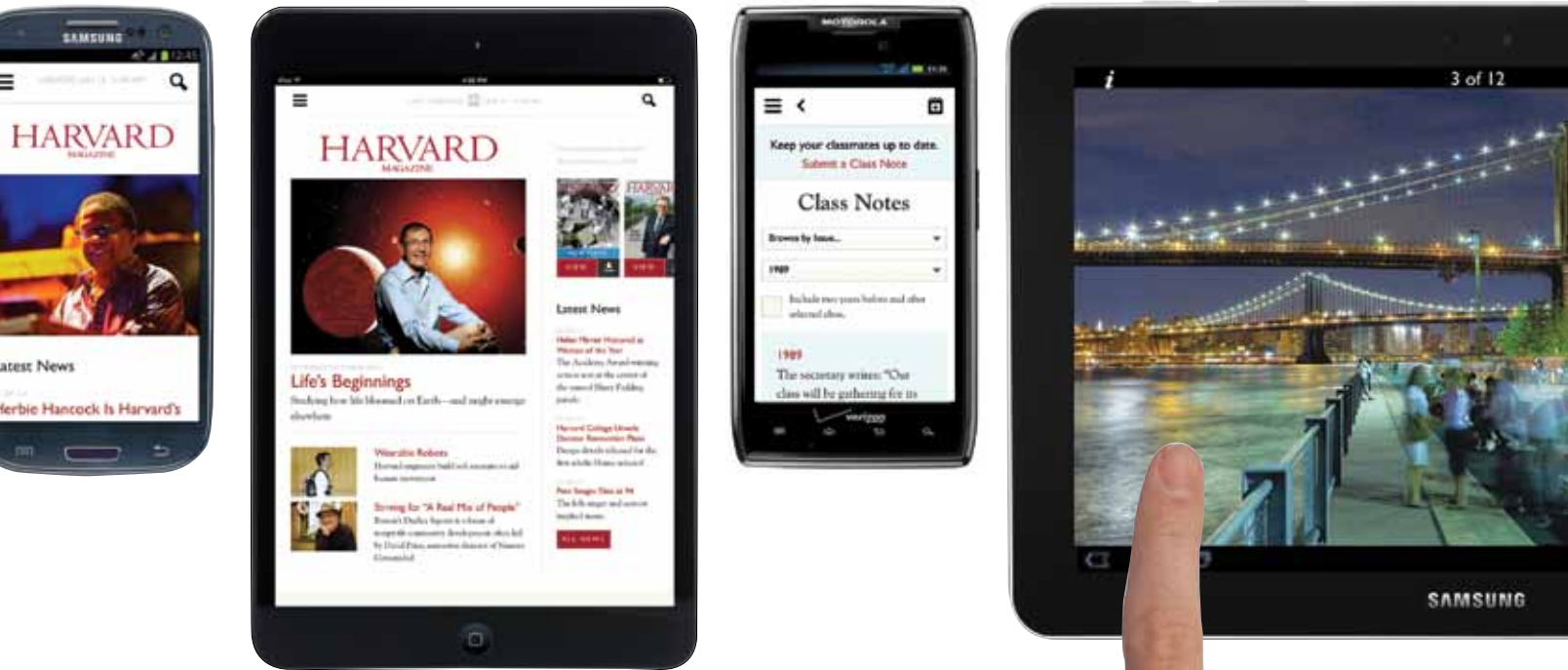
Coursera, the for-profit online-education competitor of the nonprofit Harvard-MIT edX partnership, announced a series of "learning hubs"—physical venues, with facilitators, where enrolled students can collaborate. The initial eight sites include Dominican University of California and the New York Public Library, plus six international locations that have Internet access (a limitation in some nations). Coursera also unveiled its "global translator community" to speed creation of course versions in multiple languages, since most of its enrolled students live in non-Eng-

lish-speaking countries....Coursera co-founder and chairman Andrew Ng will simultaneously serve as chief scientist at Baidu, the Chinese Internet search engine—potentially, a valuable connection for Coursera in distributing its courses in that huge market for higher education.... Writing in his institution's alumni magazine, Stanford president John Hennessy noted the low completion rates among students enrolled in massive open online courses, but highlighted the efficacy of "flipped classrooms" (with recorded lectures for viewing before class meetings), online analysis of student learning, and promising applications in executive and continuing education....Berklee College of Music, a Boston-based member of edX, launched a fully online, accredited bachelor's-degree program, in music business or music production, with a \$14,500 annual tuition—about 40 percent of the tuition bill for a residential degree.

Elsewhere in Academia

Dartmouth received a \$100-million anonymous gift, including a challenge fund that will raise total proceeds to \$200 million, in support of 30 to 40 endowed interdisciplinary professorships, a new Society of Fellows for rising young scholars, expansion of its Thayer School of Engineering, experiential education, and new

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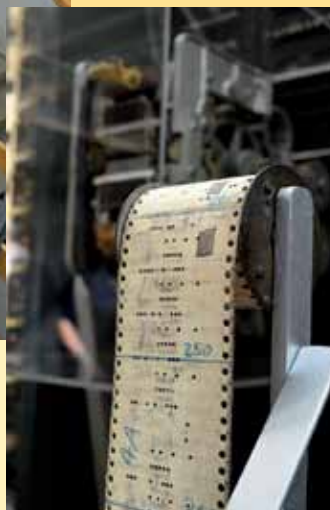
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MARKING Mark I. The 70-year-old Mark I, the first programmable computer in the United States, was briefly turned on during an April ceremony for the reinstallation of the exhibit centered on the machine, conceived by Howard Aiken, Ph.D. '39, S.D. '65, during his graduate studies in physics. "One of the things that I love about this machine is that it embodies, in a very direct, literal way, terms that we're used to—like the 'bug,' the 'loop,' and the 'library,'" said Pellegrino University Professor Peter Galison. A real moth once laid low successor Mark II—the first actual bug found.



learning technologies....Yale, joining Harvard (in Shanghai) and Stanford (Beijing), is opening a center in China (also in Beijing) for its visiting students and faculty, and for executive education....The University of California at Los Angeles launched a \$4.2-billion capital campaign, slightly edging the University of Michigan's \$4.0-billion goal as the largest fund drive by a public university. UCLA is emphasizing research and financial aid, which account for more than \$3 billion of the resources sought; some \$1.3 billion has been raised.

Nota Bene

UNDERWRITING ARTS. University benefactor Paul Battenwieser '60, M.D. '64—a former Overseer and 2010 Harvard Medalist—and his wife, Catherine, both supporters of the arts, have endowed the position of director of creative writing (within the department of English). The incumbent, Bret Johnston, becomes the first holder of the named directorship, which oversees coursework in fiction, poetry, nonfiction, screenwriting, and playwriting.

ORGANIZING OUTPOST. Staff members at Dumbarton Oaks—Harvard's center for Byzantine, Pre-Columbian, and garden and landscape studies, in Washington, D.C.—have voted to join the Harvard Union of Clerical and Technical Workers, effective this past April 1. This marks the first time since the HUCTW was formed in 1988 that a group of nonunion

Harvard employees has voted to affiliate. Separately, an arbitrator ruled that

33 grants managers in various science departments and the Graduate School of Education are overtime-eligible employees and included in the HUCTW.

INNOVATIVE EDUCATOR. Balkanski professor of physics and applied physics Eric Mazur has been awarded the initial Minerva Prize for Advancements in Higher Education. The \$500,000 prize, affiliated with Minerva Academy, which seeks through the Minerva Project to build a technologically based, global alternative to campus education for elite students, recognized Mazur's pioneering peer instruction in flipped classrooms. His work was the subject of *Harvard Magazine's* "Twilight of the Lecture," March-April 2012, page 23.

ENERGY AND ENVIRONMENT. The concentration in environmental science and public policy has created a secondary field (for interested undergraduates concentrating in other disciplines) in energy and the environment, effective this coming fall. It requires one foundational course, plus three advanced courses in either humanities/social sciences, or natural sciences/engineering.

Q QUERIES. A note from dean of undergraduate education Jay M. Harris to students concerning their fall class selec-

tions disclosed the news that the course-evaluation Q Guide will no longer display the "difficulty" score—one of the changes meant to make the guide "more accurate, sophisticated, and helpful."

CRIMSON CABINET. With Sylvia Mathews Burwell '87 nominated as secretary of health and human services—joining Arne Duncan '86 at education and Shaun Donovan '87, M.Arch.-M.P.A. '95 (moving from housing and urban development to the office of management and budget)—President Barack Obama, J.D. '91, nearly had a Harvard College class trifecta in his cabinet.

MISCELLANY. *The Boston Globe* disclosed in April that Crimson football coach Tim Murphy underwent emergency triple coronary bypass surgery this past February....The American Repertory Theater's productions of *The Glass Menagerie* (seven) and *All the Way* (two) were nominated for nine Tony Awards; winners were to be announced June 8, after this issue went to press....As construction proceeded to accommodate Dunster House residents in swing space (at the repurposed Inn at Harvard and elsewhere), during the first whole-House renovation beginning this June, the Harvard-owned house at 8 Prescott Street was converted into the temporary new home for House masters displaced by the successive construction projects. The Expository Writing offices formerly located there have moved to Bow Street....The Harvard Club of Boston is nearing the sale of the annex adjacent to its main clubhouse facility on Commonwealth Avenue; the space will be converted to condominiums.

make a decision. That is difficult. You find out what you have within you.” Calderón noted that “once a decision arrives on your desk, it is there because it is a difficult one. Often, your choice is between the lesser of two evils.”

When Faust spoke, she praised the school for its global footprint and interdisciplinary work. Ellwood also touched on those attributes, in part, in outlining the school's four campaign priorities: “reaching the very best leaders” (by developing financial-aid resources); “transforming the educational experience” (with multidisciplinary and experiential learning and teaching technologies); “generating powerful ideas” (a rubric focused on “making democracy work; creating shared, sustainable prosperity; [and] harnessing the forces reshaping our world”); and “creating a campus that amplifies our mission” (including a major new building and the renovations to support “active, engaged learning, and group work”).

Read a full report at <http://harvardmag.com/kennedy-14>.

• In *other campaign news*, reunion gifts and other pledges (see a report on notable results, unveiled during Commencement afternoon, on page 79) brought the Univer-

sity its first \$1-billion year for donations and commitments—a goal reached in the past, according to published reports, only by Stanford during the end of its most recent campaign.

Among notable announcements, the Faculty of Arts and Sciences disclosed a \$17-million donation from the Pershing Square Foundation—founded by Bill (William A.) Ackman '88, M.B.A. '92, CEO of the Pershing Square Capital Management hedge fund, and Karen Ackman, M.L.A. '93—for a “foundations of human behavior” initiative grounded in behavioral economics and other disciplines. That gift provides for three new professorships and a research fund. The Ackmans separately disclosed \$9 million of additional giving, including a medical-school professorship in global health and \$5 million for men's crew travel expenses. See <http://harvardmag.com/ackman-14> for more information.

Autumn will bring announcements from

President Drew Faust outlining campaign priorities aboard the *Intrepid* on May 14



SEAN SMITH/HARVARD PUBLIC AFFAIRS AND COMMUNICATIONS

the schools of design, education, law, and medicine, and additional sums are being raised centrally, as University priorities, for projects such as the new SEAS quarters in Allston. But for the moment, speaking before an audience of some 600 guests at a New York City fundraising gala on May 14 aboard the battleship/museum *Intrepid*, Faust brought the academic year's formal campaign events to an end by recapitulating the themes of her September 21 kickoff address. She especially emphasized investing in knowledge—in particular, interdisciplinary research in the applied sciences and engineering. (She offered an extended illustration of a recent discovery involving microrobotics.) She also disclosed that some \$430 million had been raised toward financial aid, a principal campaign goal (she did not detail other results by function), and spoke of Harvard moving from being “*inherently* global to *intentionally* global” in curriculum and research. If the capital-project goals are met, she said, hundreds of

thousands of square feet of construction will be under way in Allston by the campaign's end (for the new engineering and applied sciences facility), moving the University toward a future including a unified campus—with the Charles River running through it—by the time of its four-hundredth anniversary, in 2036.

Continuing campaign coverage is available at <http://harvardmagazine.com/topic/capital-campaign>.

Treasurer Transition

The University announced on May 28 that Paul J. Finnegan '75, M.B.A. '82 (below left), will succeed James F. Rothenberg '68, M.B.A. '70 (below right), as treasurer on July 1. The treasurer has wide responsibilities for overseeing Harvard's finances, and signs the annual financial report with the vice president for finance. Rothenberg has used that report in recent years to send a message about changes threatening higher education's economic model: families tapped out by rising tuition; eroding federal funding for research; and less robust endowment returns.

Rothenberg joined the Corporation in 2004, and will continue to serve on the senior governing board—presumably through 2016, when he would reach the normal term limit under the governance re-

forms adopted in 2010. Finnegan became a Corporation member in 2012, making this transfer seamless. For further details on the Corporation in transition, see <http://harvardmag.com/finnegan-14> and <http://harvardmag.com/corp-14>.



HARVARD PUBLIC AFFAIRS AND COMMUNICATIONS

Dan Boyne demonstrates the *ardha matsyendrasana* ("half lord of the fishes") yoga posture.



SPORTS

Yoga for Lacrosse

Stretching for success

THIS WAS a banner year for Harvard men's lacrosse (10-7, 5-1 Ivy). The squad earned its first berth in the NCAA tournament in eight years, and captured its first regular-season Ivy title since 1990. Harvard and Cornell both finished with 5-1 records, but the tiebreaker went to the Crimson, due to its 14-9 thumping of the Big Red in Ithaca this April (Then, Cornell was 9-0 and ranked second in the nation). At the season-ending Ivy Tournament, Penn (4-2 Ivy) defeated Harvard, 7-5, to secure the league's automatic NCAA bid; Harvard and Cornell both received at-large bids, and all three schools lost in the national tourney's first

round, in Harvard's case to Notre Dame, which yielded to Duke in the final, 11-9.

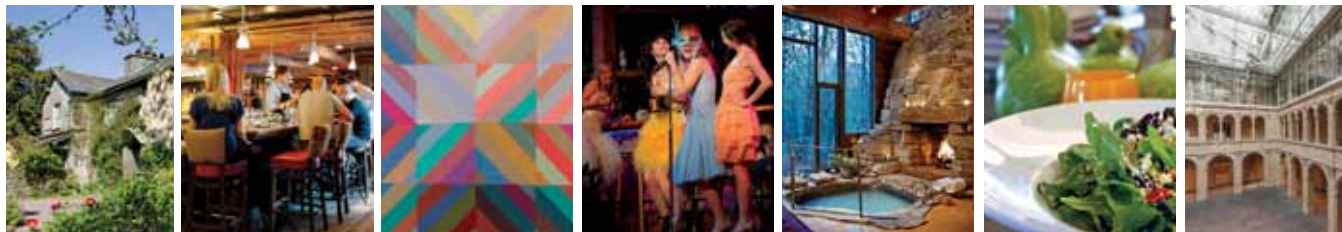
An unorthodox and new contribution to the laxmen's success came from athletics professional Dan Boyne, who for 28 years has directed the recreational sculling program in Weld Boathouse. Boyne has taught yoga professionally at Harvard and in Cambridge studios for 15 years; in previous seasons he has led yoga classes for the men's soccer and tennis squads, and for men's and women's crew. In 2013, head men's lacrosse coach Chris Wojcik '96 asked Boyne to work with his team; this led to a half-dozen sessions that year and nine this spring. The outcome: a more flex-

COURTESY OF DAN BOYNE

Announcing: Harvard²

Harvard Magazine is excited to launch **Harvard²**, the newly redesigned regional section for alumni who are living in, or visiting, New England. It explores local history, architecture, travel destinations, arts and cultural happenings, and the multifaceted culinary scene—and the ways they inspire and enrich daily life in Cambridge, Boston—and beyond.

Harvard² can be found online in each issue at: harvardmagazine.com/harvard2



What's NEW: expanded calendar; enhanced culinary-arts section; faculty, staff, and student Harvard picks; New England day trips; and more...

ible, relaxed group of athletes who stayed healthier during the lacrosse season.

In 2012, Wojcik's second year as head coach, "we had a lot of injuries," he says. "It was very concerning. There were sprained ankles, a torn ACL—lots of lower-body stuff." Things improved last year, and this season, "we were pretty much injury-free," he reports. "We didn't have anyone standing around watching practice."

The squad of 35 men worked with Boyne on Sunday afternoons. "They really needed rest," he says. "When we dropped into savasana [the relaxing 'corpse pose' done at the end of yoga classes] there was absolute silence." Wojcik notes that "After the Saturday games, they are banged up. Yoga helped players recover, to regenerate and stretch, on Sunday. Their muscles have recovered better."

Lacrosse "is a fast-moving, reactive sport," Boyne explains. "The visual field gets overtaxed in ball sports. With the eyes closed in relaxation, you calm the visual field, and all the sense organs dial down. It's like clicking each of the windows on a computer screen shut." He feels yoga can offset "the over-tightness of cer-

tain muscle groups. If your hamstrings are tight and there is a quick change of direction, things can tear."

Furthermore, "people are often not aware of the tensions they are holding," Boyne says. "Mental tensions get stored in the body. Yoga can help athletes iron out the holding patterns. It matters, because muscles tensed in the body can lead to inefficiencies." He notes that certain places

are more vulnerable to injury: "around the joint capsules, spots like hips and shoulders, junctures between the extremities and the axial body or torso. If you can unlock tensions, you can open up the flow of energy." Even better, yogic practice can increase body awareness, with consequent gains in efficiency, he explains: "You can use the minimal movement of muscles to do what you need to do." ~CRAIG LAMBERT

Sports Wrap

Men's Rowing

Undefeated throughout the spring, the **heavyweights** capped another sterling season with an Eastern Sprints championship, defeating Brown and Princeton in the final. The Crimson took home their fifth consecutive Rowe Cup, symbolic of overall heavyweight supremacy on Lake Quinsigamond. Harvard's time was only 0.27 seconds off the course record.

The varsity came fifth at the Intercollegiate Rowing Association regatta, as

perennial powerhouse Washington won the national championship.

Women's Rowing

The **Radcliffe heavyweights** came in third behind Princeton and Brown at the Ivy League Championships, and thirteenth at the NAAs. The undefeated Radcliffe **lightweight varsity** won the national title at the Intercollegiate Rowing Association regatta in Camden, New Jersey. Trailing by seven seats with only 500 meters to go, Radcliffe sprinted past Stanford and Bucknell for the gold.

A Special Evening Exploring the COLLECTION OF HISTORICAL SCIENTIFIC INSTRUMENTS

ON APRIL 30, *Harvard Magazine* donors gathered at the Science Center's Putnam Gallery in Cambridge, for a private tour of the Collection of Historical Scientific Instruments with the David P. Wheatland Curator, Sara Schechner.

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Disruptive Genius

Innovation guru Clayton Christensen on spreading his gospel, the Gospel, and how to win with the electric car

WHEN HE WAS 34 years old, Clayton Christensen started a company with a few

by **Craig Lambert**

MIT professors called Ceramics Process Systems Corporation. “I was the business guy,” he explains. “We were making new products out of advanced materials. In that market niche, we were the only ones to succeed: we beat DuPont, Alcoa, Hoechst. I could not

explain this by our having smarter people. The other companies had smart owners and smart managers, too. How could smart people fail? I started to think about other industries where talented leaders had failed—were they actually stupid managers?”

Living in the Boston area, Christensen, M.B.A. '79, D.B.A. '92, now Clark professor of business administration, had enjoyed a

close-up view of the rise and fall of Digital Equipment Corporation (DEC), a minicomputer manufacturer. DEC ranked among the world's most widely admired companies in the 1970s and 1980s, and was, after state government, the second-largest employer in Massachusetts. Minicomputers were much smaller than mainframes, which had appeared in the 1950s, yet much larger than the personal desktop computers that followed them, beginning in the early 1980s. In the 1970s, minis ruled much of computation.

But by the late 1980s, the business desktop microcomputer was eating DEC alive. "People attributed DEC's demise to [CEO Ken] Olsen," Christensen says. (Olsen had regarded desktop computers as toys for playing video games and publicly predicted they would fall flat in the business market.) "But the 'stupid manager' hypothesis didn't make sense, because every company that made minicomputers, every one of them, died in unison! It wasn't just Digital, but Data General, Prime, Wang, Honeywell. You might expect these companies to collude on price occasionally, but to collude to collapse is a stretch."

Christensen became curious about what drove an entire category of businesses to crash together in a short time—including successful, well-managed businesses led by very smart people, like Olsen. For his doctoral thesis at Harvard Business School (HBS), he studied the computer disk-drive industry. A colleague had suggested researching disk drives for the same reason that

Innovator's Dilemma. Yet, "Ironically...it was disruptive technology that precipitated the leading [disk-drive] firms' failure."

He explains that disruptive products are typically "cheaper, simpler, smaller, and, frequently, more convenient to use." They tend to reach new markets, enabling their producers to grow rapidly and—with technological improvements—to eat away at the market shares of the leading vendors. In his book, Christensen shows how, between 1975 and 1990, successive generations of disk-drive technologies—14-, 8-, 5.25-, 3.5-, and 2.5-inch drives—disrupted the markets of their predecessors, and then were themselves disrupted. When 8-inch drives emerged, for example, their smaller capacities held no interest for mainframe-computer manufacturers, the principal customers for 14-inch drives. But the smaller drives matched minicomputer-makers' needs—and with annual gains in performance, they eventually made inroads into the mainframe market. A similar pattern recurred with 5.25-inch drives and desktop computers, 3.5-inch drives and laptop computers, and 2.5-inch drives and notebook computers. Established companies are "held captive by their customers," in Christensen's phrase, and so routinely ignore emerging markets of buyers who are not their customers.

Dominant companies prosper by making a good product and keeping their customer base by using sustaining technologies to continue improving it. The products get ever better—but at some

"How could smart people fail?" Christensen asks.

"I started to think about other industries where talented leaders had failed—were they actually stupid managers?"

geneticists study fruit flies: their life spans are brief and new generations appear quickly. Disk-drive success was similarly short-lived: the category leader had been toppled over and over again. Christensen built an enormous database of every company that had made disk drives—every product, every component, all their revenues. "It was not a sample," he says. "It was a census."

His doctoral thesis became the seminal 1997 book *The Innovator's Dilemma*—a tremendously influential, best-selling volume that established Christensen as the architect of, and worldwide authority on, "disruptive innovation." In 2011 *The Economist* named it one of the six most important business books ever written. It has spawned numerous sequels, and Christensen has spun off a consulting firm, Innosight; the Christensen Institute, a nonprofit think tank; and a boutique investment firm, Rose Park Advisors—all based on his foundational idea. Four thousand students have taken his second-year course, "Building and Sustaining a Successful Enterprise," which helped win him an HBS Extraordinary Teaching Award in 2010.

Cheaper, Simpler, Smaller

THE THEORY of disruptive innovation lies at the core of his success. It grows from the distinction between *sustaining* technologies and *disruptive* ones. The former produce incremental improvements in the performance of established products: disk drives, for example, might offer faster speeds and greater memory storage. In contrast, disruptive technologies are "innovations that result in worse product performance, at least in the near term," he wrote in *The*

point their quality overshoots the level of performance that even the high end of the market needs. Typically, this is when a disruptive innovation lands in the marketplace at a lower price and relatively poor level of performance—but it's a level adequate for what the lower end of the market seeks. The disruptive technology starts to attract customers, and is on its way to staggering the industry's giants.

