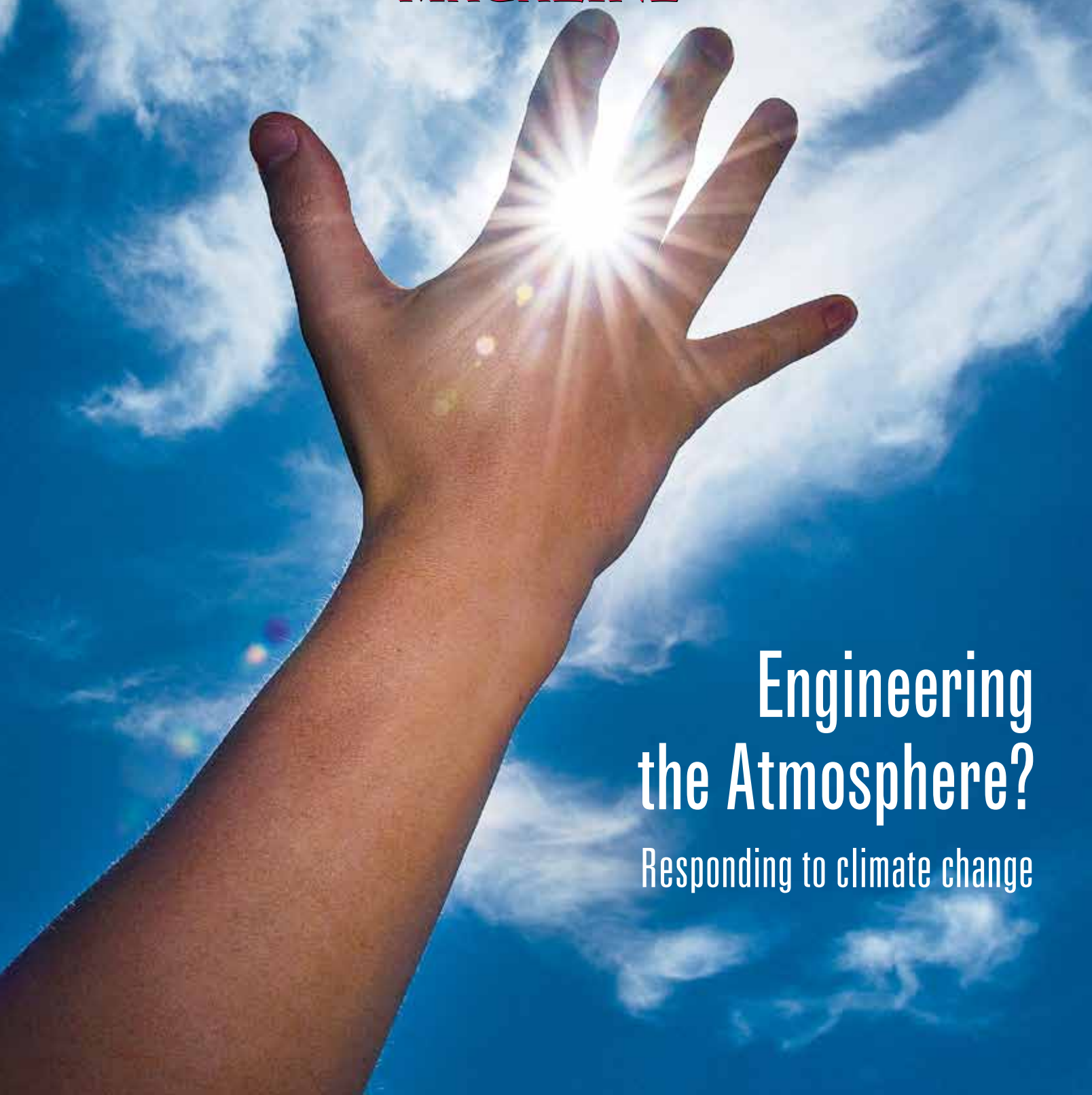


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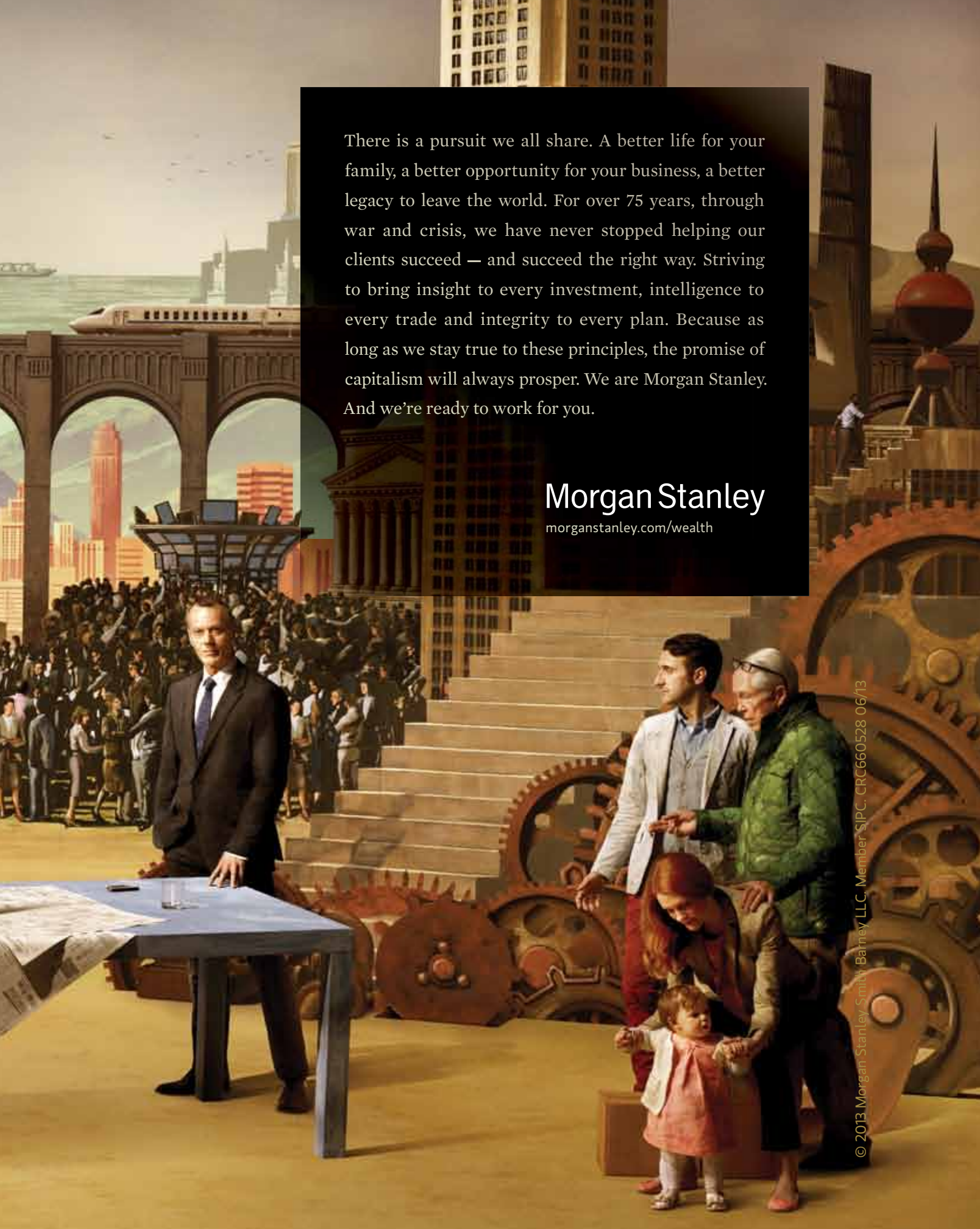
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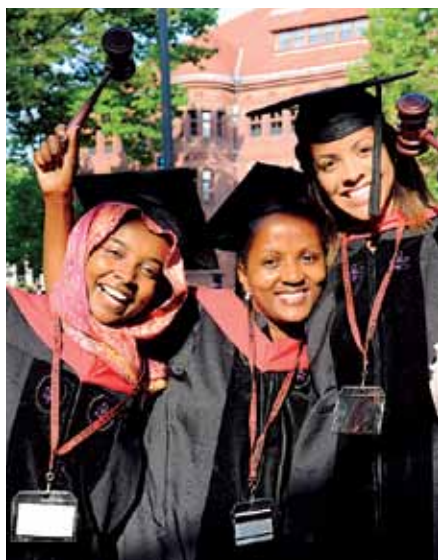
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40 John Harvard's Journal

Sober sentiments and a celebrity hug-fest at the 362nd Commencement. Plus the Law School's upper-level oasis, conferring about learning, from Russian studies to union ranks, online education in overdrive, faculty questions about governance, e-mail inquiries, Teddy Roosevelt: the archives, reengineering drug discovery, M.B.A. "girls," interim Education School dean, the Undergraduate's Harvard mix tape, phasing out the primate center, and the crimson Cricket Club

Bench Strength

THREE deanships concluded this academic year: Kathleen McCartney departs the Graduate School of Education to become president of Smith College; Michael Shinagel retires as dean of continuing education and University extension; and Harvard College dean Evelyn M. Hammonds announced on May 28 that she would step down. Each opening precipitated a long search for a successor; two (the education school and the College) saw the appointment of an interim dean.

There are opportunities to plan for these transitions by training faculty candidates for future promotion. As interim president in the 2006-2007 academic year (service that could *not* have been planned for), Derek Bok recalled that he paid special attention to this problem (see "Developing Deans, Calendar Consensus," July-August 2007, page 60). Having characterized academic leadership as "a strange and baffling phenomenon," he noted that scholars are not selected for management skills. Their institutions do little succession planning. Those appointed to such positions are often thrown into the job with no preparation or support—as he was (Bok became Harvard Law School dean at age 37). To buttress "bench strength," interim president Bok asked McCartney, the Radcliffe Institute's then-dean Drew Faust, and Harvard Business School dean Jay O. Light to explore ways of "developing some potential successors" and of providing future deans with orientation materials, briefings, and even continuing advisory services.

HBS's senior associate deans are a model of this kind of depth, providing continuity and expertise in governance. The Faculty of Arts and Science's divisional deans may evolve this way. Not every faculty is as large as HBS or FAS, nor has equal resources. But at any scale, the payoff seems worth the effort.

~JOHN S. ROSENBERG, *Editor*

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Science at Harvard: Collaborations and Transformations

IN MAY, I had the pleasure of announcing that Hansjörg Wyss had followed his pathbreaking 2008 gift establishing the Wyss Institute for Biologically Inspired Engineering with a second gift of \$125 million to launch the next phase of its growth. In not quite five years, the Wyss Institute has developed into an engine of creativity and innovation, involving hundreds of faculty and staff from across Harvard and the region in developing life-changing medicines and technologies—exploring how to prevent infant apnea with responsive mattresses, advancing sepsis therapy with biospleens, or revolutionizing drug development with organs on a chip. Work at the Wyss has already yielded more than 400 patents.

The energy we see at the Wyss is just one part of ongoing growth and transformation in engineering and science at Harvard. It is clearly visible in Harvard College, where teaching in science, technology, engineering, and math (STEM) fields has been overhauled with new integrative introductory courses. Forty percent of undergraduates are now STEM concentrators. Since the School of Engineering and Applied Sciences (SEAS) became a school in 2007, the numbers of engineering concentrators has climbed—doubling in just the past three years. Getting students involved in research early on is key to their engagement and sustained interest in scientific careers, and we have focused on making such opportunities more central and available for our students.

The Department of Stem Cell and Regenerative Biology (SCRB) was created in 2007 as Harvard's first cross-School department, part of both Harvard Medical School and the Faculty of Arts and Sciences, and has attracted considerable student interest in its concentration, established just four years ago and now triple its original size. SCRB and the Harvard Stem Cell Institute, involving collaborators across the University and the hospitals, hailed two highly significant discoveries by its faculty this spring: the identification of a hormone that has promise to become the basis of a more effective treatment for diabetes and the identification of a protein that reverses age-related heart failure in mice.

Collaborations and partnerships are important aspects of the changing landscape of science at Harvard. This year, we mark the tenth anniversary of the Broad Institute of Harvard and MIT. Building on the insights of the Human Genome Project, the Broad seeks to assemble a complete picture of the molecular components of life and uncover the molecular bases of major inherited and infectious diseases. Broad faculty and affiliates have recently announced the discovery of genetic mutations occurring in more than 70 percent of melanomas, new insight into the role of recessive genes in autism, and new understanding of subtypes of endometrial cancer. In March I joined with my counterparts at MIT and Mass General to open the new home for another noteworthy cross-institutional



collaboration, the four-year-old Ragon Institute, where research on HIV vaccines and on immunology more generally is being significantly advanced.

From designing new imaging techniques to revealing connections among neurons in the brain to identifying relationships between neuroscience and the foundations of human behavior to developing new methods of finding planets outside our solar system, Harvard faculty and students are pursuing scientific discoveries across the broad range of scientific fields. From beginning undergraduates encountering the revolutionized instruction in Life Sciences 1A to the Nobel Prize winner now deeply engaged in our University-wide initiative on the Origins of Life, we see excitement about the novel approaches, tools, techniques—advances in computation, imaging, data management, and analysis, to name a few—that make the promise and pace of scientific learning and discovery unprecedented. At Harvard we are greeting the possibilities inherent in the twenty-first century's scientific revolution by creating new collaborations, new connections, new programs, new courses—and, of course, new scientists educated to build our future.

Sincerely,

Drew Faust

Cambridge 02138

On-line gender equity, e-mail investigations, Dean John Monro

JOBLESSNESS AND IMMIGRATION

IT IS NOTEWORTHY that in “The Urban Jobs Crisis,” by James M. Quane, William Julius Wilson, and Jackelyn Hwang (May-June, page 42), there is no mention of the impact of the many millions of legal and illegal immigrants who have come to the United States in recent decades. For many years, most of our legal and illegal immigrants have not been well educated, and they typically end up competing for low-level jobs with our less-educated citizens and earlier immigrants. Consequently, our immigration has directly contributed to higher unemployment and downward pressure on wages for the urban poor. Thus it would be logical to include restricting the immigration of the poor and little-educated in the list of ways to help the urban poor already here, but I fear that it is not politically correct to make such a proposal in today’s academic community.

PETER A. SCHULKIN, PH.D. ’70
Cambria, Calif.