Examples abound. Small off-road motorcycles from Honda, Kawasaki, and Yamaha disrupted the hegemony of large, powerful bikes from Harley-Davidson and BMW. Transistors overthrew vacuum tubes. Discount retailing and home centers savaged the dominance of Sears. Online courses are barging into higher education. Drones challenge manned fighters and bombers. Nurse practitioners underprice medical doctors. Digital photography eclipsed film, and mobile telephones are replacing landline service. Outpatient clinics and in-home care pull revenue away from general hospitals.

Consider the hegemony of Detroit's Big Three—General Motors, Ford, and Chrysler. At one time, they dominated the auto industry, producing bigger, faster, safer, more comfortable cars with more and more features. But these improving products also "create a vacuum underneath them," Christensen says, "and disruptive innovators suck customers in with fewer features and a cheaper price." Toyota, Honda, and Nissan disrupted the Big Three's marketplace by introducing smaller, lighter, less safe, and less comfortable but reliable cars that needed few repairs and got good gas mileage—at a significantly lower price. Within a few

“It’s been posed to me: maybe this is the end. But if God needs me more on the other side, I’m ready to go. It hasn’t caused me to reprioritize anything, other than wanting to do more good.”

years, they had garnered a large share of the market. Says Christensen: “The leaders get killed from below.”

Many drivers who bought those cheap, reliable Toyota Corollas had not been buying cars, or certainly not *new* cars, before. The disruption forged a new market. “Disruptive innovation generates growth,” Christensen explains. “Sustaining innovation makes good products better—but then you don’t buy the *old* product. They’re replacements. They do not create growth.”

To bring these powerful ideas into the real world, Christensen in 2001 founded the consulting firm Innosight (www.innosight.com) with Mark Johnson, M.B.A. ’96. Now employing about 100, the company works mostly with Fortune 100 companies that are seeking to defend their core businesses and adapt to disruptive en-

vironments. It also coaches them on how to disrupt markets proactively, harnessing disruption’s engine of growth for themselves.

“It’s hard to do both,” says David Duncan, a senior partner at Innosight who earned a Harvard Ph.D. in physics in 2000. “As successful companies get bigger, their growth trajectories flatten out, and they need to find new ways to expand. But that will look different from what they did in the past. Most are so focused on maintaining their core business that when push comes to shove, the core will almost always kill off the disruptive innovation—the new thing.

“The two goals conflict for resources,” he continues. “CEOs are accountable to shareholders and feel Wall Street pressure to meet earnings targets. But innovations usually have lower profit margins at first, and pay off in the long term. Plus, the people who are

Mormonism and Mortality

CLAYTON CHRISTENSEN’S BOOK, *How Will You Measure Your Life?* (2012; with James Allworth and Karen Dillon), focuses on values and offers its readers guidance in aligning their choices, professional and otherwise, with the things that genuinely matter to them. He does as much in his own life, which enables him to live in a way that one might describe as whole-hearted.

Born in Salt Lake City, Christensen grew up in a Mormon family and served as a missionary in South Korea from 1971 to 1973; he speaks fluent Korean. He earned a summa cum laude degree in economics from Brigham Young University, then attended Queen’s College, Oxford, as a Rhodes Scholar, where he received an M.Phil. in applied econometrics and played some basketball, as he had in college. (He stands six feet, eight inches, and remarks, “I’d rather play basketball than eat.” His six-foot, 10-inch son Matt played on the 2001 NCAA championship team at Duke.) Christensen was a Baker Scholar (a top academic honor) at Harvard Business School, and became a White House Fellow in 1982, serving as an assistant to secretaries of transportation Drew Lewis and Elizabeth Dole.

He and his wife, Christine, have raised their five children in a reverently Mormon household. In 1999 he wrote a short essay, “Why I Belong and Why I Believe,” as a gift to his children; it appears under the “Beliefs” section of his website, www.clayton-christensen.com. There, he writes that the mechanism by which the Church of Jesus Christ of Latter-Day Saints has helped him understand and practice the essence of Christianity is “to have no professional clergy. We don’t hire ministers or priests to teach and care for us. This forces us to teach and care for each other—and in my view, this is the core of Christian living as Christ taught it.” He describes the many ways daily life offers him opportunities to serve others, whether it be helping unload some-

one’s moving van or visiting an elderly couple, in poor health and struggling with alcoholism, who lived in a dilapidated apartment in a rough part of Boston.

The essay also relates how, as an Oxford student in 1975, Christensen began a nightly practice of reading the Book of Mormon from 11:00 P.M. to midnight, combined with prayer and an inquiry to God as to whether what he was reading was in fact His truth. One October evening, “I felt a marvelous spirit come into the room and envelop my body. I had never before felt such an intense feeling of peace and love.” The spirit stayed with him that entire hour and returned each night thereafter. “It changed my heart and my life forever.”

In the Mormon Church, he explains, “We truly believe that we are children of our heavenly parents. When that’s your mind-set, you regard people in a different way. If you’re starting a company or running a company, and you recognize that the people you are working with are children of God, you’re much less inclined to disparage them, or not try to help them become better people.”

Regarding missionary work (his 2013 book *The Power of Everyday Missionaries* explores this topic), he draws an analogy with the healthcare industry. (Christensen likes to use business metaphors in religious contexts; he says the early Christian church went on “a merger and acquisition spree” and notes that “there’s an enormous amount of non-consumption in understanding God.”) “In order for people to make good choices, they have to understand what the options are,” he says. “The Kaiser Permanente health plan, in California, has a *much* better system for providing higher-quality and lower-cost care, by any measure. Members stay in the system for 18 years, on average, for example. So imagine that Kaiser Permanente just stayed out in Northern California and didn’t tell anybody about how to do it better—while the rest of America falls off the cliff into low-quality, very complicated, and expensive healthcare. It wouldn’t be right. They need to speak up and say, ‘There’s a better way to do things, you guys.’ In a similar way, as Mormons, we need to talk to other people about what we believe. It’s not that we’re try-

very good at operating the core business are very different from the entrepreneurial ones, with their agile, adaptive mind-sets, that you need to run disruptive stuff. What *can* work is to separate out the disruptive entity, protect it, and let it operate by a different set of rules than the core business.”

Innosight, for example, worked with an Indian company, Godrej & Boyce, on a new product, a refrigerator suitable for households in rural India, where a large majority of families don’t have refrigeration—a classic case of non-consumption. Western manufacturers have noticed this, says Duncan, but “a lot of companies have just said, ‘Let’s take our Western fridge, make it smaller and cheaper, and sell it in India.’ But electricity is unavailable or unreliable in many rural areas. Many families can’t afford major appliances, and don’t need that kind of appliance, anyway....They go shopping every day or two, so [the fridge] only needs to keep things cool for 48 hours.” Godrej introduced the ChotuKool, a small, portable, battery-powered refrigerator priced at \$69. “By the

standards we are used to, it doesn’t perform well,” Duncan says. “It would never sell here! But in rural India they have sold 100,000 units in the last year or two.”

Competing with Non-Consumption

THE THEORY of disruptive innovation “allows you to predict whether a competitor will flee you or fight you,” Christensen says. Essentially, competitors fight each other when they make similar products and target the same customers. But in the case

ing to impose something on them, but if they don’t understand that this is an option, they can’t choose.”

Christensen became a major consumer of health-care in his own right after a harrowing period in 2010, when he suffered a heart attack and then was diagnosed with follicular lymphoma, a systemic cancer that had resulted in three large tumors. Just as he was finishing chemotherapy, he suffered a serious stroke while giving a talk in church. Luckily, a neurologist in the congregation instantly recognized what had happened when Christensen’s speech turned to gibberish, and drove him to the hospital. “Had I not been close to great care with any of these events, I would have passed away,” he says.

These brushes with mortality “sure have given me a lot of opportunities to think,” he continues. “It’s been posed to me: maybe this is the end. But I’ve been able to say to myself, and to my family, that if God needs me more on the other side, I’m ready to go. I’m not ashamed of how I’ve lived my life, and it actually hasn’t caused me to reprioritize anything, other than wanting to do more good for more people.”

How Will You Measure Your Life? tells of a company picnic for employees at the advanced-materials company Christensen ran in the 1980s. He saw a young scientist, Diana, and noticed the joy and love she shared with her husband and two young children. For the first time, Christensen was able to locate her in the larger context of her life, and to call up a vision of how a day of positive experiences and support at work could send her home with “a replenished reservoir of esteem that profoundly affected her interaction with her husband and those two lovely children. And I knew how she’d feel going into work the next day—motivated and energized. It was a profound lesson.”

The lesson, he says, was that “for the first time in my life, I re-

alized that I had always wanted to help other people. Until then, I’d framed it as, ‘If you really want to help people, you should study sociology.’ But I realized: sociologists just talk. If you really want to change people’s lives, be a manager. You have an opportunity, for 10 hours each day, to structure their work so that when they come home, they have a higher degree of self-esteem, because they accomplished something that matters to people.”



COURTESY OF CLAYTON CHRISTENSEN

of disruptive innovation, the established competition typically leaves a virgin marketplace wide open to the newcomer. The disruptor is thus competing *not* against other suppliers, but against “non-consumption.” It is creating *new* consumers. “The innovation transforms something that used to be so costly, only the very rich had access to it,” he explains. “These innovations make it so affordable and simple that normal people can do what only the rich and very skilled could do before.”

Take collecting art. “You buy a house or move into a new apartment and there’s this big wall of unadorned space. So you buy a piece of art to stick there,” Christensen says. “For the first three weeks, you notice it every time you walk past it—you enjoy it. But after that it becomes so commonplace that you don’t even notice it on the wall. What you’ve done is: you’ve spent money and brought a product home and consumed art for three weeks. Then you stop consuming that art—and what makes it worse is that this piece of art *preempts* the consumption of art in that space. So I have a student who is building a business around putting a flat-screen, high-definition television screen on that wall space, with a lovely frame around it. And every three weeks, over the Internet, they will send you a fresh piece of art, so you can start consuming art again.”

Or consider the problem facing the Disney Company’s management, which, between 1985 and 2000, “convinced themselves that the core market for their theme parks was declining: smaller families, kids grow up faster, their interest in Cinderella maxes out at a

is so hard to confront. Normally they would flee this market, ignore it—or go the other way and install new, bigger thrill rides at Disney World. Typically, *another* company would pursue this kind of disruption. But if Disney read our material, they’d say, ‘Holy cow—we’re in a booming business, because there is so much non-consumption and now we know how to tap into it!’”

The iPhone Enigma

THE THEORY of disruptive innovation in fact does not apply to all businesses. A former Christensen student, Michael Raynor ’90, D.B.A. ’00 (who co-wrote *The Innovator’s Solution* with his mentor), pointed out that disruption has never happened in hotels. In the 1950s, for example, Holiday Inn entered the low end of the market and has never gone upmarket, nor been disrupted from below. (Similarly, McDonald’s began at the bottom of the market and has remained there.) “It took us almost five years to figure out why this was happening,” Christensen says.

The reason is that in most industries, “there’s a technological core—a system inside the product that defines its performance and can be extended upmarket to do better things.” In steel, for example, the electric furnace was the technological core that enabled mini-mills to disrupt integrated steel mills, which use blast furnaces to extract iron from raw ore. Mini-mills began by melting scrap metal, making every batch (with different ingredients and characteristics) of such low quality that the mills could sell it only

The disruption is competing against non-consumption. “The innovations make it so affordable and simple that normal people can do what only the rich and very skilled could do before.”

younger age now,” says Christensen. “But the theory of disruption looks at it differently. I told my students to go five miles north of Boston to Everett and Revere, to spend 20 minutes walking around the residential neighborhoods there—which are filled with three-family homes—and to ask: how much non-consumption of family outings to Disney World is there here? Well, oh my gosh, these communities are *filled* with non-consumption because it is so costly to do that, most families can’t go, or might go only once.

“If you want to create a new-market disruption,” he continues, “you’d put up a four-story building in the middle of Everett or Revere, and rather than having *real* rides in it, have *simulated* rides: you don’t go anywhere, but you feel like you are on a roller-coaster or an airplane ride. Like a flight simulator or video game, but maybe at IMAX scale. Now, Disneyland and Disney World are organized around fantasies. So, say in February, all the rides would be programmed to escape the real world into the fantasy world of *Shrek*. The characters—call it ‘Disney Lite’—would come from *Shrek* stories. Then at the end of February the facility shuts down for two days and on March 1, reopens with the fantasy rides programmed as Peter Pan Land. You could get there easily—you don’t have to travel 1,000 miles and stay in a hotel for a week.

“But this could be disruptive to the Disney theme parks,” he continues. “If people started not going to Disney World, [because they could buy \$20 tickets for simulated rides instead of buying \$100 tickets for real rides,] the Disney executives could say, ‘We’re cannibalizing our own business.’ That’s why disruption

for rebar (used inside concrete construction). But the electric-furnace technology evolved so that the mini-mills could monitor and control the proportions of specific metals, like nickel and zinc, in the mix, and eventually produce automobile-quality steel.

But there is no technological core in hotels. “There is nothing inside a Holiday Inn that could allow them to move upmarket,” Christensen explains. “They could build hotels with a higher price point, but to do so, they would have to emulate the Four Seasons’ business model.”

Online learning isn’t disruptive for K-12 public education, Christensen explains, because “our educational system isn’t good enough to be disrupted technologically in that way.” Distance learning is more clearly a disruptive force in higher education, where the quality of the product is good enough, and expensive enough, to enable online innovators to offer a more convenient option at a much lower price point (see “Colleges in Crisis,” July-August 2011, page 40).

The complexities of technology markets can also pose challenges to Christensen’s framework. In the computer industry, as a general rule, in the first years after a new technology appears, “the dominant companies almost always have a closed, proprietary architecture—one in which the design of one component depends on the design of all other components,” he explains (and writes about in *The Innovator’s Solution*). “That is because the technology isn’t yet very well understood. But as it becomes good enough for what customers in the less-demanding end of the market need, it

African Bandwidth

DISRUPTIVE INNOVATION works in developing economies, too—even where there is no established market leader to disrupt. Africa, the world's poorest continent, has very little access to the outside world through telecommunications, especially the Internet. "How could you make it affordable and simple for a larger population to access these things that are now only available to the rich and skilled?" asks Clayton Christensen. "The traditional way would be to wire the place with wires like those for telephone and cable TV. That is very expensive. It would be cheaper to do it all with wireless technology—but that's also expensive: you've got to build the towers, and the towers need electricity, so you need access to electricity." So the market has not developed—meaning that there is no *existing* industry to disrupt.

"But how about this?" Christensen continues. "How about, every morning at 5:00 A.M., I launch an unmanned aircraft, with a footprint about the size of a kitchen table, that has satellite access to the Internet? And this drone just circles around this community all day long, giving the people wireless access via



plane and not tower—at very low cost. The technology to do this exists now. You are competing with non-consumption. I'm certain that the bandwidth and the reliability of access are not as good as what we enjoy here. But it's infinitely better than nothing."

gets overturned by modular or open architectures. Hewlett Packard, Sun Microsystems, and Silicon Graphics give way to Dell, Compaq, and IBM. They don't perform as well as the closed ones, but they are good enough.

"Then you had smartphones disrupting laptops," he continues. "In smartphones, Nokia and RIM [which makes BlackBerry] were the dominant companies. They had closed, proprietary architectures. Apple came in later than RIM and came in with a *better* product, the iPhone. The theory said Nokia and RIM should have killed them: you disrupt with a cheaper, simpler product, not a more expensive, better one. I said, 'I don't think the iPhone will succeed.' Two things happened that I didn't see at the beginning. One, the iPhone was a closed, proprietary system on the inside, but to the *outside* world, it was open to lots of apps that you could plug into it. Nokia and RIM were closed to the outside—you couldn't stick in apps. They fell off the cliff, and Apple had the field almost to itself. But then comes the Android operating system from Google, which by definition makes the devices open and modular all the way through. So the people using the Android operating system are now Motorola, Samsung, LG. And they are *killing* Apple: now, Android accounts for about 80 percent of the market. So I was wrong, and then I was right."

Electric Disruption on the Road

DISRUPTIVE THINKING can even solve business riddles that have baffled capitalism for decades, Christensen main-

tains. "We worry about carbon dioxide and the atmosphere, so a lot of people are saying we need to replace gas cars with electric cars," he says, citing the classic market inertia that contributes to climate change. "But if you want an electric car to compete with gas cars on the California freeway—oh, my gosh, that's a tough business to crack. Traditional cars go from 0 to 60 miles per hour in six or seven seconds. It takes two or three minutes to refill them with fuel, and there are gas stations everywhere. You can carry the whole family in a minivan. If you want to do this in an electric car, well, a Tesla will cost you \$100,000. Refilling the battery takes somewhere between half an hour and four hours, and you have to do it every 200 miles. It's so costly because you have to compete against really good products in existing markets.

"So instead, try asking, 'Is there a market that would love to have a car that *won't* go far or fast?'" he continues. "In about 10 seconds of thinking, you'll realize that yes, there is: parents of teenagers in suburbia! These parents spend so much time driving their kids around from one event to another. They would love a car their kid could drive to school or to see friends, but which won't go fast or ride on the freeway. Recharges overnight, and costs about \$5,000. It's really not a car, it's a mobile sound system. It would be competing against non-consumption. *That* would be disruptive to the auto industry." ▢

Craig A. Lambert '69, Ph.D. '78, is deputy editor of this magazine.

Felipe Poey

Brief life of Cuba's greatest naturalist: 1799-1891

by LINDSAY BROWNELL

IN A DRAWER in Harvard's Museum of Natural History lies a skeleton of *Lachnolaimus maximus*, the hogfish, its delicate bones wrapped in a yellowed, crinkled letter whose paper lay untouched for more than 100 years. "My dear father," the letter begins in Spanish, "The other day I sent you...fifteen and a half yards of cloth for wrapping fish. The barrel left on Saturday, and you should have received it by now...." It is signed "Your daughter, Amelia."

Felipe Poey, the fish *aficionado* so impatient to send this fish to Harvard that he wrapped it in a letter from his own daughter, was one of the most prolific but sadly underappreciated naturalists of the nineteenth century. Born in Havana to a French father and Cuban mother, he moved with his family to France when he was five, and in three formative years there developed a lifelong appreciation for the natural world and for the arts. His subsequent education in Cuba, and briefly in Spain, trained him for the law, but his return to his native country reawakened his passion for natural science and collecting (fish, in particular). When he moved to Paris in 1825 with his Cuban bride to resume his law practice, he brought along a series of his own drawings of Cuban fish and a barrel containing more than 80 fish preserved in brandy. He quickly integrated himself into the network of leading European naturalists by sending his drawings and samples to the premier ichthyologist of the time, Georges Cuvier, now considered the father of comparative anatomy and paleontology. Cuvier was so impressed that he included several new species credited to Poey in his *Natural History of the Fishes* and invited the young man to become his student.

Poey returned to Cuba in 1833 and dedicated himself to studying and cataloguing its wildlife, publishing in several languages and winning many awards. In 1839 he established Havana's Museum of Natural History; in 1842, he became the first professor of zoology and comparative anatomy at the University of Havana. As an official correspondent of the New York Lyceum of Natural History, the Boston Society of Natural History, and other prestigious institutions, he was in touch with many prominent scientists, including Louis Agassiz, the founder and first director of Harvard's Museum of Comparative Zoology. The two men maintained a lengthy correspondence, and Poey supplied hundreds of samples to Agassiz's museum, most of which remain wrapped in letters or, more often, Cuban newspapers. (Indeed, he was preserving more than fish; he was saving pieces of history, both Cuba's and his own. The digital archives of the newspapers in which he wrapped his samples go back only to 1890, making the fragile copies currently cradling iridescent fish skeletons at Harvard some of the few, if not the only, issues available in North America.)

When he prepared the hogfish for Agassiz in 1869, Poey was 70,

still busily collecting specimens, teaching, and writing his magnum opus: *Ictiología Cubana*, a compendium of all the fish in Cuban waters—a labor of love that he kept expanding until his death. In the note that accompanied his 1883 manuscript of 758 species, Poey wrote, "The preparation of the text has cost me an immense amount of time and labor. In the determination of the species it is rarely that a single one has not occupied me for an entire week. I have wished to make known the certain as certain, and the doubtful as doubtful, so that I shall declare nothing to be new unless it is so in reality." (The complete, two-volume work remained unpublished until 2000, just after the bicentennial of his birth.)

Poey regarded naturalism as not only his profession but his calling, and valued it for reasons that transcended scientific discovery:

While one part of humanity, diverted from its higher destiny, wages war against the other, the naturalist takes refuge in Nature's breast, and asks the Supreme Being for peace and happiness for all. He does not aspire for riches nor power; he sees a brother in every man. He cultivates his own understanding, because it must be his faithful companion when grace, agility, love and health abandon his body in old age. He prefers to study natural history...because it enlarges his soul, initiating it into the sublime mysteries of Creation, which exalt in his unblemished, moral intelligence.

Why is he so little known today? In part, because students at the University of Havana preferred to study the "new" fields of medicine and engineering. With little local support, Poey built an international ecosystem of colleagues who disseminated his work, allowing him to focus on what he knew best: the fish of Cuba. He visited the Havana fish markets daily to see what potential new species he could find: in an 1884 profile of Poey for *Popular Science Monthly*, ichthyologist David S. Jordan reported that a visiting naturalist need only claim to be a "friend of Don Felipe's" to elicit honorable treatment and sincere offers of assistance from the local fishermen, who had become his friends.

His specimens still lie largely untouched at Harvard, but for Poey, their preservation alone would probably be recognition enough. He was "simple, direct, unaffected, but possessed of a quiet dignity...certainly one of the most delightful men I have ever met," wrote Jordan at the end of his sketch. "Of all men I have known, he has best learned the art of growing old." ▢

Lindsay Brownell, a student in MIT's Graduate Program in Science Writing, wrote her thesis on the history of taxonomy after discovering Poey's fish in the Museum of Comparative Zoology's archives. She has also written for *New Scientist* and the Public Library of Science. Her favorite fish are coelacanth.





Tiananmen Plus Twenty-five

A tragedy and its aftermath

ON THE NIGHT of June 3, 1989, and into the morning hours, tens of thousands of People's Liberation Army (PLA) troops, armed with automatic rifles and backed by tanks, converged on central Beijing, opening fire where their progress was blocked, clearing streets, and ultimately emptying Tiananmen Square, the focal point of student protests that had begun in mid April and spread across China, galvanizing attention around the world. At least hundreds of citizens were killed and thousands wounded—many of them in an area west of the square where high officials lived. That repressive spectacle chilled China's relations with other nations and ushered in a renewed period of domestic resignation and quiescence, in the face of the Communist Party and government determination to crush what was deemed a "counterrevolutionary riot."

Protest leaders who remained in China were jailed. Some who fled remain exiles. Beyond the immediate participants, and through time,



Tiananmen Square on May 28, with the student-made Goddess of Democracy statue facing the portrait of Mao Zedong, China's revolutionary founder

people with diverse perspectives have worked to explain the roots of the protest, the party and state reaction, and the events' meaning and consequences for the Chinese people. Among the many University affiliates who have played a role in this interpretation, *Harvard Magazine* consulted with the following (in order of their appearance below), prior to the twenty-fifth anniversary of the crackdown, to discuss the Tiananmen movement and its bloody suppression:

Ezra F. Vogel, Ford professor of the social sciences emeritus, whose biography, *Deng Xiaoping and the Transformation of China* (reviewed in the September-October 2011 issue, page 33), portrays the leader who both opened his country's economy and directed the use of force that June. Translated in a somewhat redacted version, it contains the first known Western account of the 1989 events to be published widely within the People's Republic.

Adi Ignatius, editor in chief of *Harvard Business Review*, who was *Wall Street Journal* bureau chief in Beijing in 1989 (when his wife was *Newsweek's* bureau chief). Ignatius subsequently co-edited *Prisoner of the State*, the recollections of Zhao Ziyang, the party general-secretary who declined to impose martial law to suppress the protests, was

purged, and was placed under house arrest for the rest of his life.

Edward Steinfeld '88, Ph.D. '96, Dean's Professor of China Studies at Brown University, who taught at Nanjing University in the academic year following Tiananmen. (He participated in the magazine's "Changing, Challenging China" roundtable, March-April 2010, page 25.)

Rowena Xiaoqing He, a lecturer in the department of government, who teaches a freshman seminar, "Rebels with a Cause: Tiananmen in History and Memory." A student participant in the demonstrations in Guangzhou in 1989, she has now written *Tiananmen Exiles: Voices of the Struggle for Democracy in China*. For more on her course, book, and a related April 26 symposium on campus, see "History and Memory," page 53.

Even as the interviews were conducted, in late April and early May, *The New York Times* reported that Chinese authorities had de-

tained writers, scholars, and at least one journalist and one lawyer associated with the Tiananmen movement or subsequent discussion of it, repeating a pattern seen before the approach of other momentous anniversaries in an apparent attempt to suppress any overt action this June. Many more were subsequently detained.

GIVEN China's economic prowess today, it may be hard to remember conditions in the mid 1980s. Its paramount revolutionary leader, Mao Zedong, had died in 1976, preceded by his premier, Zhou Enlai—following twin, self-imposed catastrophes. The Great Leap Forward, begun in the late 1950s, caused perhaps 40 million deaths from famine. In the Cultural Revolution, launched in 1966, higher education ceased, millions of educated and elite citizens were purged, and perhaps a million people died, leaving the society riven with factions. Upon returning to power in 1978, Deng launched economic "reform and opening," over opposition from traditional Communists, but retained tight political control.

The first fruits of that change, however, were rural, as farming devolved from communes back to households and farmers began to be able to market their produce; the cities still suffered. Steinfeld recalls colleagues in Nanjing in 1989, including married faculty couples, living in dilapidated dormitories, where corridors filled with hot plates served as communal kitchens. "Decades earlier in the U.S., nobody at that social level would have been living that way....Anybody who had some contact with the outside knew they were living in a country that they would describe as backward and behind."

In this context, China's leaders were especially wary about urban unrest. When Philippines president Ferdinand Marcos was displaced and democracy restored in 1986, demonstrations arose elsewhere in Asia—including in China. They were suppressed. General-secretary Hu Yaobang, accused of excessive sympathy for reformist students and intellectuals and "bourgeois liberalization," was stripped of his position.

Hu's death on April 15, 1989, prompted widespread mourning—and became the occasion for renewed student and intellectual advocacy of political reform. The timing was fraught—70 years after the student-led May Fourth modernizing movement, and 40 years after the People's Republic itself was formed. Solidarity had finally upset the Communist order in Poland, dismantling the party state in April, leading to elections (ironically, on June 4), and signaling the sweeping liberalization of Eastern Europe later that year—culminating in the breaching of the Berlin Wall in November. As the protests began, the world media arrived in Beijing to cover the mid-May visit of reformist Soviet leader Mikhail Gorbachev and rapprochement with the USSR.

After the student protestors refused to leave Tiananmen Square during Gorbachev's visit—derailing planned events, and attracting further attention to themselves with a hunger strike—Deng ordered the imposition of martial law, with unarmed troops entering the city on May 19-20 to end the demonstrations. To the leaders' astonishment, Beijing citizens banded together to block the troops' progress—calling into question the ultimate authority of the party and the state. From there, Deng set the course for a militarized repression of the Tiananmen movement in the capital, as a signal to popular demonstrations nationwide.

Edited excerpts of the magazine's conversations with these four observers follow.

~The Editors

The Road to Tiananmen Square: Ezra Vogel

IN 1976, when Mao died and Zhou Enlai died and the Cultural Revolution came to an end, the country was in turmoil. The average per capita income was around \$100 per year. They had wasted 20 years when they could have been moving ahead, between the Great Leap Forward and the Cultural Revolution. Ever since the Opium War, they had been trying to pull the country together so it could be unified and modernized. In 1949, it was unified, but they didn't find the path to modernization until Deng came to power at the end of 1978. Under his leadership, China began to introduce various kinds of reforms.

Under Deng, the leaders who had been pushed aside during the Cultural Revolution in 1966 and 1967 came back. They realized China needed big changes. But as to what particular kinds of changes, there were all kinds of opinions. One big difference was between Deng Xiaopeng, with 12

years of experience in the military, who wanted to barge ahead as fast as he could, like a commanding general, and Chen Yun, a powerful economic planner and later chair of the Central Advisory Commission, who was like the financial officer of a big company, wanting to know where money was coming from, and feeling responsible for getting everything in order. Another difference was between Deng and Hu Yaobang, who wanted more freedoms.

The problem of China had been that amidst instability, a leadership core had not been able to keep order and introduce changes in a systematic way. Leaders felt that without a political core that reached some kind of consensus, the place would fall apart again. They had so much chaos in the 1920s and '30s and '40s and again in the Great Leap Forward that there was widespread conviction of the need for some basic



Ezra Vogel

Soldiers block students from the memorial service for Hu Yaobang in the Great Hall of the People, April 22

core direction and control.

Under concerted party leadership and Deng's reform and opening policies, China began to grow faster than any other country. Rapid change upset the system and created uncertainties. It upset people who had secure jobs in the communes and state factories and suddenly found their jobs under threat. Hostility between those who had been on the attack and those who had suffered in the Cultural Revolution when their friends and relatives were killed or sent to the countryside was hard to contain. There was a whole new educational structure as universities in 1977 began opening after being closed for almost 10 years—for the first time eliminating political criteria. So there was huge turmoil—excitement, but a very unsettled situation

My liberal intellectual friends in China feel that Deng Xiaoping made some serious errors that paved the way for those huge demonstrations. In 1988, Deng felt he was getting old, and decided that before he retired, he ought to unfreeze prices. Because the reforms had happened in the countryside earlier, money was flowing into the cities, making daily goods on the markets, like food, go up very rapidly. For people on salaries, in cities like Beijing, uncontrolled price rises were threatening their ability to make ends meet. Some people estimated that prices in 1988 were going up over 30 percent per year. Within weeks, there was so much reaction, even Deng had to pull back.

But then the conservative financial people got control of the economy. Construction projects were pulled way back. That meant that there were unemployed construction workers running around the cities, and the middle class were quite scared.

So you put that background in with students who were affected by the winds of freedom and democracy that were coming from the Philippines and other countries—the excitement of that, and the hope among Western journalists and others in Beijing that this was a time for a democratic breakthrough in China.

American audiences are very excited by those who demonstrate for democracy around the world. Yet there was a concerted leadership in China who didn't feel the country was ready for that, and they were determined to keep order. It was a very explosive situation that unfortunately ended in tragedy. Everybody lost.

The Military Crackdown: Adi Ignatius

FROM MY PERSPECTIVE, as a journalist covering China, 1988 and early 1989 were just the most exciting period. The economy was suffering some problems, and the government was preoccupied with that, and it gave some room for people who were questioning the way things were done. It wasn't dramatic—it certainly wasn't fundamentally challenging the Communist Party—but it felt like a society trying to figure out what the future was and trying different avenues. Zhao Ziyang was head of the party then, and he had two think tanks, one on political reform and one on economic reform, and they were run by people who were willing to think broadly and openly about these things. That was, at the time, quite exciting, though the process remained very opaque.



Photograph © Peter Turnley/Corbis Images

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Student hunger strikers in the square, May 22, continuing a protest that diverted attention during Mikhail Gorbachev's state visit

People were also pushing the envelope outside the party. I remember two prominent examples. Fang Lizhi, an astrophysicist who was dismissed from his academic-leadership posts after the student demonstrations in 1986, his protégé Wang Dan [Ph.D. '68], a leader of the student movement, and Fang's wife, Li Shuxian convened open salons at Peking University. They would talk about questions of democracy—intellectual basics, very abstract, very careful, but it was a big deal.

The other was this absolutely bizarre art exhibition. Avant-garde art and Maoist, Warhol-esque art was suddenly becoming popular in China. The government wasn't sure what to do about it, and they let these artists take over the National Art Gallery in Beijing. One girl, the daughter of an official, had a performance-art piece, in which she fired a real gun at a phone booth and shattered the glass. At that point, the officials came in and shut it down and took people away—but in the end, no one got arrested.

There was a feeling that anything was possible. In some ways, that spirit led to the student movement—not directly, but the context was crucial.

When Hu Yaobang died, the student demonstrations were reminiscent of other protests, like when Zhou Enlai had died in 1976. Nobody thought it was a big deal initially, or that the students could cause such a spark. But the government made it a bigger deal by doing some things that were, at least in retrospect, clearly mistakes.

The biggest mistake was an editorial in the *People's Daily* on April 26. A week after Hu Yaobang died and the first student marches had started, the government declared that the protests were bad, saying they were stirred up by opportunists and foreign black hands—the usual stuff. But the students felt themselves to be the loyal successors to the ideals of the May 4 movement and thought themselves patriotic. Suddenly, they were branded as criminals.

The movement became more defiant. What was really scary was the first big student march after the editorial. Professors came out and told their students, weeping and sobbing, not to march,

because it was going to end violently. People were saying goodbye to their colleagues, teachers, and parents. Quickly, this had ratcheted into an us-versus-them struggle. That day, there was a big march toward Tiananmen Square. There were police blocking the street along the way, locking arms, but they weren't armed. When the students kept pushing and pushing, eventually, the arms broke apart. They made it through without bloodshed or arrest and made it to Tiananmen Square, and then it was on.

The occupation of the square continued for weeks. Most importantly, there was, by this time, a power struggle in the highest levels of the



government, and the students were sort of secondary from that point on.

Deng Xiaoping was above the power struggle. He was the oracle, the arbiter. But the Standing Committee of the Politburo, the core, was split between relative liberals and relative conservatives. Hardliners like Li Peng, the premier, were constantly reporting what was happening in the streets in the direst way. In early May, under Zhao's apparent direction, the party gave people official approval to march, and then there were a million people in the streets of Beijing. And suddenly, for a couple of remarkable days, the papers were reporting the truth instead of propaganda. The civic engagement was great for those two days, though I'm sure it scared Deng and Li.

When the decision was made to declare martial law and crack down on the movement, Zhao said, "I can't do that." And then the split was evident. That's such a no-no with Communist regimes. There's meant to be discussion, but afterward, a single party line with no signs of cracks. It took 10 days or so between when martial law was declared and when they finally cleared the square—the split was still being fought out.

By June 2, there weren't very many people in the square anymore. It was raining, and a lot of the Beijing students had gone back to campus. There were still students trickling in from the provinces—and there were movements in Shanghai, Nanjing, and everywhere—but in Beijing, at ground zero, it was losing steam. A lot of journalists I know left China on June 2. They'd been working nonstop, but nothing was happening at that stage. I was in Hong Kong, where my wife had just given birth.

But the government first sent unarmed troops toward the square on June 2, which succeeded only in stirring up citizens. The next day, they sent in armed soldiers and tanks. The news of the crackdown was shocking. Right after, the student leaders appeared on most-wanted lists that were shown constantly on TV. A lot of people were preoccupied with trying to get the students out of China, and there was an incredible movement to smuggle them to Hong Kong, and then out of the country. Li was shown on TV marching around like Hitler—it was weird and frightening.

CNN had been broadcasting live from the square every day and every night—one of the first times they'd ever done that. The



Adi Ignatius

whole world had fallen in love with the students and their ideals, and the crackdown was crushing. There was a feeling that this movement was so widespread that the crackdown couldn't possibly be the final word, that there'd be national strikes, or the party would collapse. That turned out to be wrong.

The Aftermath: Edward Steinfeld

I ARRIVED in Nanjing in late summer of 1989, two months or so after the crackdown. In Nanjing, there hadn't been a violent crackdown, but all the students had been out on the streets during the movement, and many had gone up to Beijing. Everybody was enervated, but also very stressed. Faculty, students—they were all waiting for the hammer to fall. They had all in some sense implicated themselves. I can't tell you the number of faculty I knew who were chomping on sleeping pills, this one had an ulcer, that one had a tic—there was just an incredible amount of low-key anxiety, generally not spoken about.



Edward Steinfeld

Although this was 20 years after the most heated part of the Cultural Revolution, there were still a lot of vestiges, including in the universities. Generally, they followed the work-unit system, so people were employed for life by their state employer, they were housed in that university, they lived among their colleagues.

In the workplace I was in, even in the department I was in, there was all this roiling tension among people who had battled each other in the Cultural Revolution, as young faculty and students. On top of that, you had the tensions of the post-Tiananmen crackdown. Again, people had marched, but sometimes in different factions; some had marched more aggressively, others not. They were all still forced together. You can imagine the degree of despair, and tension among the individuals themselves, and between the individuals and their workplace, after all these years—and now this latest round.

There was an incident that fall. Departments were of course required to do “political study.” Political study meant people reading out loud, or having read to them, the official documents about

what the crackdown (of course it wasn't called a “crackdown”) was all about. Nobody had any interest, the party members had no interest, so people would go to the meeting and knit, or complain about the state. There was one point at which some faculty told me there was going to be trouble because someone was sitting at the meeting but not participating in the complaining—not participating in the low level of resistance. Sure enough, this individual reported to the university that such-and-such a department wasn't doing its political study. And again the sleeping pills, the ulcer medicine. Again, people in the faculty thought, “The university's going to drop the hammer now.”

It turned out the university party committee squashed the investigation. This system had no appetite for further cracking down, at least in Nanjing. It had no appetite for encouraging dissent, but it had no appetite for following up on the harsh rhetoric of the center. It suggested to me that this was a very complicated system that was in deep despair, but also deep disrepair.

It was a very strange feeling that winter when the Berlin Wall came down and things moved so quickly in eastern Europe and central Europe. It was a particularly bitter time in China, because every night, on the news, you could see the premier, Li Peng, with a scowling face and a rhetoric that reminded people of the old days, hints of “class struggle”—terminology that people hadn't heard in 15 years was returning. There was a feeling not just of stasis, but of reversal, and China was heading backward. Forget the grand, big-picture China. People individually felt, “We are really in trouble. Our country is going backward, and we are going backward with it. And meanwhile, all the excitement, everything that we participated in in June is playing out, but not in China”—in eastern and central Europe.

I was teaching a group of PLA doctors and nurses in the winter. They were sometimes careful about what they said, but the evening that the news came out on Voice of America and BBC that [Romanian leader Nicolae] Ceausescu was executed [shortly after ordering security forces to fire on antigovernment demonstrators], that created a buzz. I walked into class. To warm the students up, I asked them what they wanted to talk about. One young army doctor said to me, “What do you think about Ceausescu?” I said, “We'll talk about it outside of class,” and somebody mumbled, “It should happen here.”

It was a dark time.

I went to Beijing in January 1990, right before the Spring Festival, the Chinese New Year. I arrived at the train station the night Tiananmen Square was being reopened to the public. It was very cold. I walked from the train station to the square. At each entry, there were soldiers, looking very stern, all armed. I went to an underpass and asked a soldier if I could enter. He scowled at me and said, “Why not?”

So I walked into the square, and it was desolate. I am sure there were other civilians, but I just saw soldiers. The square was

The military crackdown under way, in Tiananmen Square and streets throughout Beijing—China's symbolically important capital city—on the night of June 3



Premier Li Peng, who became the face of state repression of the democracy movement, on Chinese television, June 19

a mess, still, and that was six months after the massacre. Many tiles were destroyed, the square was dilapidated—presumably heavy vehicles had been in there. And then when I walked back out on to the Avenue of Eternal Peace, the asphalt was still deeply marked by tank treads, and one could still see the bullet pockmarks on the wall as one walked down the road.

At the same time, there was an exhibit at the military museum to the west of Tiananmen, not far from where most of the killing took place on June 3 and 4 and not far from where many of the senior leaders lived. The museum had a very big display of tanks and buses and armored personnel carriers that had been torched, destroyed by students and rioters, with the government's message about the unrest and all the terrible things that had been done. I can remember a lot of Beijing people milling around, gawking at all this stuff. Such a sad statement about what that government had to offer people at the time—which is to say, nothing, except accusations and very harsh words.

Loyalty Betrayed: Rowena He

IN RETROSPECT, I can understand many things better, but in those days, I was just a teenager. I grew up during Mao's Cultural Revolution and Deng's reform era. Our generation was instilled with values to be patriotic, to be idealistic, to love the country more than anything else, and to be ready to sacrifice for the nation and the people. In the 1980s, we were materially poor. We didn't have nice clothes to wear and good food to eat, but people were hopeful, people were smiling. In 1989, we took to the streets not because of anger, not because of hatred, not because of grievances. We really took to the streets because of trust, because of love, because of hope.

In 1989, the movement was led by students. They called it a patriotic, pro-democracy movement, and they kept emphasizing the word "patriotic." They thought they were following the Chinese tradition of Confucian dissent, which meant they were not looking for revolution or regime change—they were pushing for political reform, to help the rulers improve. Chinese intellectuals in the 1980s considered it their responsibility to help improve society.

Strategically, the students also thought that if they called the movement patriotic, the government would not crack down. That's why they tried to separate themselves from the workers and from other groups. There were three men who threw paint on Mao's portrait in Tiananmen Square in late May 1989. They weren't students, and they thought that the root of the problem was that Mao and Communist ideology were still there. Instead of including and embracing these people, the students turned the men in to the police, to show that the student demonstrators weren't trouble-makers.

If the students had worked with everyone to form a grand alliance and called for radical regime change, then maybe the result would have been different. But they didn't do that! They were taught to love their country, to sacrifice for their nation—and when



they did what they were told, they were punished by the very system that instilled those values. For the exiles, they were abandoned by the land that they had sacrificed themselves for. It is a betrayal of loyalty.

I see 1989 as a missed opportunity for political change in China. But there were still many opportunities over the past 25 years. Every time a new leader came into power, people were hoping that things might change for the better. Instead, they didn't. Look at Taiwan. It had something very similar to Tiananmen: the February 28 incident in 1947. It was the same thing: the government cracked down violently on demonstrations. You could argue that would close all possibilities for change, but instead, Taiwan learned the lesson. In the 1980s, through both pressure from below and a more enlightened leadership above, Taiwan introduced a free press and released political prisoners. So you see, when the government opened up, it made its own survival possible. Of course, democracy doesn't solve all the problems, but Taiwan has taken the most important step for change.

People often say that Chinese intellectuals were raped twice. The first time was the anti-rightist campaign in the late 1950s, when they were encouraged to share their critical views, but all of a sudden, people who did were punished. The second time was 1989. The immediate effect of the military crackdown was the silence of Chinese intellectuals and profound cynicism in Chinese society. People would say that even if you do something, you are not going to change anything. Why bother?

Immediately after June 4, we were forced to say that it was a counterrevolutionary riot and a Western conspiracy to divide and weaken China, so the military crackdown was justified. Afterward, the government tried not to mention it. On the eighteenth anniversary, in the advertisements of the *Chengdu Evening News*, there was one line that said, "Paying tribute to the strong-willed mothers of June 4 victims." And it was printed! It turns out that the editors didn't even know what it meant, but they were still punished.

As Princeton sinologist Perry Link ['66, Ph.D. '76] wrote in the introduction to my book, the Chinese government has taken the approach of "Money, yes. Ideas, no." They tell people they can get rich and do anything, as long as



Rowena He



they don't touch unapproved politics. One thing the regime learned is that they need to make sure the younger generation does not repeat what the students did in 1989. I often use the metaphor of locking the doors and locking the mind. In 1989, the government locked all the doors of major campuses to prevent students from taking to the streets. But now, even though the doors are wide open, students do not take to the streets to push for political reform.

In China, more than other places, each generation has this very special characteristic of what I call “generational thinking” because all the political socialization agents—media, school, parents, textbooks—are centrally controlled. However, the manipulation of memory is always accompanied by sociopolitical and

The aftermath of idealism: Tiananmen Square cleared, June 4, with violence and overwhelming military force used to put down what the government called a “counterrevolutionary riot”

psychological distortions. Citizens understand their responsibilities for a country's future by debating the moral meaning of history. When a regime tells its people that human lives and human rights, human dignity and human decency, can be “sacrificed” for the sake of higher goals such as national pride and economic development, it sends the message that *any* principle can be compromised to “get rich” and for China to “rise.” Such a mentality has become the root of major social and political problems in post-Tiananmen China.

In Prospect

Ezra Vogel

THE LEADERS of China have believed that open discussion of June 4 is still too dangerous. To the extent that it is to be discussed, it is the story of misguided youth who unfortunately had to be put down because they obstructed the functioning of government and the city. That's the story that the regime in charge of the propaganda department wants to get across. But there are so many dramas and stories told, even short stories based partly on reality. Once the propaganda department gives a little room, those writers will have a way of giving the public a better understanding of what went on.

At a certain point, they will be able to reverse some of those verdicts on the people accused of causing trouble, and that will be a big thing. It may be at a time when some of the leaders pass on, or it is possible that the current leader, Xi Jinping, later in his term, might be able to do it. Hu Yaobang has an anniversary coming up: November 2015 is the hundredth anniversary of his birth. That could potentially be a time when more things are written about Hu Yaobang, and it could be an occasion for a little more openness.

Adi Ignatius

I'VE ALWAYS FELT that at some point, Tiananmen will be officially reevaluated, and there will be an apology. But the longer it goes, the less likely it seems. It seems less important, like a blip in

history, and fewer people will have heard about it. The post-Tiananmen question, which Deng resolved, was “Economic reform: yes, a lot of it. Political reform: none.” That was the sense of balance that people were fighting over during the run-up to the crackdown, and Deng absolutely established it afterwards. That persists today. We’re still living in the post-Tiananmen era.

Is that balance sustainable forever? I can’t believe it is, particularly if the economy fails to deliver, as it has to at some point. If something’s not sustainable, it will stop, and the question is when, and then what happens. One view is that the government will keep handling this okay. And the other is that something has to blow, because it’s not possible in an authoritarian state to release pressure along the way. I think that’s probably true, it’s just that the boom could be tomorrow, or it could be a hundred years from now.

Edward Steinfeld

AS AN INDIVIDUAL, I look at the reality of a government and soldiers shooting unarmed civilians, and it seems to me that it normatively should not be forgotten. But objectively speaking, I don’t know whether countries and societies have to come to terms. There’s a sad reality that many parts of China have moved on, and to some extent forgotten this event.

After the Soviet Union collapsed and there was real disorder in Russia and economic growth stopped, at least some participants in the 1989 movement looked back on their actions with a more skeptical eye. I don’t mean that they somehow believe what the government did in cracking down was right. Rather, they look back on it and say, “Maybe we were naïve, and pushing political revolution wouldn’t have led to positive outcomes in China.” I don’t advocate that view, but we have to recognize that a substantial portion of the educated Chinese public believes that the movement was not a wholly positive thing. For a lot of us, it’s uncomfortable recognizing that, because of course that’s the government’s official line.