The authors respond: In our essay, we consider pathways out of poverty for low-income blacks and Latinos. In this regard, we do mention the rise in immigration, particularly among low-skilled Latinos, between 1990 and 2000 and their concentration in farming occupations and the expanding service sector. It is likely that immigrant groups in labor markets in certain parts of the country do compete with U.S. citizens, especially those with a high-school education or less, for jobs at the lower end of the wage distribution. However, the established research does not resolve the question about whether these jobs would be filled if immigrant workers were barred from seeking them. Indeed, focusing on whether these jobs should go to immigrants or natives whose skills preclude them from seeking employment in more stable, better-paying sectors of the economy obfuscates deeper structural issues that keep the working poor from achieving economic self-sufficiency. Other forces that we dis-

cuss in our essay—some global and others closer to home—bear much more responsibility for undermining the economic progress of middle- and low-income workers.

SAME-SEX MARRIAGE

A RECENT LETTER (May-June, page 8) in response to Michael J. Klarman’s article on the increasing acceptance of same-sex marriage (“How Same-Sex Marriage Came to Be,” March-April, page 30) states that “strong evidence indicates that” children “stand to be harmed” by same-sex marriage. This is a complete falsehood.

In March 2013, the American Academy of Pediatrics, an organization greatly concerned with the welfare of children, issued a policy statement on same-sex marriage, including an examination of the evidence on the effects of same-sex marriage on children. The authors write: “There is extensive research documenting that there

is no causal relationship between parents’ sexual orientation and children’s emotional, psychosocial, and behavioral development. Many studies attest to the normal development of children of same-gender couples when the child is wanted, the parents have a commitment to shared parenting, and the parents have strong social and economic supports.”

They then go on to fully support same-sex marriage, writing that “if a child has two and capable parents who choose to create a permanent bond by way of civil marriage, it is in the best interests of their child(ren) that legal and social institutions allow and support them to do so.”

The American Psychological Association, the American Psychiatric Association, the American Medical Association, and the American Sociological Association have also reached similar conclusions on the effects of same-sex marriage on children and have issued similar policy statements in favor of same-sex marriage.

Opposition to same-sex marriage largely comes from religious beliefs or a basic dislike of gay and lesbian people. Because these reasons don’t work well in the public-policy debate on this issue, opponents cite concerns for children—but there is no evidence to support harm to children. As

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page 13 | Tour the grounds of a Williams College English professor who has cultivated a landscape embedded with references to poetry, fiction, and drama.



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page 14 | Hear writer André Aciman read aloud a section from his new novel about an Egyptian graduate student navigating his way through Harvard and the United States.



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page 30 | Watch master woodworker David Esterly at work, demonstrating how he creates some of the most intricate wood sculptures since the eighteenth century.

The Class of ’66 Remembers

online | Listen to classmates share their Harvard memories and reflections, as compiled and edited by Tony Kahn ’66, a former producer for National Public Radio. See: <http://www.harvardmag.com/alumni>.

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FROM TOP: CRAIG LAMBERT; STEVE POTTER; STU ROSNER; COURTESY OF TONY KAHN

a physician, I try to base my treatment of patients on facts and studies. The same approach should be applied to public policy.

STEPHEN SUSSMAN, M.D. '88
Haiku, Hawaii

EDX AND GENDER EQUITY

THE VERY INFORMATIVE "HarvardX at One" (May-June, page 48) does an excellent job of noting the primary opportunities and challenges involved with the race to offer MOOCs, and provides welcome information on funding structures. But it misses one issue that is a serious challenge for edX and the other major providers of MOOCs: the involvement of female instructors. edX's

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mission statement says that one of its goals is "to deliver these teachings from a faculty who reflect the diversity of its audience."

Leaving aside the questionable grammar of that statement, the facts refute it. Of the 25 courses that EdX currently lists on its website, none are taught solely by female faculty: 17 are taught solely by male faculty, and eight by mixed-gender groups. In HarvardX courses, the disparity is even more glaring: of the 11 instructors listed, only one is female. With a faculty that is more than 25 percent female, one would think that more than one woman would have an interest in participating.

With this gender imbalance, edX, like other MOOC providers, is missing a tremendous opportunity to export models of gender equality. Much of their audience is in developing countries, such as China, India, and Brazil, where the education of girls and women is a crucial element of economic and social development. Featuring confident, accomplished female instructors in MOOCs could export role models, sometimes in situations where powerful female role models are in short supply.

The gender imbalance in MOOC instruction is also a looming issue for the Harvard faculty, as well as faculty at universities more generally. Teaching MOOCs brings prestige and other rewards. To the extent that these privileges are overwhelmingly limited to male faculty, Harvard's efforts in recent years to address a range of diversity issues are undermined.

LISA MARTIN, PH.D. '90
*Department of Political Science
University of Wisconsin, Madison*

Editor's note: Lisa Martin, formerly of Harvard's government faculty, served as senior adviser to the dean of the Faculty of Arts and Sciences on faculty diversity.

MOUSE MODELS

I DIDN'T KNOW whether to laugh or cry about "Mice Aren't Men" (May-June, page 13). The author comments that the idea that mice and men are different is so controversial that a paper discussing that was "declined by *Science*" (please turn to page 74)



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Right Now

The expanding Harvard universe

SMARTS CHART

Mapping the Way to a Brain Survey

IN SCALE AND SCOPE, this is an effort that may eventually surpass even the Human Genome Project. Since President Obama's April announcement of a new federal initiative to accelerate research on mapping brain activity, an advisory group of scientists has been deciding how best to deploy this boon for neuroscience research.

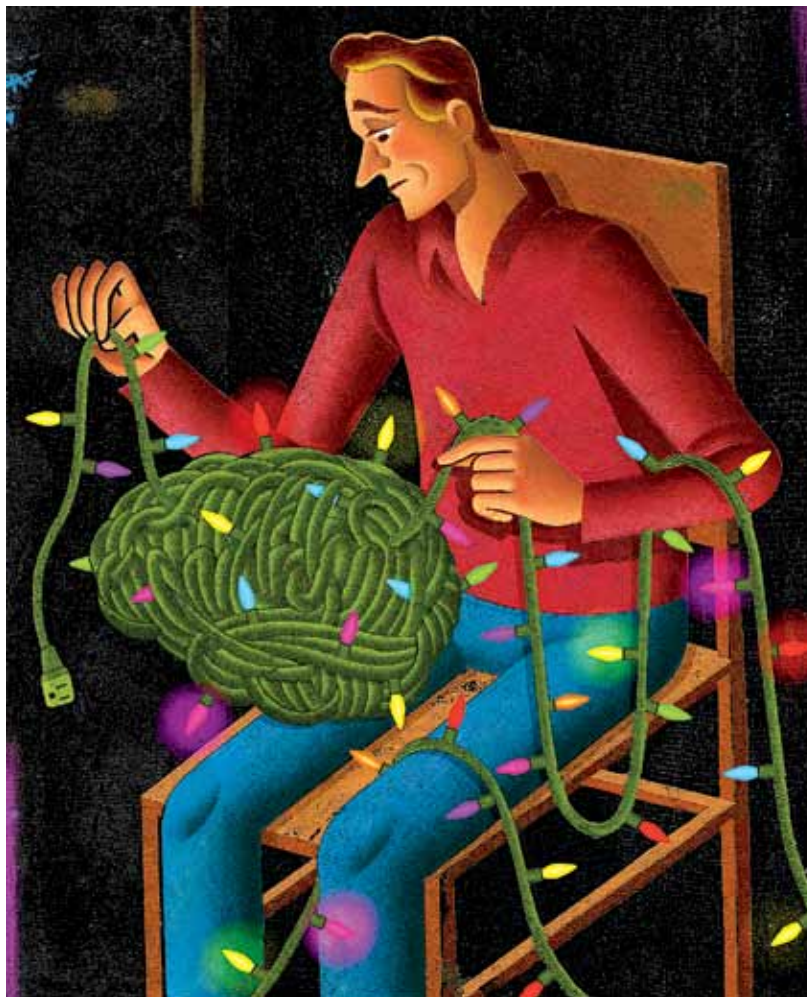
The Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative, a multiyear project launched with \$110 million of federal funding in its first year, grew out of a proposal by six scientists, including George Church, Winthrop professor of genetics at Harvard Medical School. In a paper published in the scientific journal *Neuron* last June, they advocated an international public effort—much like the Human Genome Project—to create a Brain Activity Map by reconstructing the activity