But the state also had to change. It didn’t really allow the line that Li Peng was spouting in 1990 to rule the day—certainly not economically and even politically. So they, too, took some lessons from the collapse of the Soviet Union, and all the other things that happened in the mid 1990s.

So that makes the issue of a society coming to terms with Tiananmen very complicated. Maybe in some ways they are coming to terms with it. It just has to be recognized it’s not doing so through free and open debate by any stretch.

Rowena He

TIANANMEN DID NOT END in 1989. It remains a politically taboo topic in China. The Tiananmen Mothers are still prohibited from openly mourning their family members, exiles are banned from returning home, even to attend a parent’s funeral, and scholars working on the topic are regularly denied visas. The war of memory against forgetting continues [see “History and Memory,”

History and Memory

SINCE 2010, Rowena Xiaoqing He, a lecturer in the department of government, has taught a freshman seminar titled “Rebels With a Cause: Tiananmen in History and Memory.” Through a combination of primary source material and scholarly accounts, students reconstruct the fraught history and legacy of an event that, in China, remains politically taboo. “For my students, who were not even born in 1989, Tiananmen is not a memory, because they never lived through it,” says He. “For them, Tiananmen is history.”

The event is memory for He, a student participant in the 1989 protests in Guangzhou, who brings a personal dimension to the course: recounting her experiences; arranging a visit to the Tiananmen archives at the Harvard-Yenching Library, which contain thousands of photographs, manuscripts, and artifacts; and inviting exiled student leaders to speak to the class about their experiences. Indeed, He’s recent book, *Tiananmen Exiles: Voices of the Struggle for Democracy in China*, interweaves her own story with oral histories from exiled activists Yi Danxuan, Wang Dan, Ph.D. ’08, and Shen Tong, author of *Almost a Revolution*, to reflect on the conflicts and contradictions of a life in exile.

The seminar culminates in a conference, where students present their final projects for the course to a wider audience. This year, for the movement’s twenty-fifth anniversary, it included panels of academics, journalists, and exiled leaders, who reflected on the demonstrations’ lasting personal and political impact. The course has not escaped its own controversy. A Chinese man told one student not to take the course because it represented a biased version of history, and each year, some students, usually those from mainland China, ask for their names and appearances to be withheld from the publicly accessible course website. Nevertheless, He sounds a note of optimism. “Tiananmen may remind us of oppression, but it is also a reminder of the human spirit,” she said, closing the conference this year. “History is on our side.”

above]. Because public opinion pertaining to nationalism and democratization is inseparable from a collective memory—truthful, selective, or manipulated—of the nation’s immediate past, the memory of Tiananmen has become a highly contested field.

Many of the human-rights activists in China today, those who are imprisoned and those who are quietly working on NGO projects, are veterans of the Tiananmen movement. They were not high-profile leaders in the square, but those extraordinary days in 1989 have changed their life trajectories profoundly.

Some exiles have moved on, but many others continue to carry on the unfinished cause, paying a heavy personal price. As discussed in my book, the exiles are often torn between living an ordinary life and fighting for an unfinished cause. We have learned that being idealistic can mean being selfish. You can choose to be idealistic and be prepared personally to pay the price, but our families did not make that decision. They do not choose to be our family members, but they have to pay the price for our personal decisions. Ironically, we have become the best illustration of the two central themes in Communist education: sacrifice and idealism.

June 1989 is an open, unhealed wound. Truth and reconciliation: there will be no reconciliation without truth. Milan Kundera described the struggle of man against power as the struggle of memory against forgetting. Tiananmen as forbidden memory didn’t end in 1989, and it has never ended. It was just the beginning of an end. China has to face its past to have a future. ▢

Rebooting Social Science

The interdisciplinary Tobin Project
addresses real-world problems.



David A. Moss

IN THE EARLY 1930s, as a stock market crash spiraled into the Great Depression, the governors of the Federal Reserve frequently declined to provide emergency loans to banks, instead standing by as they failed. The prevailing economic orthodoxy held that painful as an economic downturn might be, it served to purge weak banks and other businesses. If they were protected, inefficiencies would be preserved—to the long-term detriment of the economy.

Most economists now believe that this approach—combined with the high interest rates needed to maintain the gold standard—contributed significantly to the depth and severity of the Great Depression. “There’s a broad consensus” that the Fed’s policy back then “was a terrible mistake,” says McLean professor of business administration David A. Moss.

This understanding arose from academic research conducted in the second half of the twentieth century. Economic modeling and study of the actual events enabled economists to say with a high degree of confidence that the misery inflicted during the Great Depression could have been tempered significantly with different monetary policy. Comparative studies strengthened the conclusion: the countries that got off the gold standard quickly and pumped money into their economies (as the Fed declined to do) recovered from the depression faster.

When a new financial crisis began to take shape in late 2007, then-Fed chairman Ben S. Bernanke ’75 “had that research in his back pocket,” says Moss. In fact, Bernanke, an academic economist, had contributed to this literature himself. As a result, the central bank’s response in 2008 was al-

by ELIZABETH GUDRAIS

together different from its response in the early 1930s: this time, it pumped funds into the financial system, bringing short-term interest rates nearly to zero to support banks and stimulate the economy. Though the efficacy of continuing that policy today is debated, Bernanke's actions "may well have helped prevent another Great Depression," says Moss, "and it was at least in part because sound research shaped his thinking about monetary policy in a crisis."

This exercise in retrospection in fact informs much of Moss's work. It illustrates the huge stakes for people's lives implicit in large questions that can be engaged by social science; the capacity to answer those questions better with better social science; and the value of evidence and deep, methodical, empirical scholarship. "When people think about transformative research, they tend to think of the natural sciences," Moss says. "I believe social-science research can also be—and *has been*—transformative. So how do we increase the likelihood of that happening?" The answer to that question is embedded in the Tobin Project, an independent, non-profit research organization he founded in 2005.

Asking the Right Questions

THE ANIMATING PRINCIPLE underlying the Tobin Project grew from conversations between Moss, then a graduate student, and his mentor, the late Yale economist and Nobel laureate James Tobin '39, Ph.D. '47, JF '50, LL.D. '95. They often discussed an idea that Tobin laid out in an autobiographical essay:

[E]conomic knowledge advances when striking real-world events and issues pose puzzles we have to try to understand and resolve. The most important decisions a scholar makes are what problems to work on. Choosing them just by looking for gaps in the literature is often not very productive and at worst divorces the literature itself from problems that provide more important and productive lines of inquiry. The best economists have taken their subjects from the world around them.

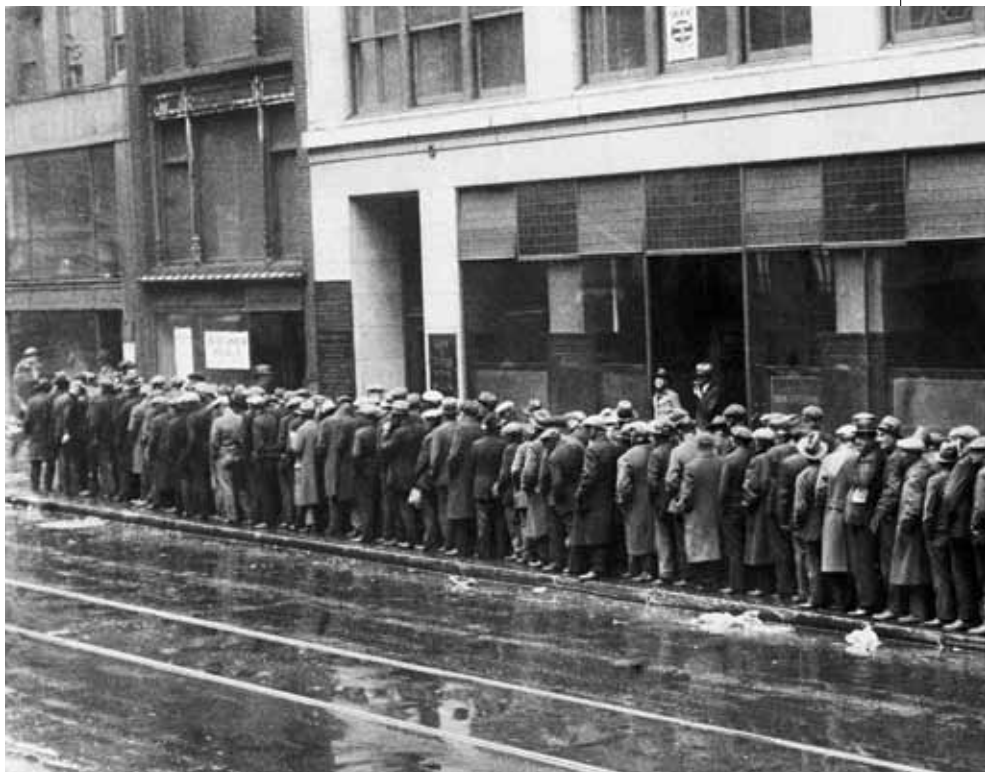
That challenge has translated into the Tobin Project's mission. (A poster excerpting part of the quotation hangs in the conference room at the organization's Harvard Square office, signaling to all who enter what the enterprise is about.) Aiming to catalyze significant research, it works to

mobilize, motivate, and support a community of scholars across the social sciences and allied fields seeking to deepen our understanding of significant challenges facing the nation over the long term, and to engage with policymakers at every step in this research process. Toward this end, the Tobin Project aims to identify and pursue questions that if addressed with rigorous, scholarly research could have the greatest potential to benefit society and to unlock doors within the academy to new and vital lines of inquiry.

Doing that work well has come to involve a network of more than 400 scholars affiliated with 80 institutions, pursuing truly interdisciplinary research. "It's a really amazing model," says Poorvu

family professor of management practice Arthur Segel, one of the organization's founding board members. "With very little money, we've got hundreds of scholars doing research on important issues together."

Yet that institutional innovation has proved to be far less challenging than the definition of worthwhile queries to pursue: large problems on which social scientists can engage each other productively, make meaningful discoveries, and shape both society and the future of research. Tobin aims high. Moss cites examples of the influence of social science ranging from the origins of Social Security, which was first envisioned by academic economists, to foundational civil-rights advances such as the desegregation of American schools. But identifying such turning points in hind-



sight turns out to be much easier than framing them prospectively.

At the project's inception in 2005, Moss and colleagues from across the country convened 12 interdisciplinary groups to address obviously big subjects—energy, the environment, pensions, tax policy, regulation, and so on—assuming, Moss recalls, that “magic would happen.” It did not. “If you ask people to sit around and talk in working groups,” says Moss, “that’s what they’ll do. They’ll talk. Bringing talented people together around a table can be helpful, but it doesn’t necessarily produce research, let alone great research. A weekend meeting of the smartest cancer researchers is not going to cure cancer.” And so the Tobin Project became a learning organization, inventing its own new approach to finding worthy, actionable ideas for research.

In those days, says Moss, “There was a tremendous desire to just do something.” But he recalls Tobin’s first executive director, Mitchell B. Weiss ’99, M.B.A. ’04 (now a senior lecturer at Har-

A disaster made worse by ill-informed policies: unemployed workers on a Great Depression bread line, c. 1930

vard Business School), saying, “If you don’t have a strategic direction, don’t move.” The new strategy, which Weiss and Moss shepherded, involved constant experimentation to figure out how to inspire research. Moss focused especially on developing strategic questions, while MIT political scientist Stephen Van Evera, the Tobin Project’s national security chair, stressed the importance of building communities of scholars with strong personal relationships. Segel, meanwhile, facilitated connections with policymakers, who helped to ground the work. When Stephanie Khurana, M.B.A.-M.P.P. ’96 (now co-master of Cabot House), joined the team in 2010 as acting executive director, she encouraged Moss to articulate a clear process, breaking it down into steps that other organizations could follow. Thanks in part to these innovations, says Segel, “we’ve created a new research model that takes advantage of all these great research institutions our country has.”

• national security (how the United States can advance its security interests in light of fiscal constraints and changes in the global distribution of power); and, since 2009,

• economic inequality (the consequences of widening income disparities for the U.S. economy, society, and politics).

In each case, Moss says, successful work plans must survive several filters. Would a Tobin-convened inquiry facilitate research that would not be pursued otherwise? Does it concern an important, real problem? Would scholars commit to work on it over time? Would their work inspire wider research? And could answering the question change public debate?

The plan for investigating inequality—among the most contested of contemporary issues, but hardly the best understood—illustrates the full force of this process.

Interrogating Inequality

“PEOPLE make all sorts of claims every day about inequality,” says Moss. For example, some analysts hold that rising inequality among Americans caused the financial crisis, as the rich invested in additional financial assets like mortgage-backed bonds, enabling those at the bottom to maintain consumption—despite a diminished share of income—by taking on too much unaffordable debt. If true, that suggests urgent action to maintain economic stability. But others dismiss this argument, viewing rising inequality “as little more than a hiccup” or even celebrating it as “a favorable development...in the progress of American capitalism.” Thus Moss, Anant Thaker, M.B.A. ’11 (now of Boston Consulting Group), and Tobin staff member Howard Rudnick summarized the situation in a working paper published last summer. “The problem is, there is *no* consensus in the research on the *consequences* of inequality,” says Moss. “We often make policy based on guesses, and this may be necessary at times. But it would be great if we didn’t have to.”

He knows exactly what gaps exist in interpreting inequality, because the working paper is a sweeping, relentless review of the literature in an attempt to tease out a meaningful approach to understanding the implications of the new reality: that from 1980 to 2010, the income share of the top 1 percent of Americans doubled (to 20 percent), and that of the bottom 90 percent decreased by one-fifth (from 65 percent to 52 percent).

Research around the world on the *measurement* of inequality is robust and proceeding well, and there is at least a degree of scholarly consensus on the *causes* of rising inequality, Moss explains. But despite all the work done to date on the *societal* consequences of greater inequality, scholars have achieved little agreement.

Economic growth? Moss and his coauthors find it “impossible to conclude...that there exists anything even remotely resembling an academic consensus on the relationship between inequality and economic growth.” Health? The “evidence on a



The first day of Defense Department-mandated desegregation at Fort Myer’s elementary school, September 8, 1954

Moss himself and some combination of: an expert scholar or two in a given field, Tobin director of research John Cisternino, J.D. ’08, and a staff member or members, who undertake searching, protracted screening of the literature to develop a work plan. Rather than pursue the original dozen fields, the project currently focuses on four areas:

- government and markets (the conditions for successful regulation of the economy);
- institutions of democracy (the aspects of government, business, and civil society that are central to the functioning of American democracy);

Today, the first (and, some would say, most important) step in any Tobin inquiry is the identification of good questions. That task falls mostly to a small group, including

causal relationship” between income inequality and the health of the population as a whole “remains anything but clear.” Political outcomes? In theory, greater inequality might be expected to promote greater pressure for redistributive policies—but adoption of such policies could also be thwarted by “asymmetrical political power for the top end of the distribution.” Three decades after the leading theory on inequality as a driver of redistribution in democracies was advanced, “the academic community remains divided regarding both its accuracy and the true nature of the effect (if any) of income inequality on political outcomes.”

Thus, along almost *any* dimension of analysis important to social-science researchers (involving different theoretical underpinnings, sample selection, data, and methods), they cannot confidently say that they understand or can explain the consequences of greater economic inequality for society as a whole: surely a pressing priority for effective inquiry. “Of course,” says Moss, “given the magnitude of changes in inequality we’ve seen, it seems very likely that there *are* significant societal effects, which will eventually be found. But it’s ultimately an empirical question, and so far—despite much outstanding work—the large-sample empirical research on consequences remains inconclusive.”

How, then, to proceed? Moss, Thaker, and Rudnick home in on the *mechanisms* through which inequality may lead to provable consequences for society. In particular, they define an agenda of behavioral experiments that might assess how high or rising inequality affects individual decisionmaking: how changes in inequality in society affect choices about consumption and saving, hours of work, taking risk, or trusting others. In effect, they propose a novel melding of streams of research: testing behavior under varying conditions of inequality.

Tobin’s working group for this new inquiry (Moss describes it as an “academic dream team”) includes scholars who had already begun using experimental methods to examine related questions. Professor of business administration Michael I. Norton has tested people’s perceptions of, and preferences for, the distribution of wealth in society (see “What We Know about Wealth,” November–December 2011, page 12). Columbia University economist Ilyana Kuziemko ’00, Ph.D. ’07, has written with Norton about the concept of “last-place aversion”—the propensity displayed by subjects in laboratory experiments to take greater risks when they are placed at or near the bottom of an imaginary society, apparently because we all object so strongly to occupying (or falling onto) the lowest rung of the societal ladder.

Other participants include professor of business administration Francesca Gino, whose research examines why people don’t stick to decisions they make, among other questions, and Kuziemko’s Columbia colleague Ray Fisman, Ph.D. ’98, whom Moss characterizes as one of the most creative social science researchers he knows, and who has studied everything from racial preferences in dating to cultural differences in corruption (the latter based on United Nations diplomats’ likelihood of paying a parking ticket in New York).

In a second prong of the quest to understand the mechanisms by which inequality operates, another part of the Tobin group is planning experiments to examine inequality’s psychological ef-

fects, including on physiological markers of stress. Two psychology professors with expertise in this area from the University of California, San Francisco are taking the lead: Nancy Adler, Ph.D. ’73, who was one of the first to encourage Moss (and to volunteer to help) after hearing about his attempt to connect the fields of inequality and decisionmaking, and Wendy Berry Mendes, who was assistant and then associate professor of psychology at Harvard from 2004 until 2010.

The scholars in the working group combine individual expertise in economics, psychology, history, business, and public policy. Their work is truly interdisciplinary: the scholars learn from one another and adapt their own thinking, instead of just working alongside one another with each one continuing on his or her previous path. “People often say *interdisciplinary* when they mean *multidisciplinary*,” says Moss. “But this group is truly interdisciplinary, and it’s such a privilege to work with them.”

He hopes that results from these experiments will produce new ideas for framing experiments out in the world—for instance, about how inequality affects people’s preferences regarding everything from consumer borrowing to investment in public goods, such as schools. “By studying these possible mechanisms at the individual level,” he says, “we may eventually be able to say with some confidence whether inequality actually causes certain

“There is *no* consensus on the *consequences* of inequality. We often make policy based on guesses, and this may be necessary at times. But it would be great if we didn’t have to.”

societal outcomes”—an achievement that has eluded most inequality researchers.

Wiener professor of social policy Christopher Jencks, who has been conducting influential research on inequality since the 1960s—and who recently revealed he had given up on his own long-term project on the social effects of inequality, for lack of convincing conclusions—has said he believes that the Tobin group’s plans represent the most promising direction in inequality research today. “We don’t know whether rising income inequality in society as a whole affects people’s sense of who they are or who they think they can become,” says Jencks. “Nor do we know whether changes in inequality affect people’s feelings of compassion for those less fortunate than themselves, envy of those more fortunate than themselves, or solidarity with neighbors and fellow citizens.” Where many have speculated, the Tobin group is trying to find answers. Says Jencks, “I think we will be wiser as a result.”

Reframing Regulation

“IF RESIDENTS of an apartment complex witnessed a bitter argument between a father and son just days before the father was murdered, investigators might reasonably be interested in the son as a potential suspect. Yet evidence of the argument, by itself, would hardly be grounds for conviction.”

So write Daniel Carpenter, Freed professor of government, and Moss in their editors’ introduction to *Preventing Regulatory Capture*:

Special Interest Influence and How to Limit It (just published by Cambridge University Press). It is an unexpected analogy in the first part of a huge academic tome—but it conveys some sense of their ability, and intention, to bridge the gap between scholarship and practice, and minimize policy based on guesswork and on inferring causation where it may not exist. And it and the title have a larger purpose: conveying vividly the central discoveries of the Tobin Project's recent work on government and markets.

That work dates back to the original Tobin Project group on regulation, created in late 2005. Duke University historian Edward Balleisen, who chaired the group at the time, recalls that “prevailing theories on government and business relations (especially regulation) were premised on government failure. We wanted to engage more substantially with instances of regulatory success, and deepen the empirical basis for judgments regarding a range of regulatory strategies: when they achieved their aims and when they didn't, and how to distinguish the first from the second.” The group's early efforts culminated in *Government and Markets: Toward a New Theory of Regulation*, co-edited by Balleisen and Moss, which suggests ways to study the effectiveness of regulation in specific cases, and offers examples of cases where regulation has worked, or hasn't, in American society.

Even before that volume was published in 2010, the country had succumbed to a major financial crisis, and experts on economic

“What do we mean by *capture*?” There was, Daniel Carpenter says, “an oversupply of theory and an undersupply of data.”

regulation were in demand. Several in the Tobin network—among them Moss, Carpenter, and Elizabeth Warren, then Gottlieb professor of law, now a U.S. senator—found themselves regularly en route to Washington to talk with lawmakers about financial regulatory reform, including the possibility of creating two new agencies focused on consumer financial protection and the management of systemic risk. “At the same time,” recalls Melanie Wachtell Stinnett, then Tobin's policy director, “members of Congress and the administration raised a new question: how could they design new regulatory agencies that wouldn't fall prey to ‘regulatory capture’?”—the “capture” of a regulatory agency by those it oversees, resulting in its failure, or corruption.

This real-world question, and the lack of existing scholarship to answer it, gave Moss the focus for the next round of regulation research at the Tobin Project and led to *Preventing Regulatory Capture*. “Nobody was looking at capture from the perspective of how to prevent it or mitigate it,” says Tobin research director John Cisternino. The organization worked closely with top scholars, he says, to “get the right people involved and ask the question in a way that they could do something powerful with it.”

The research was also powerfully shaped by news late in the last decade. First was a popular narrative about the financial crisis, the Deepwater Horizon explosion and oil spill, and other untoward events. As Carpenter and Moss put it:

Consider a few recent “scandals” in the news: financial regulators missing investment fraud and toxic loans at the very time their staff was shuttling back and forth between

Washington and Wall Street; energy regulators ignoring the risk of a catastrophic oil spill just as their inspectors and officials were cavorting with industry managers; a telecommunications regulator making a series of industry-friendly decisions, and just over a year later a prominent commissioner who was a pivotal vote in these decisions departing the agency to take a high-status vice-presidential position with a regulated company.

To all appearances, each incident demonstrates the “capture” of a regulatory agency—and an airtight case for it to be dismantled, or at the least completely overhauled. But as their analogy suggests, “Plausibility...lies quite a distance from proof.”

Second, Moss observes, the very nature of the financial crisis brought to light new needs for “systemic” regulation. When financial institutions obscured the risks of low-quality loans in collateralized mortgage obligations; enmeshed one another in far-reaching credit-default swaps; and simply became too large to fail—some different regulatory regime was clearly needed.

Defining an inquiry into regulatory capture enabled fresh understanding, unmoored from prevailing assumptions. When the scholars set to work, says Carpenter, whose previous research includes an exhaustive history of the U.S. Food and Drug Administration, “We needed a precise definition: what do we mean by *capture* and how do we know it when we see it?” There hadn't

been a book on the concept in 30 years. There was, he says, “an oversupply of theory and an undersupply of data.”