of every neuron in a large interconnected group of cells. They suggested the research might start by examining the fruit-fly

brain's medulla, with 15,000 neurons, and work up to part of the mammalian brain, with several million. (Although researchers

have already recorded and studied the activity of smaller groups of neurons, many brain processes are thought to require much larger regions of brain cells working in concert.)

In launching the initiative, National Institutes of Health (NIH) director Francis Collins announced a working group—a “dream team” of 15 scientists—who would be charged with deciding the details of its goals and funding. Among them is Tarr professor of molecular and cellular biology Joshua Sanes, who says the committee is meeting through the summer to create an interim plan for this year, to be followed by a long-term plan next year. At present, federal support for the initiative is to be shared by three government agencies: the NIH (\$40 million), the Defense Advanced Research Projects Agency (\$50 million), and the National Science



Foundation (\$20 million). Additional funding totaling more than \$122 million annually has been pledged by private foundations: the Allen Institute for Brain Science, the Howard Hughes Medical Institute, the Kavli Foundation, and the Salk Institute for Biological Studies.

Sanes says that, like the Human Genome Project, which boosted existing efforts to decipher the entire sequence of DNA in human chromosomes, the BRAIN Initiative will “coordinate, focus, and enhance efforts toward goals neuroscientists already agree are very valuable”—the building of tools that will enable more detailed studies of brain activity. The original Brain Activity Map proposed by Church and his colleagues will be considered, but Sanes reports that the committee is keeping an open mind and will solicit

expert input on how best to focus the effort.

So far, the announcement has generated a mix of excitement, skepticism, and confusion among scientists, in part because the details, such as how funds will be distributed, what the specific goals will be, and how they’ll be accomplished, are still unclear. A major question concerns the scope of the effort. “My own hope is that we try to make a big impact in a limited area that we think is very important,” Sanes says. One open question, for instance, is whether to focus on mapping “functional” connections—recording the activity of many brain cells as they fire in order to understand how their actions interrelate—versus visualizing the structural connections among neurons, often called the “connectome.”

The ultimate goal of recording the activity of the tens of billions of neurons in the

human brain seems unworkable. But Sanes points out that “even achieving the first steps was unimaginable a few years ago.” New technologies have made it possible to record ever-increasing numbers of cells, and a leap in computing power allows scientists to collect and analyze the huge amounts of data such recordings generate.

Sanes believes that this is a good time to build on those advances. How the actions of brain cells generate the mental activities of the brain remains a mystery—and “as a purely scientific challenge,” he says, “I believe, and many people believe, this is the biggest challenge of the century.”

—COURTNEY HUMPHRIES

JOSHUA SANES WEBSITE:

<http://dms.hms.harvard.edu/neuroscience/fac/sanes.php>

PAST IS PROLOGUE

The Social Life of Memory

LEADING A healthy social life depends on the ability to predict the behavior of others accurately. Most people expect a loud, aggressive bully to be cruel, and a passive, quiet loner to shy away from confrontation. More often than not, that’s correct. Yet exactly how the brain predicts such behavior has long been unclear.

Now research by Kenan professor of

psychology Daniel Schacter and several coauthors, published in the March issue of the journal *Cerebral Cortex*, suggests that the brain, when making behavioral predictions, uses the part devoted to memory.

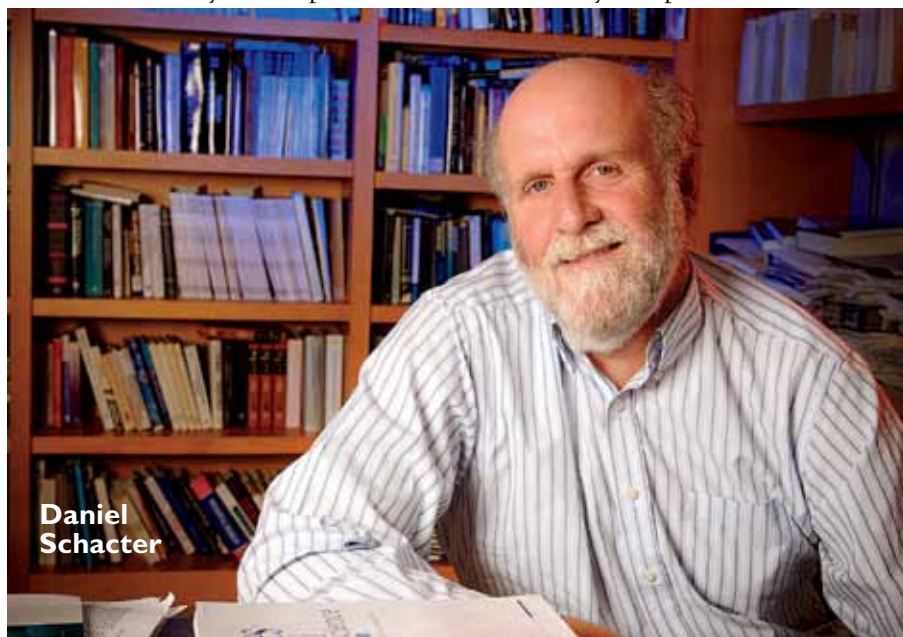
During the past decade, Schacter says, a revolution has occurred in the field of memory science: researchers have shown that memory is responsible for much more

than the simple recall of facts or the sensation of reliving events from the past. “Memory is not just a readout,” he explains. “It is a tool that’s used by the brain to bring past experience to bear when thinking about *future* situations.”

In fact, Schacter continues, memory and imagination involve virtually identical mental processes; both rely on a specific system known as the “default network,” previously thought to be activated only when recalling the past. This discovery led to a rich vein of research, he reports. For instance, the link between memory and imagination could explain why those with memory problems, such as amnesiacs or the elderly, often struggle to envision the future.

Schacter and his fellow researchers have applied this new way of thinking about memory to the realm of social behavior. If people use memory to imagine their own futures, why wouldn’t they use it to imagine others’ futures as well?

To test this proposition, the researchers presented 19 volunteers with four different protagonists, each with a distinct personality constructed from two variables: extroversion and agreeableness. After the subjects completed a series of exercises designed to familiarize them



with the protagonists' personalities, they were placed in a functional magnetic resonance imaging scanner and asked to consider how each protagonist would react to various social situations—for instance, encountering a homeless veteran begging for change. As the subjects gave their predictions, the researchers analyzed their brain function to ascertain which mental systems were in use.