In the intersection of these trends—popular distrust of the efficacy of regulation, the new need for such oversight, and a prevailing social-science theory that over-predicted regulatory capture and may have overprescribed wholesale deregulation—the Tobin scholars found an urgent need for fresh, better social science. The new book (one product of that work) combines historical investigations, new theory, and detailed case studies to advance an operational definition of regulatory capture, a taxonomy of the varying forms and degrees of the phenomenon, and, perhaps most important, insights into what Carpenter and Moss call “the conditions under which regulation sometimes succeeds, or can be made to succeed, when capture is constrained.” In other words, the scholars' research has shown ways to make needed regulation and governance *work*, so business processes—manufacturing drugs, producing energy, making consumer loans—can operate safely, productively, and fairly.

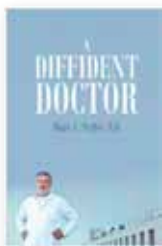
“Weak capture” (defined as special-interest influence compromising “the capacity of regulation to enhance the public interest, but the public interest is still being served by regulation”) may be nearly ubiquitous. But where some net social benefit remains, so does the case for regulation—perhaps modified, but not abandoned. Resorting to analogy again, Carpenter and Moss suggest consulting the history of medicine:

Just as physicians once believed that the only effective way to treat infection was to cut it out surgically, it is commonplace today to believe that capture can only be treated by “amputating” the offending regulation. Fortunately, the evidence that emerges in this volume suggests that less drastic remedies may be equally if not more effective, and that some are already working— (please turn to page 87)

Harvard Authors' Bookshelf

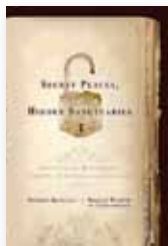
SUMMER READING LIST

A *Harvard Magazine* advertising supplement featuring books by Harvard alumni, faculty, and staff



A Diffident Doctor
Hugh L. Moffet, M.D. '53

A pediatrician's life: from a Midwestern town, to a Harvard scholarship in the 1950s, Yale Medical School, and throughout an infectious diseases practice in Wisconsin. Amazon.com.



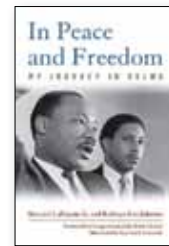
Secret Places, Hidden Sanctuaries: Uncovering Mysterious Sites, Symbols, and Societies
Stephen Klimczuk, M.B.A. '87

Yale's secret societies to Switzerland's private banks...secretsanctuaries.com



The Great War and the Death of God
Charles A. O'Connor III '64

Attributes the unwarranted dominance of today's atheistic scientific cosmology to Western cultural breakdown following World War I. New Academia Publishing.



In Peace and Freedom: My Journey in Selma
Bernard LaFayette Jr. '71 and Kathryn Lee Johnson

LaFayette's memoir from the Alabama Voter Registration Project to the Selma-to-Montgomery marches. Amazon.com.



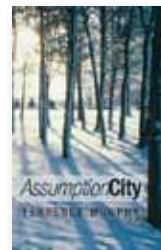
The Mafia Court: Corruption in Chicago
John Russell Hughes, Ph.D. '54

The author traces the Mafia bosses of Chicago from 1910 to the present, showing how they have influenced the courts, resulting in corruption in Chicago.



The Power of Patient Stories: Learning Moments in Medicine
Paul F. Griner '54

How sound clinical skills, humanism, and technology combine to achieve high-value patient care. www.drpaulgriner.com.



Assumption City
Terrence Murphy '63

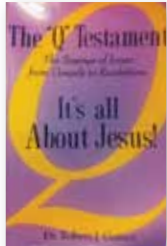
"Boston is Assumption City!"
"A fabulous read, comic but serious."
"As topical as today's headlines."
Available through Amazon.com, BN.com and local booksellers.



Travelers With No Ticket Home
Poems by Mary Mackey '66

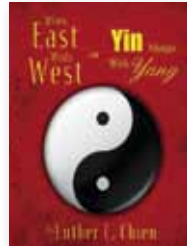
Winner 2012 PEN Award. "Crisp, clear-edged perceptions set down with an utterly unflinching eye." (Jane Hirshfield) \$15. www.spdbooks.org.

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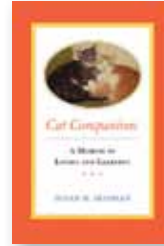
The “Q” Testament: From Gospels to Revelations
Rev. Dr. Robert J. Gomes, A.L.M. '92

The mysterious ‘Q’ Document holds Jesus’ secrets in His words. Dr. Gomes’ book illuminates correct interpretation and takes readers beyond the “Q” genre.



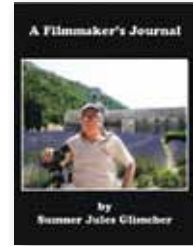
When East Weds West Or Yin Merges With Yang
Luther Chien '45

American mother captivated by charming Chinese father seeks romance and new life in exotic 1912 China, but finds dreams dashed by husband’s Chinese concubine.



Cat Companions: A Memoir of Loving and Learning
Susan M. Seidman '50

For all ailurophiles: How living with 21 felines over five decades rewarded one animal lover. Amazon.com



A Filmmaker's Journal
Sumner Jules Glimcher '48

Please read five-star reviews on Amazon. Order from Apple, B&N for e-book versions, or Amazon for paperback. E-mail: sumner.glimcher@nyu.edu for autographed copies.



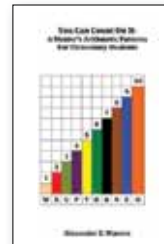
Rodale's 21st-Century Herbal
Michael J. Balick, Ph.D. '80

A practical, modern guide to using and growing more than 180 herbs for healing, cooking, well-being, homekeeping, and all aspects of daily life.



Kidding Ourselves: The Hidden Power Of Self-Deception
Joseph Hallinan '98

“This brilliant exposé...reveals that self-deception is...a potent drug.” – Leonard Mlodinow. www.JosephHallinan.com



You Can Count On It: A Mentor's Arithmetic Patterns for Elementary Students
Zab Warren '57

A response to the deplorably weak training of elementary-school math teachers affecting students’ learning ability.



Fortune Found
John B. Severance '58

This novel recounts a backwoods Virginia lad’s 1850 journey via New Orleans, Panama, and up the Pacific Coast to the goldfields of California. Available on Amazon.



The Ravenala
Jackie Zollo Brooks '94

A romantic novel set in Madagascar. “Brooks’ prose is lush and delectable [with] many moments of stunning imagery. An intelligent...blend of romance and family conflict.” *Kirkus Reviews*



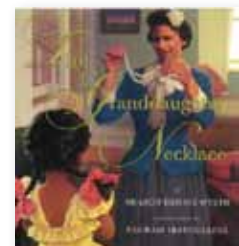
Developing Destinies: A Mayan Midwife and Town
Barbara Rogoff, Ph.D. '77

2014 Maccoby Book Award Winner
 This engaging narrative reveals the integral roles of cultural and individual processes across generations in human development.

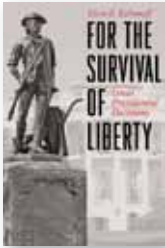


Strummin' the Banjo Moon
Joyce Keller Walsh '85

Nominated for a National Book Award. Print and e-book/Amazon (Fiction). Picaresque journey of a modern-day (female) Huck Finn. www.joycewalsh.com



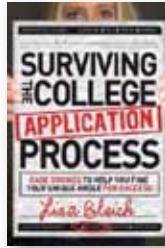
The Granddaughter Necklace
Sharon Dennis Wyeth '70
 Illustrated by Bagram Ibatoulline
 Hardcover \$16.99, Arthur A. Levine Books. Seven generations of females and their stories. www.Amazon.com.



**For the Survival of Liberty:
Great Presidential Decisions**

Elton B. Klibanoff, LL.B. '67

Washington, Jefferson, Monroe, Lincoln, Wilson, and FDR as key builders of liberty. ForeWord Book of the Year Finalist
www.presidentsandliberty.com



**Surviving The College
Application Process**

Lisa Bleich, M.B.A. '92

Identify and communicate your unique strengths to make you an angular, and therefore more compelling, candidate.
www.collegeboundmentor.com



**Aging as a Spiritual Practice:
A Contemplative Guide to
Growing Older and Wiser**

Lewis Richmond '67

This award-winning book addresses the transformative possibilities of aging from a spiritual perspective.



**Before Nature:
A Christian Spirituality**

H. Paul Santmire '57

Against the lure of cosmic despair prevalent in church and society, Santmire weaves a vision of cosmic hope, a classic of earth-honoring spirituality.



**From Harvard To Hell...
And Back: A Doctor's
Journey Through
Addiction to Recovery**

Sylvester C. Sviokla '67, M.D. '72

www.medicalassistedrecovery.com



**Is This Normal?
The Essential Guide to
Middle Age and Beyond**

John Whyte, M.P.H. '93, M.D.

Learn vital information about how age affects our bodies.
Amazon.com



**Spray the Bear:
Reminiscences from the
Golden Age of Advertising**

Walter W. Bregman '55

The real Mad Men. An anecdotal glimpse into the rarified world of advertising in its heyday and its brilliant bad boys.



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**A Woman's Framework for
a Successful Career and Life**

James Hamerstone, Ed.M. '76

A comprehensive roadmap for career success, offering concrete, essential advice. Structured for class use, but practicality for personal use is its strength.



**It Can (and Does)
Happen Here!**

Robert West, M.D. '61, FACS

Abbott Press 2014: An Idaho coroner examines the current coroner/medical examiner system. Available at abbottpress.com and amazon.com.



Ziggurat: How Ur Gave Birth

Kenneth Briggs, M.D. '54

Janet Briggs, M.T.S. '83

In Mesopotamia a tale unfolds about the creative effort of people during a time of discovery and discontent that is to usher in Ur's Golden Age.



**Earthquakes and
Engineers: An
International History**

Robert Reitherman '72

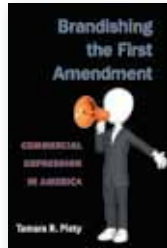
Winner of the American Society of Civil Engineers History and Heritage Award. www.asce.org or Amazon.

Harvard Authors' Bookshelf



Human Scale Kitty Beer '59

An eco-thriller showing what our lives will be like in the 2060s when climate change is in full swing. "A truly compelling page-turner of a story." Libraries, Porter Square Books, Amazon.



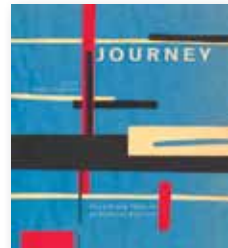
Brandishing the First Amendment

Tamara R. Piety, LL.M. '00
How the First Amendment has been aggressively and inappropriately expanded by commercial entities. Press.umich.edu.



From Timna to Mars: Searching for Rare Earth Metals

Avraham Y. Anouchi, S.M. '56
Insight into mounting depletion of rare earth elements. AnouchiBooks.com. AnouchiBooks.Author@gmail.com



Journey: The Life and Times of an American Architect Alan Wanzenberg, M.Arch. '78

The trajectory, work, inspirations and musings of esteemed New York architect and designer Alan Wanzenberg. www.pointedleafpress.com/journey



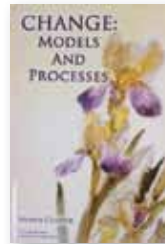
Fare Well, Illyria David Binder '53

The *New York Times* ex-reporter's memoirs. "A humorous and compelling introduction to the history of the Balkan countries" - Amazon customer review. www.ceupress.com.



Last Caravan

Penelope Rundle, M.P.H. '83
Touring Afghanistan, during the 1978 April Revolution, an American tour group collides with a coup d'état in this poignant, unvarnished journal with photographs and historical chronology.



Change: Models And Processes

Shawn Cooper, M.P.H. '85

This book views change on a continuum, describes several "models" dealing with change external to, or within the person. For professionals and non-professionals.



Serenissima: Venice in Winter Frank Van Riper, NF '79 and Judith Goodman

Internationally acclaimed portrait of the Floating City in B&W photographs and essays. Signed and inscribed copies available through: veniceinwinter.com.



Russian Law and Legal Institutions

William E. Butler, J.D. '66

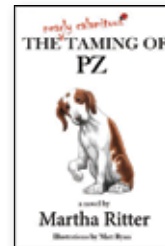
An extensive introduction to the historical and contemporary foundations of the Russian legal system. www.wildy.com



Mothers and Others: The Evolutionary Origins Of Mutual Understanding

Sarah Blaffer Hrdy '68

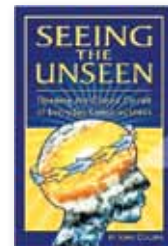
www.citrona.com/books.html
2012 Staley & W.W. Howells Prizes
2014 NAS Award Sci. Reviewing



The Nearly Calamitous Taming of PZ

A novel by Martha Ritter '70

A nameless lab dog, diva ladybug, and reclusive girl learn to trust and tame each other: watch out, world! (ages 8-12) martha@tamingpz.com



Seeing The Unseen John Collins, J.D. '54

Abandoning at age 30 what promised to be a lucrative law practice, John Collins escaped to Spain for a three-year sabbatical to search for the meaning of life.



The New Colossus
Marshall Goldberg '68
Historical Novel

Pioneering investigative reporter Nellie Bly delves into the mysterious death of poet Emma Lazarus. Available at Amazon and B&N.com.



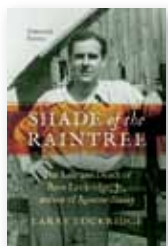
A Life in Academic Medicine
Dr. Philip J. Snodgrass '49, M.D. '53
Through Dr. Snodgrass' 36-year career in academic medicine, from research training to teaching, readers will learn about this amazing world which impacts all our lives.



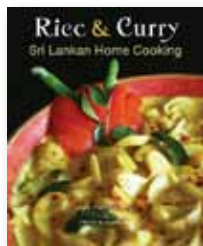
Behind the Mask
Donald F. Hastings, M.B.A. '53
Chairman Emeritus, Lincoln Electric Co.
Ingenuity, strategic maneuvers and bold ideas can outwit adversaries. dfhbehindtheface@aol.com



Swimming Upstream: A Memoir
Constance Richardson, Ed. M. '88
Plunge into the 1960s, a period of cosmic upheaval in the fabric of American society. Paperback from Amazon & all e-book formats.



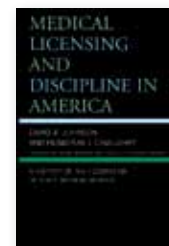
Shade of the Raintree: The Life and Death of Ross Lockridge, Jr., Author of Raintree County
Larry Lockridge, Ph.D. '69
An "utterly engaging biography," Thomas Keneally. www.iupress.indiana.edu



Rice & Curry: Sri Lankan Home Cooking
S.H. Fernando Jr. '90
An introduction to one of the world's last undiscovered culinary gems. The exotic flavors of Sri Lanka will stimulate the senses and broaden your horizons.



Mirror City
Chitrata Banerji '84
Food writer's debut novel depicts a woman's journey to self-realization amid the political and social turmoil of post-war Bangladesh. "...passionate and honest..."—*The Telegraph*, India



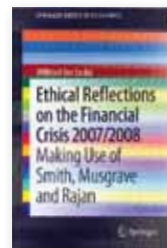
Medical Licensing and Discipline in America
Humayun Chaudhry, S.M. '01, DO
The History of the Federation of State Medical Boards. Traces the evolution of the U.S. medical licensing system from the 18th century.



An Anthology Regarding Merit Goods
Wilfried Ver Eecke, G '67
Merit goods: ethics in economics. I. Musgrave's Texts on Merit Goods. II. Selection from Secondary Literature. III. Applications of the Merit Good Idea.



Ethical Dimensions of the Economy
Wilfried Ver Eecke, G '67
A full understanding of the economy requires not only the concepts of private and public goods but also the concept of merit goods.



Ethical Reflections on the Financial Crisis 2007/2008
Wilfried Ver Eecke, G '67
Generalizes Musgrave's concept of merit goods to include government regulations. Failed merit good enforcement in seven areas explains the '07-'08 financial crisis.



Learning from the World
Joe Colombano '03 and Aniket Shah
New Ideas to Redevelop America. Insightful and provoking solutions to America's challenges, based on the best the rest of the world has to offer. Hardcover. www.palgrave.com

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Rescuing Spinoza

Jack E. Bronston '42, J.D. '48

"Within the metaphysics of Spinoza's *Ethics* lies a kindly scholar who simply wants us to enjoy the beauty and potential of our existence and who offers a new belief system based on reason."



So, You Want to be a CEO...

Thomas Faught Jr., M.B.A. '53

Read the Amazon reviews. 21st century corporate leadership is different; more challenging. Study how success was, and can be achieved, based on "was there and did that" business experience.



The Spirit of Josephine A Novel

Florence Ladd, BI '72

A black American singer in Paris reflects on her life after decades of alienation from her Kentucky origins and is visited by the spirit of legend Josephine Baker.



Paula Modersohn-Becker: The First Modern Woman Artist

Diane Radycki, Ph.D. '93

The first artist to challenge centuries of representations of the female body. Read the interview in *The New Yorker's* Page-Turner, 10/31/13.



Seeing Patients: Unconscious Bias in Health Care

Augustus A. White, III, AMP '85

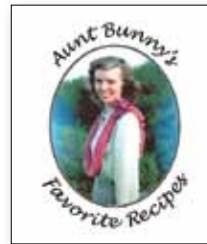
A black surgeon's journey to a humane medical education and how it applies to health care disparity reduction and the provision of equitable care.



Wing Toward the Stars

Alfred C. Knight '64

A classical violinist's involuntary journey to a West Virginia coal town frees him from the weight of his past and leads him to the well-spring of music. (A Novella)



Aunt Bunny's Favorite Recipes

George A. Barnard '43

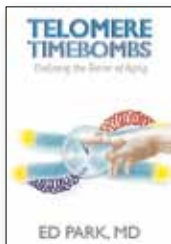
Cookbook with over 250 original U.S. recipes (including an imbedded love story - Hawai'i – Eurasia – Latin America, etc.) Folds back to lie flat on kitchen table! budbarnardbooks.com



Uncle Sol's Women

Simeon J. Maslin '52

From Harvard to the coast of Maine, Jacob wavers between academe and wealth, a doomed affair, and closure in Vilnius. Available at Amazon.com or Createspace.com.



Telomere Timebombs

Edward Park '89

Dr. Park shows there is only one disease with many faces: Telomere Erosion. Learn how Telomerase thwarts aging of your stem cells. Simple and readable - this book will change your life.



Raised Healthy, Wealthy & Wise

Coventry Edwards-Pitt '98

Surprisingly, wealth can make parenting harder, not easier. Learn from successful inheritors how their families got it right. covie@raisedhealthywealthywise.com



Drone Warfare

Sarah Kreps '98 and John Kaag

A political scientist and philosopher address the legal, political, and ethical implications of drone warfare.

The first comprehensive scholarly monograph on this important subject.



The Next Breath: New Life After Near Death

Joseph C. Fisher, M.P.H. '05

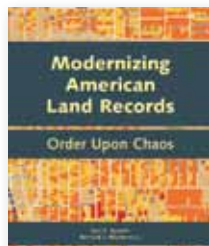
A near fatal PE sets off a journey of self-discovery while navigating the vagaries of modern medicine. www.the-next-breath.org



HALF MOON

A novel by K. L. Vidal, Ph.D. '77

Featuring Paris, an elusive woman and the famous painter obsessed with painting her portrait. Forthcoming novel: *Alto Rhapsody*, featuring Brahms: the man and his music. www.klvidal.com



Modernizing American Land Records: Order upon Chaos

Earl F. Epstein and

Bernard J. Niemann Jr., M.L.A. '64

A historical and modern examination of American land systems. <http://esriurl.com/landrecords>



A Taste for Green Tangerines

Barbara Bisco '58

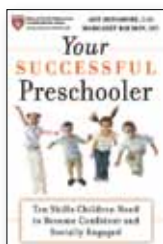
A novel about an English anthropologist working with an international group of environmentalists in the rainforest of Borneo.



The Safe Investor

Timothy F. McCarthy, M.B.A. '78

Learn to be a safe investor in a volatile international economy, yet still grow your portfolio and provide returns for your entire lifetime. www.timmccarthy.com



Your Successful Preschooler

Ann Densmore, Ed.M. '91, Ed.D.

Margaret Bauman, MD

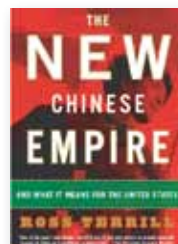
Publisher: Harvard Medical School, 2011. Parents love this social play approach to learning when a child's brain is receptive to change.



The Idiom of Dreams

Steven Schorr '78, J.D. '82

Meditative riffs on love, loss, regeneration...hearts living in no-man's land...nature questing harmonies. Amazon.com. 88 pp. \$7.99. For signed copies, e-mail schorr126312@gmail.com.



The New Chinese Empire

Ross Terrill, Ph.D. '70

"...an altogether splendid book... lucid, erudite...should be read by anyone who plans to deal seriously with China." - *New York Times* military reporter Richard Halloran. Amazon.com.



The Forty Years That Created America

Edward M. Lamont '48, M.B.A. '51

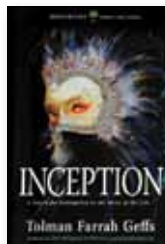
Evan Thomas: "Lamont brings to life the struggle and sacrifice of [those] who founded America...a well-told tale of folly and brutality, courage and vision."



Come Together: The Business Wisdom of the Beatles

George Cassidy '90 and Richard Courtney

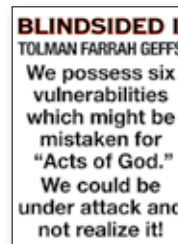
Learn more at: www.beatlesbusiness.com



Inception

Tolman Geffs, M.B.A. '64

Lost love found, murder, and redemption. Opens in Harvard Club of NYC. B&N, Amazon, Alibris, and tolmangeffs.com. Print \$17.95, e-book \$2.49.



Blindsided II

Tolman Geffs, M.B.A. '64

Details the six unacknowledged vulnerabilities facing the USA. Available at Barnes & Noble, amazon.com, alibris.com and tolmangeffs.com. Print \$5.95, e-book, \$9.99.

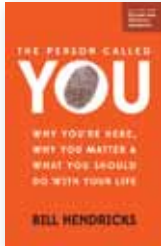


Transformation of the African American Intelligentsia

Martin Kilson, Professor Emeritus
Foreword by Henry Louis Gates Jr.

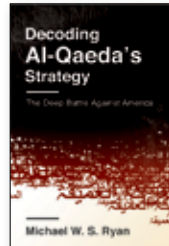
History of the African American Professional Class since the late 19th C.

Harvard Authors' Bookshelf



The Person Called YOU **Bill Hendricks '76**

Every person is born to do something. Something meaningful, purposeful, and satisfying. We can find it in your own life story. An invaluable guide for young adults. www.thegiftednesscenter.com



Decoding Al Qaeda's Strategy: The Deep Battle Against America **Michael W. S. Ryan, Ph.D. '81**

"Groundbreaking," "Unique," "Remarkably accessible." At Amazon and Columbia University Press.



Negotiating Your Investments **Steven G. Blum, Ed.M. '89**

A master strategist and teacher, trained at Harvard's Program on Negotiation, uses negotiation techniques to improve investment outcomes.



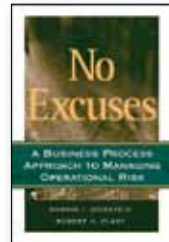
Signed, Sealed, Delivered **Nina Sankovitch, J.D. '87**

"Part memoir, part meditation, part artful history lesson (that ranges from Cicero to Gertrude Stein to Thomas Merton) and part reminder to put a pen to paper..." Oprah.com, May 2014.



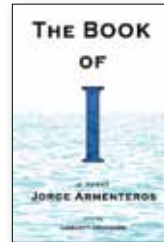
Unwanted Hair And Hirsutism **Alison Amoroso, Ed.M. '90**

A must-have book for any girl or woman who struggles with unwanted hair. Learn the best questions to ask doctors, hair removal specialists, and oneself.



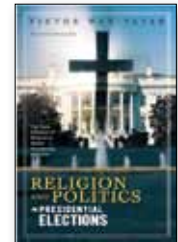
No Excuses **Dennis Dickstein, M.C.P. '76**

Exciting case studies and tools that provide innovative and proactive measures to manage the risk of unexpected failures by people, processes, or systems. Order from Amazon or B&N.



The Book Of I **Jorge Armenteros '83**

This powerful novel takes us deep into the mind of a painter with schizophrenia. Fierce, fresh language buoys us through the many-textured darkness. jorgearmenteros.net



Religion and Politics in Presidential Elections **Victor Wan-Tatah, Th.D. '84**

The use of radical conservative religious discourse to distort and demonize the other during recent presidential elections (2008 and 2012).



Calling All Harvard Authors!

The November-December 2014 *Harvard Magazine* will feature the **Harvard Authors' Bookshelf - Holiday Reading List** (the special advertising section for authors adjacent to Montage coverage of books and the arts). Ads include: a full-color book jacket photo and 7 lines of text (see ad examples above)—and will appear both in print and online. For more information about pricing and ad specifications, go to harvardmagazine.com/hauthors, contact Gretchen Bostrom at 617-496-6686 or e-mail classifieds@harvard.edu.

The deadline to advertise and reach 245,000 Harvard alumni, faculty, and staff in time for the holidays is: **SEPTEMBER 12, 2014.**

Montage

Art, books, diverse creations



- 69 Open Book
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- 71 Rhode Island Blues
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Relational Lens

Photographs that admire, probe, and "flinch from" family members.

by STEVE POTTER

FOR GEOFFREY BIDDLE '72, photography has been a way of earning a living, practicing an art, and understanding his family. Or rather, families: Biddle has had two marriages and fathered four daughters, and his family of origin is the renowned Biddle clan of Philadelphia. His lens has proven a potent tool for probing the closest relationships in his life.

"Although my family has been in America since the 1600s and is well established, my own childhood was marked by divorce, death, and a cast of adults who were large-

ly consumed with their own dramas, interested in children primarily as reflections of themselves," Biddle says. "I picked up the camera to reverse their scrutiny—I became the one looking and assessing."

His passion for photography burgeoned in high school. In college, he led the photographic board at *The Harvard Crimson* and took courses at the Carpenter Center before setting out on a lengthy, successful career in commercial photography. His photographs ran in *Time*, *Newsweek*, *Fortune*,



(Clockwise from left) Infant Eve Biddle with her mother, Mary Ann Unger; Eve at four, at Philadelphia's Franklin Institute; Eve, Mary Ann, and Geoffrey Biddle in Maine

Forbes, and *GEO*, and corporate clients included IBM,

GE, Citicorp, and GAF. His work has been published in 15 books, and the Museum of Modern Art and other institutions have his prints in their collections. In the 1990s, he spent seven years as assistant chairman of the photography department at Parsons School of Design.

The death in 1998 of his first wife, the noted sculptor and curator Mary Ann Unger, after 14 challenging years of battling breast cancer, confirmed Biddle's six-year-



(Clockwise from left) Eve and Geoffrey in upstate New York; Eve, Geoffrey, and Mary Ann in Tenafly, New Jersey, 1997; Eve, in her mother's East Village sculpture studio, with Mary Ann in the background



old decision to give up commercial work in favor of a more deeply personal approach. He was left in his grief with their daughter, Eve, then a junior in high school and today a successful artist. “Dealing with death,” he says, “has made me give more time to the things that make me happiest: being with my family and taking pictures.”

Biddle now lives in Berkeley, California, with his second wife, Jane Gottesman. They have three daughters under the age of eight, who are, of course, frequent subjects of Biddle photos. Yet his current work also embraces earlier generations: one series of annual photographs begun in 2008 captures images of him sitting beside his father, who's now 92 years old. Biddle describes it as “a gentle way of looking at death.” He is also putting together a project titled “First Wife/First Life.” It is a kind of photoessay on his

family history with Mary Ann and Eve that fuses a 60,000-word text with scores of carefully chosen images. It's a cross between a memoir and a visual and verbal documentary on the Biddle clan, as seen through the author-photographer's lens and memory; he plans to publish it as a book.

Another product of Biddle's exploration of family resides on his website, geoffreybiddle.com, on a page titled “Family.” There, the viewer finds 17 black-and-white images produced between Eve's birth, in 1982, and 1991. All but one feature Eve: with her mother, father, or occasionally both parents, and at times with Geoffrey's parents, a family friend, or a hired caregiver. In one, Eve is in the foreground and her grandmother in the background, both out of focus. The only object that is sharp and clear is a framed fifth-grade photo of Geoffrey. “Eve had gone upstairs to wake my mother, and she asked her grandma about that picture, which was on the dresser. I saw the opportunity to make a three-generation

photograph without actually getting in front of the camera, and I loved that the ages were mixed up: a four-year-old, a fifth-grader, and a grandmother.”

At first glance, Biddle's work could come from almost any family album of that era. What sets it apart is the powerful nature of the images, chosen from perhaps thousands made by a master photographer coming to terms with a central fact of his own life. Because Biddle's pictures are taken with wide-angle lenses in the “real” world (rather than a studio), they resemble typical family snapshots, which include many inanimate objects as well as the human subjects. In amateur snapshots, such elements often produce a distracting, even chaotic background. But for Biddle, they are elements in a thoughtful, considered composition that integrates the primary subject with a larger context.

His photographic involvement with the concept of “family” goes back at least to the late 1970s, when he shot *Alphabet City*, an ex-



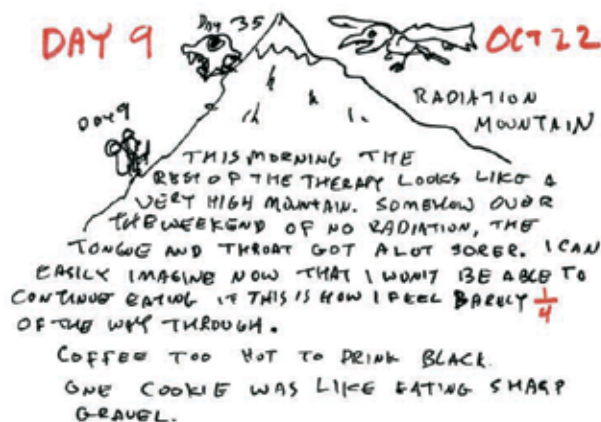
Visit www.harvardmag.com/extras to view additional images of Biddle's family life.

(Right) Eve, foreground, and her grandmother, with a fifth-grade photo of Geoffrey. (Far right) Geoffrey and his father, Oliver Biddle '43, in 2013



O P E N B O O K

Cancer Chronicle



in my tongue. I will also get protons to fight the tumors in my lymph nodes in my neck. There will also be chemotherapy to sensitize the cancer cells. They hope they will get a “two-fer” out of the chemo and it will also attack the tumors in my lymph nodes.

It's October 3 and I've known for about two months that I have adenoid cystic carcinoma, a rare cancer that is “slow and indolent.” It moves slowly but is hard to stop.

No one knows how long the cancer has been in me. It could have been years. I've had a bad earache for years. For most of that time I thought it was caused by nighttime tooth grinding. I had mouth guards made that sort of worked, but not really, and not for long. And besides, the dog ate them every time it could.

I'm very sloppy and I let things go when I shouldn't. Maybe that was the root of all the trouble.

“This book,” writes Matt Freedman '78, “reproduces a journal I kept in the fall of 2012 while I was undergoing care at Massachusetts General Hospital.” Friends gave Freedman, an artist and writer who lives in New York, a sketch book before he went to Boston, and “I decided I would gradually fill the thing up with whatever came into my head during the course of my treatment.” The result, hand-lettered and illustrated, is *Relatively Indolent but Relentless* (Seven Stories Press, \$23.95), an unfiltered record as matter-of-fact as its subtitle, *A Cancer Treatment Journal*. The following is the first day's entry, with some of the subsequent drawings.

Yesterday my colleagues and students gave me this sketch book to fill up over the next two months while I undergo radiation and chemotherapy. I'm going to get proton radiation to fight the tumor in my



tended photo essay named for the streets (Avenues A, B, C, and D) on the Lower East Side of Manhattan. That neighborhood was home to a largely Puerto Rican community then plagued with street violence and heroin addiction. The project, which eventually appeared as a book in 1992, helped teach Biddle the power of integrating textual and visual elements. “With a photo on its own, you can go anywhere,” he observes. “Text gives you direction. When you have a story to tell, text is important.” One model was the 1941 classic, *Let Us Now Praise Famous Men*, by Walker Evans and James Agee '32. Other influences on his family work are contemporaries Nicholas Nixon and Lee Friedlander.

For Biddle, taking photographs seems to be not only a way of recording family life, but also a means of participating in it. “This is part of the family soup,” he says. “Seeing the family relationship—and flinching from it.”

“Chorus of Soloists”

The Chinese people's individual acts of self-transformation

by EDWARD STEINFELD

RECENT MONTHS have brought so many reasons to worry about China's rise: rapidly expanding military capabilities, an increasingly assertive foreign policy, deepening tensions with regional neighbors, and a new leadership that as one of its first acts pledged to fight the “perils” of constitutionalism, civil society, and “universal values”—the favored official euphemism for human rights. The list goes on and on. In the current climate, even the most ostensibly benign aspects of China's rise—the phoenix-like rebirth of cities like Shanghai and Beijing, the dazzlingly futuristic public infrastructure, the lifting out of poverty of tens or even hundreds of

millions of people—take on an almost overwhelming, intimidating feel.

Perhaps it has something to do with the scale of it all, or maybe even the tempo. But for most observers, the real problem lies in the politics. Beijing's official line is that the “Chinese Dream” is first and foremost about national “rejuvenation” (中国大复兴) and the development of “comprehensive national power” (综合国力). Upon hearing this, one could be forgiven for treating all of China's recent achievements as merely vehicles for

Evan Osnos '98, *Age of Ambition: Chasing Fortune, Truth, and Faith in the New China* (Farrar, Straus & Giroux, \$27)

enhanced Communist Party power, and evidence of the ongoing subordination of the citizen to the state.

But in his beautifully written *Age of Ambition: Chasing Fortune, Truth, and Faith in the New China*, Evan Osnos '98 provides a strikingly different and decidedly more nuanced account. Osnos, a Beijing-based journalist from 2005 to 2013, and a staff writer for *The New Yorker* since 2008, is anything but naïve about Chinese authoritarianism. Over the years he has reported eloquently on individuals who, wittingly or not, found themselves on the receiving end of the most brutal and crude forms of Chinese state oppression: people like currently jailed Nobel Peace Prize winner Liu Xiaobo and the previously imprisoned blind human-rights activist Chen Guangcheng (now living in de facto exile in the United States).

Even in relating these most heart-wrenching accounts, Osnos argues that China's contemporary narrative entails something far more complex than just the crushing of the individual by the state. For Osnos, the situation is in some ways almost the opposite. In his telling, hyperbolic growth has created a sort of national canvas upon which millions of Chinese citizens are feverishly defining their own destinies, and doing so in ways at once wildly diverse and jarringly discordant. From this perspective, the country's "rejuvenation"

The party may control the symphonic melody, but Chinese society follows its own beat.

becomes less about national power and unity of mission than about personal self-transformation, and self-transformation in as many variants as there are Chinese citizens. "The Party," Osnos writes, "had always prided itself on articulating the 'central melody' of Chinese life, but as the years passed, the Party's rendition of that melody seemed increasingly out of tune with the cacophony and improvisation striking up all around it." China, in his words, is now a "chorus of soloists," a vessel not for a single collective dream, but for many different individual dreams—few of which fit neatly into a single box, and many of which are in tension with one another. Indeed, as he argues, perhaps the only thing unifying them is the raw, absolutely unbridled ambition with which they are pursued.

Followers of the contemporary Chinese scene will meet some familiar characters in *Age of Ambition*: world-renowned dissident artist Ai Weiwei, former World Bank chief economist Justin Lin, Internet blogger-cum-race-car-driver Han Han, journalist Hu Shuli, and the aforementioned Liu Xiaobo and Chen Guangcheng. Public figures one and all, some achieved fame by resisting the Chinese state, others by accommodating it.

But the most compelling accounts in *Age of Ambition* involve neither politics nor fame, but instead the extraordinary experiences of absolutely ordinary citizens. One, appearing early in the book, involves "Michael" Zhang, a coal-miner's son determined to realize a fortune by inventing a new approach to English study. "Inventing" is perhaps too strong a word, for what Michael really was doing was copying (and hoping to one-up) the "Crazy English" model made famous in China by Li Yang, a hugely successful businessman who used language training as a platform for Oprah-like self-help sessions (for paying participants) and bountiful wealth generation (for himself). Whether Michael can prove successful with his own version is anybody's guess. That he still lives in his parents' ramshackle apartment, and appears armed only with an endless stream of aphorisms ("The past does not equal the future." "Believe in yourself." "Create Miracles.") does not bode well. But it is the sheer ambition of it all—the unwavering determination to strive for the seemingly unachievable, and the continual bouncing back despite failure after failure—that is at once mind-boggling and familiar to anybody who has spent time in contemporary China.

An equally compelling account of Beijing street sweeper Qi Xiangfu appears at the very end of the book. In urban China, few jobs rank lower than his. Dressed in his orange overalls and speaking the Southern-inflected Mandarin that instantly marks him as an outsider, Qi is on one level indistinguishable from any number of migrants who perform this lousiest of jobs in the nation's capital. To the average Beijing resident, he

China—both a Communist Party state and a consumer society (as in this holiday street scene in Guangzhou)—is also the setting for a billion-plus citizens' pursuit of their own dreams.



would hardly be worth a moment's attention. Yet, as it turns out, this lowly street sweeper happens also to be a poet—not just the self-described kind, but one who has attained widespread renown as host of an online poetry forum and winner of various poetry competitions. Street sweeper by day, “Super King of Chinese Couplets” by night, Qi has achieved self-actualization in the very domain that outsiders tend to associate only with state suppression and censorship, the Chinese internet.

In *Age of Ambition*, Evan Osnos is careful to let people like Qi carry the narrative. Rather than forcing a single interpretation upon the reader, he offers many different possibilities, acknowledging just how hard it is even for the Chinese themselves to understand what's going on in their contemporary environment.

But among the many themes and insights that make *Age of Ambition* such an absolute must-read, one in particular gives pause for thought. As so many of Osnos's profiles underscore, there is so much more to China today than the politics. Of course, the Chinese government, as it strives to drown out discordant voices with political hokum and its own official orthodoxy, would have us think otherwise. And foreign observers, too (albeit in a very different manner), would have us think otherwise as they project onto these discordant voices political motivations having more to do with the yearnings of the West than anything actually going on in China.

What Osnos relates with such clarity, however, is that among the myriad acts of self-transformation unfolding in China today, many—including those of Qi Xiangfu or Michael Zhang—display utter indifference toward the state, the Communist Party, and every other official articulator of the “Chinese Dream.” The party state may control the symphonic melody, but Chinese society is grooving to a decidedly different beat. Today's China is less martial music than Miles Davis. And that, in a sense, is why the possibilities for China's rise truly are bound only by the limits of human imagination...or ambition. ▢

Edward Steinfeld '88, Ph.D. '96, is Dean's Professor of China Studies, professor of political science, and director of the China Initiative at Brown University. His reflections on the Tiananmen movement and its aftermath appear at page 46 of this issue.



Rhode Island Blues

Fiction that paints a regional subculture with “merciless realism.”

by CRAIG LAMBERT

FURTIVENESS, denial, and pugnacious, abrasive families permeate the dark stories of Jean McGarry '70. The Providence, Rhode Island, native has set down an unblinking account of the blue-collar Irish of that state. “It’s a clannish culture,” she says—and one that likes to turn inward on itself, not outward. After reading her first short-story collection, *Airs of Providence* (1985), her parents were furious. “You know, Jean, *we keep our secrets*,” raged her father, Frank.

Indeed they do. “When we turned the lights on in our house, we would rush to pull down the blinds so people couldn’t see in,” McGarry says. “There was a terror of being observed. Whatever was inside the house was supposed to be perfect—though actually it was a shambles. The houses were a mess, physically and otherwise. One thing I’ve written about is what goes on inside the house.”

For example, this, from “And the Little One Said,” published last year in *The Yale Review*: “Dad died of the usual causes: drinking, heart trouble, diabetes, cancer, and the war, where—although a supply sergeant—he lost an eye and his left thumb. He wouldn’t talk about it, so there had to be a story and no glory, as we liked to say about anything that went wrong. Not that we said it to his

face. He had a bad temper, and kept the strap looped over the kitchen door, and we learned to run like rabbits...the one who really pulled his chain was Mom, but she was a sprinter in school, and first up the stairs and into the bathroom, door locked.”

Soon: “Dad was dead one week, and his old mother living with us, as she’d always wanted to.... She’d left the cemetery early, jumped into a cab and whipped past the Y to get her bag. When we got home, eyes dripping and snotty noses, she was installed, and stirring Ritz crackers into a cup of warm milk.... It was one bully taking over for another in a single day.”

Six of McGarry’s eight books—which include three novels and five short-story collections—have rendered this Rhode Island subculture with merciless realism. (Nearly all the books come from the press at Johns Hopkins, where McGarry is a longtime professor and co-chair of the Writing Seminars.) Though other authors (like John Casey ’61, LL.B. ’65, in his 1989 novel *Spartina*, winner of the National Book Award) have depicted Rhode Island culture in pitch-perfect detail, McGarry may have painted the most evocative portrait of how the common people live in the

Federal Hill in Providence, Rhode Island, today, with its Roman Catholic churches

Jean McGarry



nation's smallest state.

"Even in 1966, at Regis College, a Catholic school [from which McGarry transferred to Harvard], my past felt like I had lived in the Middle Ages," she says. "At Harvard in the late '60s, it became the Dark Ages. Nothing I've encountered later in life was anything like it, nor would anyone believe such a *shtetl*-like world existed in the United States as late as mid century."

In that world, "natives find no need, for the most part, to leave the state—even to go to Cape Cod," she explains. "The population, largely Irish and Italian Catholic, dominate everything in a uniquely ward-heeling and who-do-you-know-in-city-hall kind of way. The first five major industries from the early Industrial Age—like Brown & Sharpe, New England Butt—were still there in my lifetime, and my extended family worked in all of them. Generations attended the same Catholic schools, were waked at the same funeral homes, and interred in the same cemeteries."

The Irish proletariat of McGarry's tales often feels "demeaned and worthless, yet somewhat proud," she says. "They are always scanning for the insult." She recalls that as a child, "I heard so much abuse, it became a kind of music. It's a really lively language." There's abundant drinking in her stories, though it mostly happens offstage, in references to bottles hidden around the house, or the six-pack an older man's wife brings him each day; the reader can imagine the effects on daily life. Ironclad hierarchies, like those of the church—"Jesuits on top of the heap, Franciscans and Dominicans a few

steps below"—organize everything. Even crockery was stratified, with Belleek porcelain from Ireland representing "the Holy Grail, the great prize." It's all "a gift for a fiction writer," the author says. "Fiction needs organized worlds."

Though so firmly rooted in place, many of McGarry's characters seem adrift in every

other way—in their intimate and family relationships, their emotions, their values and habits, and even, despite the looming presence of the Catholic church, in their spiritual lives. They appear condemned to their rigid, beaten-down patterns, and seem to lack the imagination to conceive an alternative. Even so, their love for each other seeps out through cracks in their souls, expressed indirectly in actions like lovingly tending a gravesite.

Take the quiet story "Providence, 1954: Watch," which tracks the last hours of a dying man who looks out the window from his bed on a wet Halloween day, still absorbed in dramas like a poignant moment when the rain causes a child's trick-or-treat bag to give way, dumping his candy on the ground. Around 4:30 in the afternoon he breathes his last, his wife sitting nearby in a rocking chair. The story ends with her thoughts as she watches him in his bed: "There was no room in there for her, but more than she expected, or would ever say or think about again, she wanted to climb in there with him. That was the doorbell, but in an hour or so when it would be so dark you didn't know who or what you were getting, she was just going to sit and let it ring."

Chapter & Verse

Correspondence on not-so-famous lost words

Robert Rosenberg hopes for an original source for a story about two patients so frustrated by their psychiatrist's silence in response to whatever they said that they conspired to get a rise out of him. They made up an elaborate dream full of bizarre details and memorized it word for word. The first patient recounted the dream to the psychiatrist on Monday and, as expected, received no response. The second patient reported the dream on Wednesday, again eliciting no response—until the very end of the hour, when the psychiatrist said offhandedly, "Funny thing about that dream of yours: it's the third time I've heard it this week."

Ransford Pyle wants to learn who said (as best he recalls it), "I'll pretend I'm teaching if you'll pretend you're learning."

"fighting cancer with telepathy" (May-June). Paul Bickart proposed Norman

Spinrad's "Carcinoma Angels," and Lark-Aeryn Speyer suggested "Night Win," by Nancy Kress, but the story sought has not yet been identified.

"This machine surrounds hate" (May-June). Ed Levin and David Feurzeig were the first to point out Pete Seeger's debt to Woody Guthrie, whose guitar face carried the message "This Machine Kills Fascists" as he performed at bond drives during World War II. Elizabeth Segal found a January 29, 2010, *New York Times* article about Seeger's short-lived plan to auction off his banjo head for charity; it stated that the "well-worn face of Mr. Seeger's banjo had been with him for more than 30 years."

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

Off the Shelf

Recent books with Harvard connections

The Temptation of Despair: Tales of the 1940s, by Werner Sollors, Cabot professor of English literature and professor of African and African American studies (Harvard, \$35). Studying post-war Germany, where he grew up, Sollors found not the relief of liberation, but the crushed spirit (and culture) of defeat and illness in the wake of worlds destroyed.

The Architecture of Paul Rudolph, by Timothy M. Rohan, Ph.D. '01 (Yale, \$65). An art historian at the University of Massachusetts, Amherst, presents the first comprehensive review of the “brutalist” architect’s work—most famously, the corrugated concrete Yale Art & Architecture Building. Rudolph studied at Harvard with Walter Gropius, and left his mark on the Boston Government Service Center, too. Brilliantly illustrated.

How Not to Be Wrong: The Power of Mathematical Thinking, by Jordan Ellenberg '93, Ph.D. '98 (Penguin, \$27.95). An exceptionally clear, well-written, engaging book on using math (“mathematics is the extension of common sense by other means”), for laypeople, by a University of Wisconsin-Madison professor who must be a marvel in class.

Unstoppable, by Ralph Nader, LL.B. '58 (Nation Books, \$25.99). The consumer advocate now sees right and left converging in pursuit of systemic change propelled by “the deep aversion many people have to the wars of empire and corporate control over their lives, particularly the ever-tightening influence of Big Business on the mainstream media, elections, and our local, state, and federal governments.”