When considering scenarios about other people, the subjects' "default network" went to work, just as it did in making predictions about themselves. But the re-

searchers also noticed activity in the medial prefrontal cortex and the cingulate, areas associated with social processing and the creation of "personality models." This activity was so acute that Schacter and his colleagues, simply by analyzing each subject's brain activity, could tell whether the person envisioned was the agreeable or disagreeable extrovert, or the agreeable or disagreeable introvert.

The researchers concluded that memory and social cognition therefore work in concert when individuals hypothesize about the future behavior of others. The

brain regions responsible for forming "personality models" and assigning them identities are intrinsically linked to the memory/imagination systems that simulate the past and future. These results add yet another function—making social predictions—to the ever-growing list of useful things that memory does.

—PETER SAALFIELD

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PAY FOR PROGRESS

Social Impact Bonds

HOMELESSNESS is a complex social problem that societies often treat, but rarely fix. Existing social services do little to remedy

the underlying causes, and governments too often lack the resources and long-term commitment to invest in preventive approaches that could improve lives and reduce society's

burden in a lasting way. And there are many similar problems, from chronic unemployment to juvenile delinquency, that impose ongoing costs on governments and taxpayers. But a new funding mechanism—social impact bonds (SIBs)—may offer an innovative means of harnessing private capital to achieve measurable gains on some of the most persistent social ills. Weiner professor of public policy Jeffrey Liebman is spearheading an effort at Harvard Ken-

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nedy School to accelerate their adoption.

SIBs—also known as “social innovation financing” or “pay for success”—offer governments a risk-free way of pursuing creative social programs that may take years to yield results. Usually, governments decide what problems they want to address and then enter a contractual agreement with an intermediary (or bond-issuing organization) that is responsible for raising capital from independent investors including banks, foundations, and individuals, and for hiring and managing nonprofit service providers. If the project achieves its stated objectives, the government repays the investors with returns based on the savings the government accrues as a result of the program’s success. (Taxpayers also receive a portion of the budget gains in the form of freed-up public resources, though the investors may need to be fully paid first.) A neutral evaluator, agreed on by both parties, is hired to measure the outcomes and resolve any disputes that arise.

Liebman became intrigued by the SIB model after learning about a British project that is testing it in an effort to reduce re-imprisonment rates among adult males in the English city of Peterborough. He spent six months studying the issue and in 2011, with the Center for American Progress, published a report on his findings. The paper lays out SIBs’ potential to overcome institutional barriers to social innovation, but Liebman was convinced that American state and local governments lack the necessary staff, time, and expertise to get such projects off the ground. “I realized that if I didn’t find a way to solve the government-capacity problem,” he explains, “this promising approach to contracting for social services wouldn’t get tested.”

He therefore established the Harvard Social Impact Bond Technical Assistance Lab (SIB Lab). Funded by the Rockefeller Foundation, the lab serves as a hands-on

think-tank for helping governments foster innovation and improve the results of their social-service spending. The Rockefeller grant supports current students and recent graduates of the school’s master’s in public policy program who provide pro bono assistance in government offices on all aspects of a SIB start-up phase.

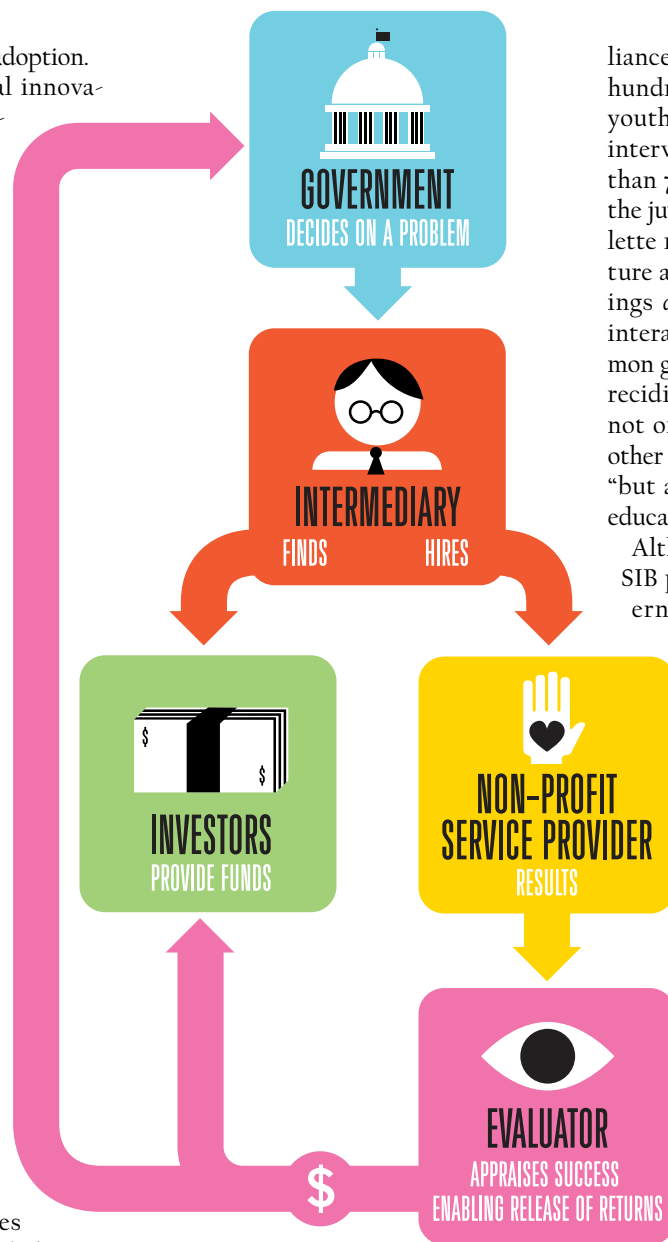
Massachusetts was the first state to welcome SIB Lab support. (New York quickly followed.) Ryan Gillette, M.P.P. ’12—one of Liebman’s “government innovation fellows”—has worked full time in the Commonwealth’s budget office since June 2012, helping put together two inaugural SIB deals. One will address homelessness by contracting with the nonprofit Massachusetts Housing and Shelter Al-

liance to find stable housing for several hundred people. The other will address youth recidivism, providing a range of interventions and supports to the more than 750 young people who “age out” of the juvenile justice system each year. Gillette notes that the SIB financing structure allows governments to identify savings across agencies, which encourages interagency cooperation toward a common goal. “The savings we project for the recidivism project, for instance, are due not only to reduced incarcerations and other adjudication expenses,” he explains, “but also to improved employment and educational outcomes.”

Although initial results from the first SIB projects are a few years away, government interest is growing: when Liebman received additional Rockefeller funds to expand the SIB Lab’s work into four more states, 28 state and city governments applied. (The winners should be announced in early summer.) The investor market remains harder to predict. George Overholser ’82, the founder and CEO of Third Sector Capital Partners (the intermediary on the Massachusetts recidivism project), notes that banks have responded more quickly to the opportunity than foundations or individuals. “Social innovation financing is not a heartstring puller, but the upside is powerful,” he says. “With traditional philanthropy, you pay for the program and then the money is gone; this way the money comes back and can be recycled into the program to help more people.”

It is too soon to say if social impact bonds will fundamentally change how social services are funded and implemented in the United States. But Liebman sees hope in the way the projects bring public and private actors together on a long-term basis to tackle some of society’s toughest problems. “The key,” he says, “is that all the partners are on the hook for developing better outcomes.” —ASHLEY PETTUS

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jeffrey_liebman@harvard.edu
SIB LAB WEBSITE:
hks-siblab.org



New England

REGIONAL SECTION



Extracurriculars

SEASONAL

The Farmers' Market at Harvard

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

In Cambridge:

Tuesdays, noon-6 P.M. (rain or shine)

Science Center plaza

In Allston:

Fridays, 3-7 P.M.