The Rise of Western Power: A Comparative History of Western Civilization, by Jonathan Daly, Ph.D. '92 (Bloomsbury, \$47.95 paper). An enormous text (404 pages, nearly 200 pages of notes and sources), scaled to its enormous subject. In the end, that comes down to “the West-

ern recipe of success—decentralized authority, the affirmation of individual rights and liberty, the pursuit of truth..., toleration of differences, the rule of law, respect for property, openness to novelty, and unimpeded access to information and knowledge.”

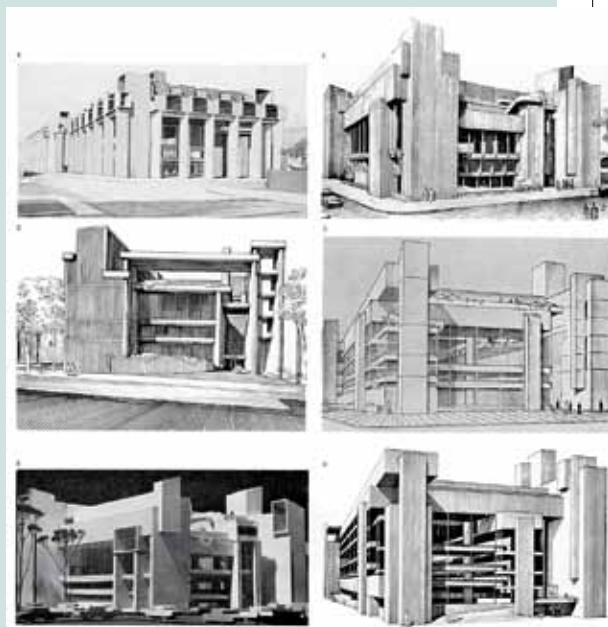
A Social Strategy: How We Profit from Social Media, by Mikołaj Jan Piskorski, associate professor of business administration (Princeton, \$29.95). From the day the nascent LinkedIn’s founders sought him out as a faculty adviser, the author has thought about how social networks enable

title of this major work on human rights in fact describes phenomena ranging from children traveling to rejoin families who have migrated, to trafficking, smuggling, and the collateral damages of war.

Incognito: Lost and Found at Harvard Divinity School, by Andrea Raynor, M.Div. '86 (Howard Books, \$24). A highly personal passage through the school in what the author (now a hospice chaplain and spiritual counselor) describes as its free-form 1980s. **Experiencing Spirituality: Finding Meaning through Storytelling**, by Ernest Kurtz, Ph.D. '78, and Katherine Ketcham (Tarcher, \$25.95).



(At right) Designs for Paul Rudolph’s iconic, controversial Yale Art & Architecture building, 1959-1961. (Above) The Concourse, Singapore, 1964



social needs or lower their cost. Expect the firms illustrated in his analyses, or new ones, to attract you to their webs.

Walden Warming: Climate Change Comes to Thoreau’s Woods, by Richard B. Primack '72 (Chicago, \$26). A Boston University biologist, comparing modern data to Thoreau’s meticulous observations, details a three-week shift in the advent of spring and evidence, in real time, of a world “being transformed.”

Child Migration and Human Rights in a Global Age, by Jacqueline Bhabha, professor of the practice of health and human rights (Princeton, \$35). The benign

A narrative on spirituality, illustrated by snappy spiritual tales (you know, the sinner who consults his physician—not for something to strengthen his willpower, but to weaken his conscience).

Hotel Florida: Truth, Love, and Death in the Spanish Civil War, by Amanda Vaill '70 (Farrar, Straus & Giroux, \$30). A narrative of the war through the intersections among Ernest Hemingway, Martha Gellhorn, Robert Capa, Gerda Taro, Arturo Barea, and Ilsa Kulcsar, whose paths crossed at Madrid’s Hotel Florida. The Capa photos, and those by Taro, perhaps less well known today, bring back the horror, powerfully.

COURTESY OF THE BOOK

Playing Together, Staying Together

Peabody Terrace Children's Center celebrates a golden anniversary.

by NELL PORTER BROWN



Photographs taken at the Peabody Terrace Children's Center during the last five decades reveal the timelessness of children's play and their love of the outdoors.



ARCHITECT Josep Lluís Sert designed Harvard's married-student housing complex, Peabody Terrace, which opened in 1964, as a modern neighborhood. The quadrangles offer plenty of outdoor spaces, some with views of the Charles River, for playing and picnics. Common rooms encourage social gatherings. Elevators geared to stop at every third floor opened up more space for larger units on the other floors, and enabled tenants to meet each other more easily while coming and going along corridors and stairwells.

in 1964 by a core group of mostly young mothers, pioneers in the nascent move to create what's now called "a work-life balance." PTCC director Katy Donovan, who began there as a teacher 30 years ago, credits Sert with helping "tenants to find a community in this concrete structure, which was very much international housing, and still is," she adds. "There are stories of families who lived here and became friends because their kids were at the daycare center—and they are still friends, across the globe, all these years later."

In April about 100 people—current

and former teachers, parents, and students, along with some of the founders—gathered at the complex to celebrate the center's fiftieth anniversary. Amid food and drinks, they caught up on news and marveled at various former children who came to prove they've grown up. Blown-up photographs of the early days showed children playing with blocks, climbing jungle gyms in the playground, and taking trips to the river, much as they still do. Barnard associate professor of psychology Tovah P. Klein, a special guest, lectured on her new book, *How Toddlers Thrive*. PTCC's facilities, which include eight classrooms, ingenious playground structures, and even a state-of-the-art *atelier* (inspired by the Reggio Emilia early childhood education philosophy), clearly impressed Klein, who directs Barnard's Center for Toddler Development. "Do you know how lucky you are?" she asked. "Harvard knows how to celebrate children."

The event was spearheaded by one of the PTCC founders, Susan Riemer Sacks, an adjunct professor of psychology and professor of education emerita at Barnard, who contacted many former families and

also invited Klein, her colleague, to speak. Sacks recalls moving into Peabody Terrace in September 1964 with her husband, Sanford J. Sacks, M.B.A. '66, then at the Business School, and their two-year-old, Lauren. It was still a "mud pit" of new construction, she says, smiling at the memory.

They had relocated from Ohio, where family members looked after Lauren while the couple worked, so Susan Sacks was glad to find a notice on a community bulletin board in her building announcing a meeting for those keen on forming a nursery school. "I already had a master's in psychology and had been teaching," she explains, but with her husband fully consumed by coursework, "that degree would not have done any good [professionally] without a nursery school," she adds. "It was really a different era and there was really no childcare, which was clearly dramatically needed."

She and others, including Ann Scott and Diana Ernaelsteen, set to work. "A group of the most talented, innovative, and educationally creative women came together with a shared vision of what we wanted to achieve," recalled English pediatrician Ernaelsteen, widow of Geoffrey Searle, AMP '58, during a phone interview. "I had a one-year-old and a three-year-old and was very committed to the children having an education. And the rooms there were splendid: Sert did a wonderful job. I was immensely happy and made a lot of really good, lifetime friends."

Despite the myriad building, safety, and public-health requirements to be met, and the need to hire a teacher and buy equipment, the Peabody Terrace Nursery Group was up and running by November. About 50 children were enrolled, and by the spring of 1965, records show, the fee was \$6 per week per child. (Full-time care there now ranges from \$1,650 to \$2,629 per month.)

Ann Scott and her husband, Douglas, M.B.A. '61, M.P.A. '65, Ph.D. '68, traveled from Virginia to attend the April anniversary, during which she walked into the courtyard and looked up at their old apartment. "The children would look out our window and say, 'There's a babysitter, and there's a babysitter,' pointing at the adults in the courtyard," she said. The family had moved into Peabody Terrace fresh from three years in Uganda and Ghana,



1982

she explained. "The new apartment was a gift. The swift launch of a superb nursery school was another gift. We had an instant neighborhood to support us for three memorable years."

THE PTCC is still run by a parent advisory board, but has grown to serve 80 children daily with a staff of 38. It is one of six childcare centers at Harvard that together enroll about 380 children of faculty, staff, and students: each center is operated as its own independent non-



1982



2013

profit organization, but Harvard pays for the facilities and utilities. "What's fascinating is that each center has its own unique culture, history, and birth story, coming from different constituents," according to Sarah Ben-

HAA's New Helmsman

Philip W. Lovejoy has been appointed executive director of the Harvard Alumni Association (HAA), succeeding John P. (Jack) Reardon Jr. '60, effective July 1. The executive director leads the HAA's approximately 40-person staff in managing club and shared-interest-group operations, education and travel programs, international outreach, class reports, reunions, digital communications (the alumni.harvard.edu website and the HarvardX for Alumni online-education experiences), and more. The transition for the staff should be seamless: Lovejoy joined the HAA in 2004, following prior positions in the travel industry and at the then-Harvard Museum of Natural History. He has most recently served as deputy executive director.

In the announcement of his appointment, Lovejoy said, "Harvard is a singular place filled with brilliant and engaging alumni who are making a huge impact in the world. The HAA empowers our alum-

ni to connect with one another and build the foundation of a lifelong relationship with the University." Reardon, who relinquishes his management role but maintains his other Harvard responsibilities, said, "Philip has done a spectacular job as deputy executive director. He brings great personal strengths to this role." See <http://harvardmag.com/lovejoy-14> for more details.



Philip W. Lovejoy

JULIETTE LYNCH/HARVARD UNIVERSITY

“It’s a time of growth and vulnerability, so people really do get to know each other.”

nett-Astesano, Ed.M. '08, assistant director of the University's Office of Work/Life. She researched the history of childcare at Harvard and wrote a 20-page report and chronology as part of her master's degree work.

Childcare first existed primarily on the Radcliffe campus in the 1920s and 1930s, she reports, “as a way to give young women summer employment.” The first more formalized “day nursery” opened at the Phillips Brooks House in 1941, and evolved throughout that decade “as a way to support families when dad was occupied with the war and mom was probably working.” The close of World War II brought an influx of veterans with families to Harvard, which prompted the expansion and move of childcare services, in 1946, to two Quonset huts on Kirkland Street that accommodated 40 “baby-boom” children (there was a waiting list of 200).

After piecing together scant records, Bennett-Astesano says it appears that “for most of the 1950s and early 1960s, there doesn't seem to [have been] any childcare operating on the Harvard campus.” But the mid 1960s brought a wider push for care, which, she says, began to be viewed

as an important factor in women's professional development—and liberation.

Frances Hovey Howe '52, Ed.M. '73, was one of the principal proponents of childcare at Harvard, and helped found the Radcliffe Childcare Center, which has had various locations and began operating as early as 1968. In a 1972 *Harvard Bulletin* article, “Who Needs Childcare?” she wrote that Radcliffe graduates “found that having a child eliminated their opportunities to achieve career positions in a highly competitive world.” By 1974, Howe had been appointed the first University Child Care Adviser, according to Bennett-Astesano; during the next six years, she helped oversee the founding, growth, move, or merging of several centers, including the Soldiers Field Park Children's Center, Radcliffe Child Care Centers, and the Oxford Street Daycare Cooperative—all of which are still open.

Meanwhile, the Peabody Terrace nursery school was flourishing; by 1978 it had been incorporated as the PTCC. It became a full-fledged daycare center with added slots for infants around 1989. Childcare services at Harvard expanded further be-

tween 2006 and 2013, Bennett-Astesano explains, and “the centers continue to evolve and build on their histories, while Harvard works with them on modernizations—both in terms of physical space and in their ability to serve today's workforce.” For PTCC director Katy Donovan and those who gathered in April, the center and its history highlight the importance of supporting family life, especially at a university. “These centers bring people together—faculty, staff, and students—on an equal playing field,” Donovan says. They also help connect families who come to Harvard from vastly different cultural and ethnic backgrounds. She has seen children who spoke no English when they arrived talking and playing easily with friends by the time they left. Even parents from opposite sides of political divides, who might not have engaged with each other otherwise, Donovan adds, have grown close, even asking about each other's grandparents who were still at risk at home, such as during the Lebanese and Israeli conflicts of 2006.

“This is a very formative time,” Donovan adds, “when you have young children and you are defining your professional life and who you are as parents, and really who you are going to be throughout adulthood. It's a time of growth and vulnerability, so people really do get to know each other. Look at Susan Sacks and all of these founders who have stayed in touch for 50 years, based on when their children were here for two or three years a long time ago.”

All the World's a Page

SHAKESPEARE, PERFORMED in the palm of one's hand. So proposes educational technologist Alexander Parker, Ed.M. '96, whose company, The New Book Press, has created full-length e-books of *Macbeth* and *Midsummer Night's Dream*, with *Romeo and Juliet* due in August. What's different and exciting is that when these are downloaded onto a Mac or iPad (streaming versions for all other devices are coming in September), the left-hand “page” displays a chunk of text while on the right side, professional actors play out the scene, bringing the lan-

In the e-book version of *Macbeth*, the witches' dark mischief unfolds beside the text.



guage truly alive.

This multidimensional-ity, Parker believes, will make all the difference to middle- and high-school students, and even many adults, who might otherwise struggle with the centuries-old text and thus miss out entirely on the bard's timeless themes.

"What trips up the readers is not the 'thees and thous,' but the more dense, knotty passages," notes Parker, who was born and raised in England and now lives in Manhattan. "What we provide are visual footnotes: the text is illuminated by the performance which, in turn, clarifies what is going on and permits a closer reading, understanding, and, dare I say it, enjoyment."

He points to act one, scene five, of *Romeo and Juliet*. Young readers could be confused because Capulet "is basically reining in his nephew Tybalt, 'a saucy boy' who is being a hothead, while also trying to keep a party going—'Well said, my hearts!...More light, more light!'—[lines] that are actually said to other people," explains Parker. "You would never get that, or the feeling of dual purpose, without seeing Capulet's body language and hearing the different inflections in his voice."

Or take the opening of *Macbeth*. The text whimpers compared to the e-book's arresting performance by the three witches, whose bodies writhe together as they speak in a slithering, sliding, chanting verse—"Fair is foul, and foul is fair: Hover through the fog and filthy air." It's viscerally frightening and foreshadows the unearthly evil ahead. These are *plays*, after all, that were primarily designed to be seen, heard—and experienced. "It's striking," Parker says, "when you see that there are

limits to what words alone can convey."

The videos themselves are a new art form. Tightly framed by the camera, the actors move minimally, eschew histrionics, carry only essential props, and wear simple, dark clothes. There are no stage sets: actors are silhouetted against a stark white background. "We don't focus on specta-



Anand G. Mahindra

you have served the University on several continents with deep devotion and insight, affirming the vital importance of the humanities while advancing interdisciplinary studies within a broad liberal arts education.



Emily Rauh Pulitzer

you have elevated the University and its embrace of creativity through your profound belief in the power of art and education to transform how we look at the world.

John P. Reardon Jr. '60. *From Admissions to Athletics to Alumni Affairs, you have shaped the Harvard we know and love, touching and changing countless lives through your skillful leadership and sage counsel, your impeccable judgment and inimitable way with people. The whole Harvard family salutes you—and thanks you.*

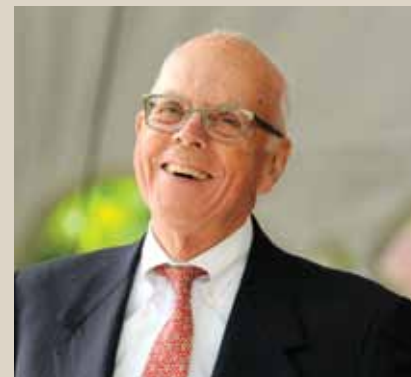
Harvard Medalists

ON COMMENCEMENT DAY, four alumni received the HAA's Harvard Medal, which recognizes extraordinary service to the University. The names of three recipients had been previously publicized; the surprise announcement at the meeting of a fourth, retiring HAA executive director John "Jack" P. Reardon Jr. '60, prompted cheers, applause, and a standing ovation in Tercentenary Theatre. "I hope you all can appreciate how much fun it was," HAA president Catherine Gellert '93 told the crowd, "to keep a secret from a man who knows everything about Harvard."

Anand G. Mahindra '77, M.B.A. '81. *Distinguished graduate of Harvard College and Harvard Business School,*

J. Louis Newell '57. Whether cheering from the stands at the Stadium, or chairing the committee charged with making Commencement happy, you stand always ready to answer Harvard's call, as a stalwart leader of your Class, the Harvard College Fund, the Harvard Club of Boston, and the Harvard Varsity Club. (Newell could not be present; he will receive his medal at a later date).

Emily Rauh Pulitzer, A.M. '63. *As Harvard Overseer, expert in modern and contemporary art, and devoted friend of Harvard's art museums,*



John P. Reardon Jr.



J. Louis Newell



Visit www.harvardmag.com/extras to view several videos from the e-book.

identified by Hobbs professor of cognition and education Howard Gardner, whose classes Parker took at the Harvard School of Graduate Education. “Linguistic intelligence, of course, focuses on the text while the visual and auditory learners may engage better with the video,” Parker asserts. A third group, the multitasking video game-playing generation, seem to watch, listen, and read simultaneously, while students with learning disabilities can pause, rewind, fast-forward, or isolate the audio and video portions.

Parker is also eager to reach lifelong learners and those who “didn’t quite get on the Shakespeare merry-go-round the first time. Every adult who has seen these e-books, including myself, has expressed a wistful wish that they’d had them when they were young,” he adds. “You begin to realize that there is this troubled relationship with Shakespeare, that very few of us got it immediately, and there is this distance between what we think we should like and what we actually enjoy.”

Parker, who was raised by a Venezuelan mother and Boston-born father, moved to America to attend Yale. He then studied

The lark or the nightingale? *Romeo and Juliet* grapple with their fate.

technology in education at Harvard and worked for the Instructional Computing Group in the Faculty of Arts and Sciences, developing some of the first large-course websites with such early adopters as Knafel professor of music Thomas Forrest Kelly and Jones professor of classical Greek literature Gregory Nagy. He left for other jobs in New York City, but returned to Harvard in 2008 as the director of research computing in the humanities, a field, he reports, that “has been largely about a relationship with books: that’s how knowledge until recently has been stored and transmitted and it’s very powerful.”

Paper books are “here to stay,” he adds. But an increasing fascination with their other potential incarnations led Parker to find investors and, in 2011, move back to New York City to develop his ideas.

The first to launch



was *Eroica*, in 2013, featuring the works of Harvard poet Kevin McGrath, an associate of the South Asian studies department and special program instructor in the Division of Continuing Education: on the left-hand “page” are the texts and on the right are videos of the eloquent McGrath reading and discussing the poems. “Even the shape of the book as we know it—a series of paper sheets bound at one edge that gives you access to text,” was once an innovation, Parker points out. “So then you begin to ask yourself, When do things like sound and movement get incorporated? I think we are at the dawn of a new era.” Readers and viewers of his Shakespeare e-plays may think we’re already there.

—NELL PORTER BROWN

Centennial Medalists

THE GRADUATE SCHOOL of Arts and Sciences Centennial Medal, first awarded in 1989 on the occasion of the school’s hundredth anniversary, honors alumni who have made contributions to society that emerged from their graduate study at Harvard. It is the highest honor the Graduate School bestows, and awardees include some of Harvard’s most accomplished alumni. The 2014 recipients, announced at a ceremony on May 28, are: Bruce Alberts, Ph.D. ’66, Chancellor’s Leadership Chair in biochemistry and biophysics for science and education at the University of California, San Francisco; Keith Christiansen, Ph.D. ’77, Pope-Hennessy chairman of the department of European paintings at the Metropolitan Museum of Art; Judith Lasker, Ph.D. ’76, the N.E.H. Distinguished Professor of sociology at Lehigh University; and Leo Marx ’41, Ph.D. ’50, Kenan professor of American cultural history emeritus in MIT’s Program in Science, Technology, and Society. For more about the honorands, see <http://harvardmag.com/medalists-14>.

Clockwise from far left: Judith Lasker, Bruce Alberts, Leo Marx, and Keith Christiansen



Election Results

THE NAMES of the new member of the Board of Overseers and the newly elected directors of the Harvard Alumni Association (HAA) were announced during the HAA's annual meeting on the afternoon of Commencement day.

The new Overseers (six-year terms) are:

Michael Brown '83, J.D. '88, Boston. CEO and co-founder, City Year.

James E. K. Hildreth '79, Davis, California. Dean, College of Biological Sciences, University of California, Davis.

Jane Lubchenco, Ph.D. '75, Corvallis, Oregon. Valley professor of marine biology and Distinguished Professor of zoology, Oregon State University.

Michael M. Lynton '82, M.B.A. '87, Los Angeles. CEO, Sony Entertainment.

Lesley Friedman Rosenthal '86, J.D. '89, New York City. Vice president, general counsel, and secretary, Lincoln Center for the Performing Arts.

The new HAA elected directors (three-year terms) are:

Henry Parkman Biggs '86, Saint Louis. Associate director, McDonnell International Academy, Washington University in St. Louis.

Raphael W. Bostic '87, Los Angeles. Bedrosian chair in governance and the public enterprise; director, Bedrosian Center on Governance, Price School of Public Policy, University of Southern California.

Margaret Jay Braatz, Ed.M. '93, Ed.D. '99, Chicago. Vice president for planning and presidential administration, DePaul University.

Leea Nash Bridgeman '00, M.B.A. '05. Louisville, Kentucky. Executive director and trustee, Bridgeman Family Foundation.

Jessica Gelman '97, M.B.A. '02, Wellesley, Massachusetts. Vice president, customer marketing and strategy, The Kraft Sports Group (New England Patriots); co-founder, MIT Sloan Sports Analytics Conference.

Vanessa W. Liu '96, J.D. '03, New York City. COO, Trigger Media Group.

Senior Alumni

THE OLDEST GRADUATES of Harvard and Radcliffe present on Commencement day were **Lillian (Sher) Sugarman** '37, 98, of Swampscott, Massachusetts, who was accompanied by her grandson, **Peter S. Cahn** '96, RI '09, and **Robert F. Rothschild** '39, 95, of New York City, celebrating his seventy-fifth class reunion, who came with his wife, **Margaret Rothschild** '65. Both were recognized during the afternoon ceremony by HAA president **Catherine Gellert** '93. According to the active

University alumni records, the other oldest alumni include: **Edith M. Van Saun** '29, 107, of Sykesville, Maryland; **Bertha O. Fineberg** '31, 105, of Gloucester, Massachusetts;

Mary Anglemeyer '31, 104, of Medford, New Jersey; **Erhart R. Muller** '32, 104, of Harvard, Massachusetts; **Louise J. Wells** '32, 104, of Harwich, Massachusetts; **Helena W. Phillips** '33, 102, of West Palm Beach; **Clarence M. Agress** '33, 102, of Santa Barbara; **Mary Grossman MacEwan** '33, 102, of Tucson; **Anne Sharples Frantz** '33, 102, of Peterborough, New Hampshire; and **William Peters Blanc** '34, 101, of Sag Harbor, New York.

Robert F. Rothschild



Lillian (Sher) Sugarman

Cambridge Scholars

FOUR SENIORS have won Harvard Cambridge Scholarships to study at Cambridge University during the 2014-2015 academic year. **Eric Cervini**, of Round Rock, Texas, and Lowell House, a history concentrator, will be the **Lionel De Jersey Harvard Scholar** at Emmanuel College; **Miriam Farkas**, of Ellicott City, Maryland, and Lowell House, a linguistics concentrator, will be the **John Eliot Scholar** at Jesus College; **Shelby Lin**, of Poquott, New York, and Adams House, an applied mathematics concentrator, will be the **William Shirley Scholar** at Pembroke College; and **Mariel Pettee**, of Dallas and Quincy House, a physics and mathematics joint concentrator, will be the **Charles Henry Fiske III Scholar** at Trinity College.

Alumni Gifts

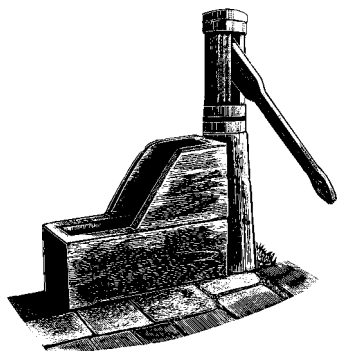
THE TWENTY-FIFTH REUNION CLASS of 1989 established "an astonishing record" this year with its more than \$180-million gift, HAA president **Catherine Gellert** an-

nounced during the organization's annual meeting on the afternoon of Commencement day. "Let me repeat that," Gellert told the cheering classmates and others gathered in Tercentenary Theatre: "An astonishing record!" That number includes the unprecedented \$150-million contributed earlier this year by **Kenneth C. Griffin** '89, primarily for undergraduate financial aid; the gift is the largest in Harvard College history (see "Undergraduate Aid and Campaign Milestones," May-June, page 27).

In addition, Gellert publicly thanked the fiftieth-reunion class of 1964 for its more than \$38-million reunion gift and 50 percent participation rate, and saluted the class of 2014's 78 percent participation rate.

Overall, alumni have also given to the University in myriad other ways, Gellert emphasized: by volunteering and continuing to volunteer an enormous amount of their time and energy in "a great show of commitment to the community of Harvard and Radcliffe."

Harvard Talking



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

DIVINING THAT Yale students spend a lot of time taking tourists around their campus in New Haven, a group of Harvard young bloods headed south last fall to help out. In case you missed the video of this undertaking shown on the comedy news program *On Harvard Time* (www.onharvardtime.com), you can catch up with the fun and the way-more-than-a-million fans already in the picture by switching on www.youtube.com/watch?v=EqsTatw-RTI.

The ringleader of the Crimson perpetrators was Samuel B. Clark '15, of Denver and Kirkland House. A social studies concentrator, he is involved with several performing arts groups such as the Hasty Pudding Theatricals and On Thin Ice Improv, as well as On Harvard Time.

His tour touched on New Haven's high crime rate and the shortcomings of Yale's architecture and went on, "Yale is in many ways Harvard's sort of little—perhaps less successful—sister." Clark told his innocent tourist listeners that "Yale students are stupider than Harvard students.... Yale students are not as attractive as Harvard students."

At the end of the tour, Clark may

Samuel Clark, in costume, shows real tourists around Yale. He later said he was trying to be helpful.

have gone too far and given the game away. "We don't accept any tips," he said, "but I will give you one: go to Harvard."



ONWARD: Jonathan Newmark '74, M.D., of Cincinnati and Bel Air, Maryland, reports that he retired as a colonel from the U.S. Army Medical Corps in November 2013. He had been a clinical neurologist and specialist in medical responses to chemical and biological warfare, and also, he believes, the oldest Harvard College graduate on active duty. For an encore he has returned to college on the post-9/11 GI Bill as a full-time graduate student in composition at the College-Conservatory of Music, University of Cincinnati. His first completed work done there, just performed, is a trombone sextet, each movement describing a skeletal bone, entitled *Six Bones for Six Bones*. He invites classmates to visit. "My apartment," he promises, "has a roll-out couch, like any proper dorm room."



TALKING BACK to John Foster Dulles: Robert Richardson Bowie, Dillon professor of international affairs emeritus, died on No-

vember 2, 2013, at the age of 104. In April, Jorge I. Domínguez, chair of a small committee charged to write a memorial minute about Bowie, presented it to the Faculty of Arts and Sciences.

Bowie combined distinguished academic achievement with professional service at the highest levels of the U.S. government, said Domínguez, Madero professor for the study of Mexico and vice provost for international affairs. For his work after World War II as general counsel to the U.S. high commissioner for Germany, the German government awarded him the Commander's Cross of the Order of Merit.

Bowie was devoted to making academic ideas matter in the world of policy, said Domínguez. His book *Suez 1956* concerned a military crisis he experienced in government firsthand and involved criticisms of the administration of which he then was a part.

Bowie returned to Harvard to become the first Dillon professor and to found and direct what is now the Weatherhead Center for International Affairs. For him, said Domínguez, "the center was Harvard at its best, a self-governing community of scholars who worked hard, insightfully, and collegially on the central problems of the day."

Bowie served as assistant secretary of state under John Foster Dulles. In remarks to the faculty not part of the formal memorial minute, Domínguez noted that Bowie told *The New York Times* in 1966, "Dulles complained once to me that no one would talk back to him." For his part, Bowie assured the *Times*, "I found that I had no trouble at all, apart from a two-week period when we weren't speaking because I had been extra aggressive."

~PRIMUS V



LETTERS (continued from page 6)

off”; *loquacious* is similar to *prolix* and again not necessarily showy; *circuitous* is “round-about/won’t get to the point”; *circumlocutory* is similar to *circuitous* but carries the added implication of “devious with intent to dissemble/deceive” (yes, this last is redundant, but it has alliterative value); *digressive* means “can’t or won’t stay on the point.” Leave aside the more pedantic quibble that he’s trying to synonymize (ha!) adjectives with a noun.

Why not just settle for *pretentious*? But this would commit the academic sin of using a short, clear, almost universally understood word when it’s so much more fun to use an arcane uncommon word that is, well...pretentious.

TED PEARSON JR. ’61
Tucson

ANIMAL RESEARCH REDUX

REGARDING Dr. Schneidewind’s letter concerning animal research (May-June, page 6): may I say that after my graduation in 1960, I spent several decades as a part-time animal caretaker at the Harvard Biological Laboratories, and have a pretty good idea about how researchers treat laboratory animals. I saw no deliberate instances of cruelty.

I would suggest that those who feel that use of laboratory animals (without their consent?) is “indefensible” (her word), should be consistent. I believe that those who agree with Schneidewind should carry a little card with them at all times. The card would state that in case of a medical emergency, during which they could not speak for themselves, they did not want to receive any medications or surgical procedures which had been developed through the use of live animal research. Does this seem reasonable?

ROBERT A. CAMPBELL ’60, Ed.M. ’61
Weymouth, Mass.

SCHLESINGER, REMEMBERED?

ANENT the life of Arthur M. Schlesinger Jr. (Open Book, March-April, page 57) and Marshall S. Shapo’s fine letter referencing it (May-June, page 7), I just received a telephone call from a junior at the College soliciting for the annual Harvard College Fund.

After he completed his task, we chatted a bit. When I asked him his major, he said economics, and that he is thinking of going to work in Wall Street after he graduates.

While talking further about economics as a career, I happened to mention John Kenneth Galbraith. He hadn’t heard of him. A bit later I happened to mention Paul Samuelson. Never heard of him, either. Then a bit later, I mentioned Arthur Schlesinger Jr., and this time I said, “You certainly must know of him?” He said “Yes, I do.” To which I replied, “Who was he?” He sheepishly said, “I just said that. I really don’t know.”

He had never even heard of any of them. Stunning. He should do very well on Wall Street.

KENNETH E. MACWILLIAMS ’58, M.B.A. ’62
Portland, Me.

DOES THIS RING A BELL?

FOLLOWING publication of the item about “Bellboys” (Yesterday’s News, March-April, page 20), a reader commented on “amusing nicknames for undergraduate houses....Lowell House...acquired the nickname ‘Bellboys.’ At the time, Lowell House was where all the students on scholarships lived.”

I never heard the nickname used during my Lowell House years, but there’s another reason why it could have been. Have you ever heard or seen the massive Russian bells that occupy Lowell’s blue belfry, or their infamous Sunday concerts?

Your version hints at a degree of elite snobbery that I don’t believe prevailed among Harvard undergraduates. I think most of my housemates would disagree with your premise—including those with names like Birdseye, Lamont, Lodge, Morgan, and Weatherhead.

JAMES FITCH ’50, M.B.A. ’53
Former scholarship student
Santa Rosa, Calif.

QUESTIONING CLIMATE CHANGE

PRESIDENT DREW FAUST has recently detailed University resources, research, and finances dedicated to “climate change” issues, which present a reasoned approach to the issue. Far from “settled science,” as some would claim, there remain many contradictions and partisan claims on both sides. Hoorah for Faust and Harvard for the balanced inquiry.

PETER MCKINNEY ’56
Chicago

Editor’s note: The president addressed the issue in an April 7 e-mail to the community; it began, “Climate change represents one of the world’s most consequential

challenges” (see “Harvard Details Climate-Change Actions” at <http://harvardmag.com/climate-14>). For more, see “The Divestment Debate,” page 22.

BABY TALK AND CHILDCARE

A FACEBOOK POST from Jessica Salley (“Baby Talk,” The Undergraduate, March-April, page 24) misled one of her new roommates to think she was arriving with a baby. The column prompted me to recall my thirty-fifth reunion, where one of my classmates disclosed, tearfully, that she *did* arrive with a baby—but placed her with relatives and carefully concealed the secret. It also brought to mind the student-parents who attend my classes at a state university. True, they do not live in the dorms. But many bring keen intellects to the classroom.

Salley’s author note states that she “hopes to enter a career in anything but childcare.” The phrase conflates an inclination to take on parenthood with an interest in or capability at working in childcare. It also reveals a lack of knowledge about the seminal contributions to early-childhood education made by women from elite educational backgrounds. Dr. Abigail Eliot (the department of child development at Tufts bears her name) was a 1914 Radcliffe graduate and recipient of a doctorate in education from Harvard. She never experienced motherhood, but she founded one of the nation’s first nursery schools and co-founded what is now the National Association for the Education of Young Children.

The idea that there is a connection between “being a mother” and “being prepared to work with young children” has often been deployed nefariously. Why not kill two birds with one stone, ask some “welfare reformers,” by putting mothers who need public assistance to work in childcare and thereby expand childcare services for all? The notion that any woman can work in childcare, just because she is a mother, is demeaning to those who have worked hard to gain a deep understanding of how young children learn and grow. And of course it is demeaning to the public-aid recipients at whom it is targeted. Who says they want to work with children, just because they’ve had babies?

DALE BORMAN FINK ’71
Williamstown, Mass.



Visit harvardmag.com/extras for additional letters.

REBOOTING SOCIAL SCIENCE

(continued from page 58)

like the body's own immune system—almost invisibly behind the scenes.

The Tobin research is a call for “reaching a new level in the treatment of regulatory capture.”

That deeply empirical research, which identifies certain regulatory bodies with “surprisingly strong immune systems,” yields all sorts of practical suggestions for mitigating capture: consumer empowerment programs; cultivating diverse, external expert advisers; expanding federal review of regulatory actions to include *in-action* (where an agency has been stymied by an interested party). Some of these techniques have already been implemented—for example, by building a consumer advisory board into the new Consumer Financial Protection Bureau.

“Our ultimate goal,” says Moss, beyond any accompanying gains in practice, “is to help ensure that tomorrow we have a deeper understanding of the problem of regulatory capture—and how to limit it—than we do today.”

Taking Risks with Ideas

THE TOBIN PROJECT came through trial and error to its present, effective model for catalyzing transformative social-science research and identifying significant problems on which to work. Last year, the organization received a MacArthur Foundation Award for Creative and Effective Institutions, which recognizes “exceptional organizations that...generate provocative ideas, reframe the debate, or provide new ways of looking at persistent problems.”

Once a research priority is defined, the Tobin Project is careful to assemble a group of scholars that spans disciplines and generations. When graduate students sit alongside Nobel laureates, it has found, youthful energy meets with the wisdom that comes with experience, challenging all involved to think in new ways. Inviting each group to *answer a question*, as opposed to talking about an issue, helps orient the discussion so the scholars consider, and learn from, one another's perspectives—productively moving beyond their expertise in their own fields.

Unsurprisingly, perhaps, this model of cross-disciplinary dialogue and engagement reflects who Moss is as a scholar, and the lessons he absorbed from his mentor, James Tobin. Colleagues describe Moss as extraordinarily versatile, with a unique ability to think deeply and insightfully across a variety of topics, and to find strategic ways into big issues. (His own scholarship focuses on the roles of government, including risk management, and putting recent developments such as the financial crisis in historical perspective; see “An Ounce of Prevention,” September-October 2009, page 24.)

As the Tobin Project hews to its careful process, meticulously setting up the conditions to encourage new insights, “The

thought about the problem,” says Moss. “It implied that doctors were killing people.”

Or, consider the career of Moss's uncle, the late cancer researcher Judah Folkman, M.D. '57, who made the revolutionary discovery that tumors recruit their own blood supply. When Folkman first started investigating this path, colleagues told him he was wasting his time; it was so different from what anyone else was working on that they couldn't see its potential.

Again and again, Moss returns to the idea that research can be transformative, not only in medicine but in the social sciences as well. Today it seems obvious that hand-washing saves babies' lives, that cutting off a tumor's blood supply can stop its growth, and that greater liquidity can keep



Tobin team staff members (left to right): John Cisternino, Rebecca Chan, Robert Ward, David A. Moss, Jonathan Decker, Katie Nihill, and Sidharth Shah

risk-taking happens with the ideas,” says Stephanie Khurana. For example, the inequality group is trying an entirely new approach, with no guarantee it will pay off.

Moss is not interested in an intellectually cautious approach. As models for boldness, he often turns to science and medicine, telling the story of Hungarian physician Ignaz Semmelweis, whose discovery that deaths could be prevented if doctors washed their hands before delivering babies initially met with intense resistance. “This was a very risky idea, because it was threatening to the way people

a recession from becoming a depression. Once, these things were not so obvious—and this is another way of stating the Tobin Project's mission. “We ask, what are the big problems that seem to defy understanding today, but that could become manageable through the advancement of knowledge tomorrow,” says Moss, “and how can we increase the likelihood that transformative research will help to generate that knowledge, opening the door to solutions that may feel obvious one day, but that aren't obvious to us now?”

Learn more

Visit the Tobin Project website at www.tobin-project.org to read about the research on institutions of democracy and national security and access information on the project's model, history, and community of scholars.

Contributing editor Elizabeth Gudrais '01 is a freelance writer based in Madison, Wisconsin.

Harpsichords Extraordinaire

Two keyboards, each with a story to tell

IN 1900, no one in America was building harpsichords. Pianos ruled, and that was that. Then in 1905, the French-born musician and instrument maker Arnold Dolmetsch (1858-1940) arrived in Boston, where he spent the next six years building clavichords and harpsichords with piano makers Chickering & Sons. Dolmetsch was “the man in front of the ‘early-music’ revival in the United States,” says Mariana Quinn, manager of Piano Technical Services (PTS) at Harvard. Early-music aficionados sought to build authentic reproductions of ancient instruments and to perform centuries-old pieces in ways true to their origins.

Two extraordinary harpsichords, one of which Dolmetsch built with Chickering in 1906, reside in the PTS workshop in Vanserg Hall, both in need of full restoration. Harvard

acquired the Dolmetsch in 1929, and junior Ralph Kirkpatrick ’31, later an acclaimed harpsichordist and musicologist, concertized on it at Paine Hall the next year.

The 1906 harpsichord has two keyboards, or “manuals.” Dolmetsch used ebony for the natural notes and ivory for the accidentals, yielding a color scheme that reverses the conventional one. Its beautiful case, with ivory inlays, may be Indian rosewood, according to PTS senior concert technician Paul Rattigan.

Piano keys trigger hammers, but pressing a harpsichord key raises a jack with plectrum that plucks a metal string. A “choir” is a set of strings; Dolmetsch gave the Harvard instrument two eight-foot choirs and a four-foot choir (which sounds an octave higher), reviving the style of celebrated French harpsichord makers of the eighteenth century, such as Pascal Taskin.

Riding on the coattails of the early-music revival, Frank Hubbard ’42, A.M. ’48, and William Dowd ’44 built the second harpsichord, pictured at left. The two young men independently pursued apprenticeships with disciples of Dolmetsch, then founded a harpsichord company in 1949. The instrument seen here, bearing serial number 1, is their

first creation, modeled on a design by the Flemish Ruckers family of Renaissance harpsichord makers.



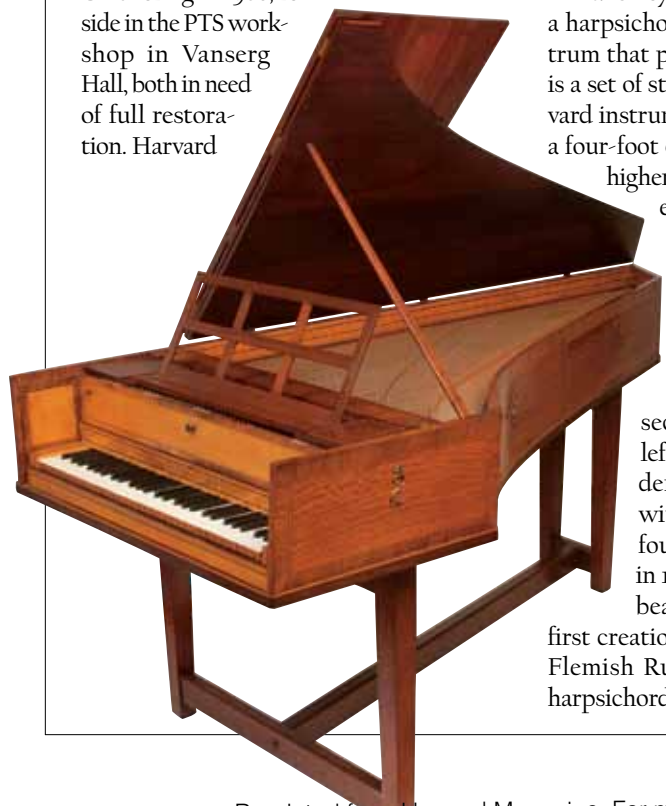
In his foreword to Hubbard’s *Three Centuries of Harpsichord Making* (1965), Kirkpatrick writes of hearing about “two graduate stu-

dents in English...who had built what I believe was a clavichord....it became perfectly clear to me that Frank Hubbard and William Dowd did not in any way embody the enthusiastic ineptitude that so frequently is to be encountered among those persons infatuated with old instruments.”

Their maiden effort is a single-manual harpsichord with no pedals and a range of less than four and one-half octaves, or about half that of a piano keyboard. Like the Dolmetsch, the instrument has no home at Harvard: climate-controlled rooms suitable for delicate old harpsichords are in short supply.

Hubbard & Dowd built some of the best harpsichords in the world until the firm dissolved in 1958. Both men continued the craft afterward. Frank Hubbard was preparing to teach a class at Mather House on harpsichord making when he died in 1976. The Hubbard & Dowd legacy lives on in Framingham, Massachusetts, where Hubbard Harpsichords continues to build quality instruments.

~C.L.



Photographs by Jim Harrison

2014 SCHEDULE

HARVARD FOOTBALL

Sept. 19	Holy Cross	7 PM
Sept. 27	at Brown	6 PM
Oct. 4	at Georgetown	Noon
Oct. 11	Cornell	1 PM
Oct. 18	Lafayette	1 PM
Oct. 25	at Princeton	TBA
Nov. 1	at Dartmouth	1:30 PM
Nov. 8	Columbia	1 PM
Nov. 15	at Penn	TBA
Nov. 22	Yale	Noon

All game times subject to change. Home games (in color) held at Harvard Stadium

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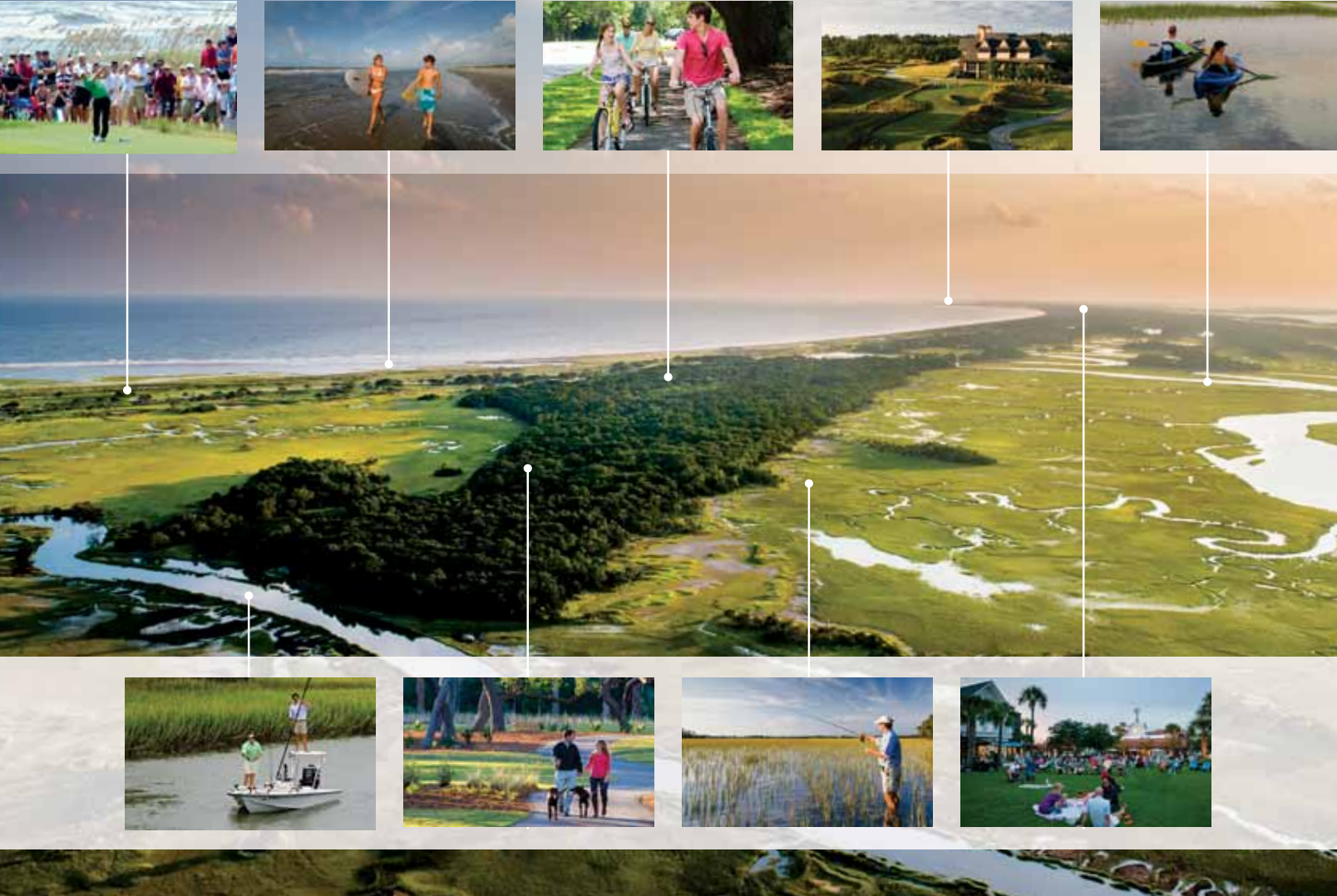
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