168 Western Avenue

Organized by Harvard University Dining Services, this outdoor market runs through October and emphasizes local goods—fresh produce, breads, baked sweets, herbs, seafood, pasta, jams, chocolates, and cheeses.

FILM

The Harvard Film Archive

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

617-495-4700

Preliminary dates for the summer film festivals are listed below. Check the website for updates and details on screenings, lectures, and special events.

• July 5-September 9

The Complete Alfred Hitchcock is a retro-

spective of the British master's works, including nine fully restored silent films.

• July 12-August 12

Burt Lancaster highlights the career of the Hollywood icon who starred in more than 60 films as diverse as *Elmer Gantry*, *The Birdman of Alcatraz*, and *Atlantic City*.

EXHIBITIONS & EVENTS

Harvard Museums of Science and Culture

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

617-495-2779

Science Center 251, 1 Oxford Street

• Continuing: *Time and Time Again: How Science and Culture Shape the Past, Present, and Future*. The exhibit explores how humans find, keep, make, measure, carve out, waste, and kill time—and the instruments used to do all the above (culled from the University's Collection of Historical Instruments). See *Treasure*, page 76, for a sampling.

Peabody Museum of Archaeology and Ethnology

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

• Continuing: *Stephen Dupont: Papua New*

Guinea Portraits and Diaries. These stunning series of photographs and observations offer a close look at the westernization of a traditional society.

Throughout the year, the museum holds "family drop-in" educational events. This summer's programs are:

• July 20, noon to 4 P.M.

Mural Madness. Create wall murals and other art projects based on artifacts.

• August 17, noon to 4 P.M.

Chocolate Treasures. Learn about cacao's role in Aztec and Mayan cultures.

Harvard Museum of Natural History

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

• Continuing: *The Language of Color*.

Visitors learn how and why color variation has evolved over thousands of years in a variety of animals, including poison dart frogs.

• Continuing: *Mollusks: Shelled Masters of the Marine Realm* includes glass models of an octopus, paper nautilus, and other creatures made by the nineteenth-century artists Leopold and Rudolph Blaschka, who also produced the renowned glass flowers.

Harvard Art Museums

www.harvardartmuseums.org

617-495-9400

Sackler Museum, 485 Broadway

• August 15, 8 A.M. to 6:30 P.M.

Day Trip: Modernism in Maine features

Left to right: from Stephen Dupont: *Papua New Guinea Portraits and Diaries*, at the Peabody Museum; fresh strawberries at the Harvard Farmers' Market; a still from *The Swimmer* (1968), part of a retrospective on Burt Lancaster, at the Harvard Film Archive

FROM LEFT TO RIGHT: STEPHEN DUPONT/PEABODY MUSEUM OF ARCHAEOLOGY AND ETHNOLOGY; ROSE LINCOLN/HARVARD NEWS OFFICE; AND HARVARD FILM ARCHIVE



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NEW ENGLAND REGIONAL SECTION

visits to the Colby College Museum of Art (and its new Alford-Lunder Family Pavilion) and the Portland Museum of Art, which offers works from the William S. Paley Collection at the Museum of Modern Art, such as Gauguin's *The Seed of Areoi*. Registration is required. For details, visit www.harvard-artmuseums.org/calendar/day-trip-modernism-maine, or call 617-495-4544.

MUSIC

Harvard Summer Pops Band

- July 25 at 4 P.M. in Harvard Yard
- July 28 at 3 P.M. at the Hatch Shell on the Charles River Esplanade in Boston

Sanders Theatre

www.boxoffice.harvard.edu; 617-496-2222
Admission is free, but tickets are required.

- August 2 at 8 P.M.

The **Harvard Summer School Chorus** performs Haydn's *Lord Nelson Mass* and Handel's *Laudate Pueri Dominum*.

- August 3 at 8 P.M.

The **Harvard Summer School Orchestra** plays pieces by Edvard Grieg and Aaron Copland, among others.

NATURE AND SCIENCE

The Arnold Arboretum

www.arboretum.harvard.edu; 617-384-5209
Check the website for classes, lectures, and events.

- July and August

A link in Boston's Emerald Necklace, the arboretum is a treasure trove of native plants, old-growth trees, flowers, rare specimens, and walking trails. Visitors can take guided tours, offered on the weekends, or roam freely throughout the grounds.

THEATER

American Repertory Theater

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

- August 29 at 8 P.M.

Throwing Shade Live: Comedy + Tragedy – Class. Erin Gibson and Bryan Safi appear at the ART's Oberon theater for a live version of their award-winning LGBT podcast (www.throwingshade.com).
2 Arrow Street.

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



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Behind Closed Doors

Regional house museums of prominent alumni • by Nell Porter Brown



Edward Gorey House

Yarmouth Port, Massachusetts
508-362-3909; www.edwardgoreyhouse.org

THE ARTIST AND WRITER Edward Gorey '50 lived and worked in an 11-room cottage, surrounded by cats and books, for the last 14 years of his life (see *Vita*, March-April, page 38). The museum, opened in 2002, displays many of his personal items—boyhood drawings and diaries, typewriter, signature raccoon coat, and the divan in the back room that was ravaged by his clawing cats (he typically had six)—as well as rotating exhibits of his work.

On display through December 29 are the original pen and ink drawings, preliminary sketches, and texts for *The Vinegar Works: Three Volumes of Moral Instruction*, published 50 years ago. Deemed “whimsically macabre” by the museum, the trilogy contains *The Gashlycrumb Tinies: or, After the Outing*, a well-

From top left, counterclockwise: the Robert Frost Farm; interior of the Jonathan Fisher House; the Governor Jonathan Trumbull House; the kitchen at the Phillips House; and a scene at the Edward Gorey House. Opposite: Gorey's facsimile on the front porch of the museum

known rhyming alphabet book depicting the demise of precisely 26 children: “A is for Amy who fell down the stairs”; “B is for Basil assaulted by bears”; and so on, to “Y is for Yorick whose head was knocked in”; and “Z is for Zillah who drank too much gin.” Printed reproductions fail to convey the delicacy, depth, and richness of his meticulous creativity. “Edward drew every illustration to scale, using these tiny lines,” notes Rick Jones, the director and curator, as he examines the intricate shadows around “Xerxes

MORE THAN 100 houses in New England, from the colonial era through the twentieth century, have been turned into public museums. Inherently different from art institutions, these places reveal not only the work of their former inhabitants but the habits, predilections, and even failings that comprised their daily lives. Following is a selection of such museums with Harvard affiliations. (Most are open only seasonally.) Their caretakers are often highly devoted to, and scholars of, their subjects: they can talk for hours, educating visitors as well as eagerly enlivening the past.

COUNTERCLOCKWISE FROM TOP LEFT: NELL PORTER BROWN; BRIAN VANDEN BRINK; CONNECTICUT DAUGHTERS OF THE AMERICAN REVOLUTION, INC.; GOVERNOR JONATHAN TRUMBULL HOUSE AND WADSWORTH STABLE; DAVID CARMACK/PHILLIPS HOUSE; NELL PORTER BROWN

NEW ENGLAND REGIONAL SECTION

devoured by mice” as he huddles in a corner. Note also the peeling wallpaper and wood-grained floor of a once-grand room from the series’s *The West Wing*, a mystery told through interior room scenes that feature a possible dead man in a suit in one and three shoes left on the floor of another. Gorey favored Higgins India ink and a Gillott Tit Quill pen, and could sit for hours in his small upstairs

studio—with one view of an elegant Southern magnolia tree—drawing multiple layers of lines the width of a hair, cross-hatching sections to create contrasting images that ultimately offer a three-dimensional quality.

Gorey was a fan of routine. He often ate breakfast and lunch at Jack’s Outback. He saved ticket stubs from events throughout his life (including every performance

through 27 seasons of *The New York City Ballet* under George Balanchine). On the weekends, he regularly shopped at yard sales. “He loved blue glass, beach stones, door-knobs, antique potato mashers, and cheese graters,” says Jones,

collecting those things, along with African, Tibetan, and Indian rings and amulets and Coptic crosses (which he also wore). The artist amassed hundreds of such objects that inspired him: he would arrange them into patterns and relationships while he worked. Only once did Gorey leave the United States—in 1975 to see some remote islands off the coast of Scotland. “An interviewer asked him at some point, ‘What’s your favorite journey?’” Jones reports, “and Edward answered, ‘Looking out the window.’”

Governor Jonathan Trumbull House

Lebanon, Connecticut
860-642-7558

www.govtrumbullhousedar.org

JONATHAN TRUMBULL, A.B. 1727, was a trained minister and successful businessman who became the governor of the Connecticut colony in 1769—and was the only colonial governor to fully support the cause of independence.

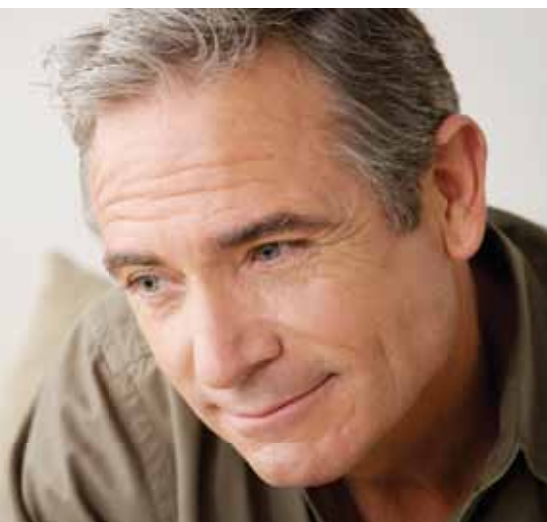


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The “keeping room” at the Governor Jonathan Trumbull House and a portrait of Trumbull



John, A.B. 1773, who was born at the house and later became the famous patriot artist; and Jonathan Jr., A.B. 1759, LL.D. 1809.

Known for his integrity, Trumbull wrote a letter to British general Thomas Gage shortly after the battles of Lexington and Concord, calling the events “the most unprovoked attack upon the lives and property of his Majesty’s subjects...as would disgrace even barbarians.” He preached restraint, “tempered wisdom,” and continued efforts to “prevent this unhappy dispute from coming to extremities.” Yet he also made clear that “as they apprehend themselves justified by the principles of self-defense,” the colonists “are most firmly resolved to defend their rights and privileges.”

Within days, Trumbull held what would be the first of more than a thousand meetings to organize support for the patriot cause, especially by delivering provisions. He was instrumental in acquiring herds of cattle that were driven down to the troops at Valley Forge, says Cece Messier, a member of the Connecticut Daughters of the American Revolution, which owns the museum. After the food arrived, “you could have made a knife out of every bone left on the field,” Messier says, quoting historic reports.

After the war, Trumbull was the only colonial governor to then govern a newly formed state, a post he held until retiring in 1784. He had actually wanted to follow his passion for ministry, says Messier, but abandoned that career in the early 1730s because his father called him into the family’s mercantile trade. “He did the business to the best of his ability because that was what God put before him to do,” she asserts. “That, and his Harvard education and his dedication to

the cause of liberty, made him the perfect person for the Revolution.” Three of Trumbull’s sons, who also played roles in the war effort, went to Harvard, too: Joseph, A.B. 1756;

Visitors to the house will learn more of New England’s colonial history—and marvel over antiques, Colonial dish ware, and textiles. Of note are rare handcrafted bed rugs made by Sally Kate Clap, the niece of Nathan Hale, as well as an embroidered depiction on silk, by Trumbull’s wife, Faith, of their daughter Mary’s engagement to the boy next door, William Williams, a signer of the Declaration of Independence.

The Robert Frost Farm

Derry, New Hampshire
603-432-3091; www.robertfrostfarm.org

The Robert Frost Stone House Museum

Shaftsbury, Vermont
802-447-6200; www.frostfriends.org

NEW ENGLAND has four properties with ties to the poet Robert Frost, class of 1901, Litt.D. ’37, that are open to the public. “All of the Frost sites are important because they offer different aspects of his life and work,” says Carole Thompson, director of The Robert Frost Stone House Museum, where he lived from 1920 to 1929. “If you know the poems, and you walk around any of the places, you feel like you are walking in the poems.”

The kitchen at the Robert Frost Farm in Derry, New Hampshire

Chronologically, the Derry farm came first: Frost lived there with his wife, Eleanor, and young children from 1900 to 1911. Surrounded by pastoral scenes, he decided to devote himself to poetry, while also teaching English at the Pinkerton Academy and working the 30-acre property and egg farm, according to Bill Gleed, manager of the state-owned National Historic Site. “He was not a good farmer,” Gleed adds. “The other farmers would hurry past his house because they didn’t want to be asked any questions, or for help.” Frost did attend to the details of the natural world, however, becoming one of the country’s most articulate and lyrical translators of the rhythms and metaphors of rural life (and of his origins as a city boy in nearby Lawrence, Massachusetts). Frost’s first three collections—*A Boy’s Will*, *North of Boston*, and *Mountain Interval*—“were all pretty much inspired by the farm,” according to Gleed. “Mending Wall,” for example, is about his neighbor’s annual repairing of the stone wall that bounded their respective properties, in the belief that “good fences make good neighbors.”

The 1880s farmstead was home to the “Frosty Acres” junkyard before the state bought it in 1964 and largely funded the restoration, guided by Frost’s oldest daughter, Lesley Frost Ballantine. The wide plank floors downstairs, Gleed notes, “are painted red because Rob liked the way they looked with the Christmas tree.”

The Shaftsbury, Vermont, house is near the poet’s gravesite in Bennington. There he composed many of the poems that appeared in his Pulitzer Prize-winning *New Hampshire*, Thompson says, and planted more than 1,000 red pine seedlings on the grounds. The site offers biographical notes, photos, discussion groups, and lectures, along with exhibits. This summer’s “Robert Frost: The



TOP RIGHT (2) CONNECTICUT DAUGHTERS OF THE AMERICAN REVOLUTION, INC./GOVERNOR JONATHAN TRUMBULL HOUSE AND WADSWORTH STABLE; BELOW: THE ROBERT FROST FARM

NEW ENGLAND REGIONAL SECTION



The Robert Frost Stone House Museum in Shaftsbury, Vermont

literary friends during the last 24 years his life. The property is owned by Middlebury College, where Frost was an integral member of the Bread Loaf School of English and a founder of the Bread Loaf Writers' Conference. "He is very much a poet of place," Thompson says, and recites from a 1936 Bread Loaf class lecture Frost gave: "Literature begins with geography, with love of home and parents. Out of the ground comes poetry, out of poetry, philosophy, and out of philosophy, all that we are."

Phillips House

Salem, Massachusetts
978-744-0440; www.historicnewengland.org
VISITORS TO THIS art- and antique-packed, Federal-style manse will learn about the life and times of trust-fund manager Stephen Willard Phillips, A.B. 1895, LL.B. 1898, his wife, Anna, and their son, Stephen "Steve" Phillips '29. Although "they were not

presidents and did not play a huge role in American history," says site manager Julie Arrison, "they represent a lifestyle of the mid-twentieth century." Four generations of the Phillips family, as well as other relatives, attended Harvard: the family also established the The Stephen Phillips Memorial Scholarship at Harvard in 1971 for New England students who demonstrate "strong citizenship and character," as well as academic excellence. The house makes a perfect College scavenger hunt site: Who can spot the teddy bear with the crimson and white sweater? Find the Class of 1929 watch box, and the *Veritas* wall plaque—and the collection of "President's Reports of Harvard College." The Phillipses were affluent, well-traveled—and clearly cared about education. Stephen Willard Phillips owned more than 10,000 books, most of which he had read, and seriously studied and collected Polynesian and Hawaiian art. Pieces are on display—note the hand-carved Fijian war club—along with Chinese and Japanese

THE ROBERT FROST STONE HOUSE MUSEUM

Poetry of Trees" explores his extensive use of tree imagery.

Frost aficionados can also visit The Frost Place, in Franconia, New Hampshire (<http://frostplace.org>), primarily a nonprofit educational center for writers and poets, or walk the grounds at The Robert Frost Farm (also called the Homer Noble Farm), in Ripton, Vermont (www.frostfriends.org/ripton.html), and see the cabin where during the warmer months he wrote and hosted

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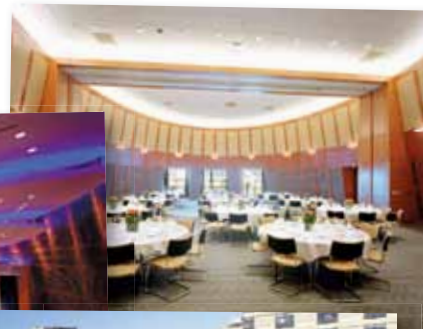


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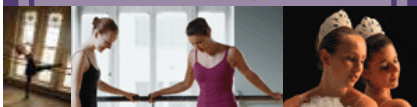
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NEW ENGLAND REGIONAL SECTION



ARON USHER-PHILLIPS HOUSE



PHILLIPS HOUSE

**Phillips House exterior and a
former owner, Stephen
Willard Phillips**

jade, ceramic, and wooden objects from other trips. “He was actually born in Hawaii because his father, Stephen Henry Phillips, A.B. 1842 [whose own father was Stephen Clarendon Phillips, A.B. 1819], was the first attorney general to the kingdom,” says Arrison, who works for Historic New England (founded by yet another alumnus, William Sumner Appleton, A.B. 1892), which owns the house museum, as well as 35 other properties well worth visiting.

In 1911, when the family moved in, Anna Phillips renovated the house, eliminating the dark Victorian interiors and enlarging the windows. She also added modern bathrooms, a gas stove, and the latest in kitchen gadgetry: look for the aluminum manual bread maker and a “green bean Frencher” that sliced the pod just so. (Arrison often runs special tours on culinary history and technology, her specialty.) A custom-made monogrammed set of rose medallion china was for company, she notes, while the family ate its nightly five- or seven-course meals on the “everyday” Limoges and Canton ware. A sample menu offers “orange fairy fluff” for dessert.

Five staffers helped the three-person family: a cook, first-floor maid, nursemaid, a coachman/groundsman, and a chauffeur

who likely drove the 1924 Pierce Arrow Touring Car or the 1936 Pierce Arrow Limousine stored in the rear carriage house. Historic New England

emphasizes the “upstairs/downstairs” relationships, along with personal stories of the Irish immigrant experience. Harmony generally prevailed, Arrison reports, although boundaries were clear. Anna Phillips rarely, literally, stepped into the kitchen, and the domestic staff lived on the simply furnished third floor and were on call 24-7. “The family was very particular and never called them ‘servants,’” she explains. The live-in “girls” stayed on even after Stephen Willard Phillips died in 1955. Although “Stevie” grew up, married, and moved next door, he requested his childhood home, and its collection of five generations’ worth of belongings, be preserved and opened to the public after he died. The museum opened in 1973. “Because they cared about their traditions and their house and objects, they saved everything,” says Arrison, down to years’ worth of handwritten receipts for meat and produce. “We’re lucky to have such a complete record that can tell the historic story of how this family and many others lived as America was moving into the modern age.”

NEW ENGLAND REGIONAL SECTION

Jonathan Fisher House

Blue Hill, Maine

207-374-2459; www.jonathanfisherhouse.org

EVEN BY THE standards of his day, Jonathan Fisher's multiple talents and lifelong productivity were highly unusual. He was reared in a Massachusetts Puritan community, graduated from Harvard in 1795, then moved to Maine to become the first settled Congregational minister in the coastal village of Blue Hill. There, he designed and built his house, which has been altered by additions and deletions in ensuing years. He was also a farmer, scientist, mathematician, surveyor (creating his own tools), furniture-maker, writer—and taught himself art. "His passion in life was more art and architecture and math than it was religion, although he was a good minister for 50 years, and it fed his family," says Amey Dodge, president of the Jonathan Fisher Memorial, which owns and operates the museum. "People come from all over the country to see his furniture, folk art, and



paintings. He just created a huge number of beautiful things."

The house displays some of his self-portraits, and still-life depictions of flowers, vegetables, and animals. There's also a watercolor of Harvard's Hollis Hall. For more than 15 years he worked on carving the



Jonathan Fisher's wood engraving "The Great Owl," from his book *Scripture Animals*, and his home in Blue Hill, Maine

woodcuts and printing the illustrations, on his own press, for two books: *The Youth's Primer* (1817) and *Scripture Animals* (1834). The latter, considered an important early American work, is a 350-page compendium of creatures and text from the Bible and is the subject of the current exhibit, *A Wondrous Journey—Jonathan Fisher and the Making of*

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HARVARD
MAGAZINE

Scripture Animals, at Maine's Farnsworth Art Museum, which owns much of his work.

Fisher also spoke six languages, fulfilled his parsonage duties—writing and preaching more than 2,000 sermons—and was a founding trustee of the Bangor Seminary, often walking the 40 miles there. “They were not wealthy people,” reports Dodge. Fisher and his wife, Dolly, worked hard to feed their nine children, even taking in boarders and tutoring students. The whole family made buttons, shoes, and hats to sell. Fisher also made prints and often made money recording public events, including hangings. “He’d write a biography of the person, and maybe do a sketch,” Dodge explains, “then go to the hanging and sell them for two or three cents.” During tours, visitors often wonder “how he found the time to do all of this,” Dodge allows. “He was creative, industrious, and resourceful. And how he chose to spend his time and life is an important example of what we can do when we want to.”

Other Area House Museums with Harvard Connections

Hildene

Manchester, Vt.; 802-362-1788
www.hildene.org
Summer home of Robert Todd Lincoln, A.B. 1864; his popularity on campus soared after his father's election.

The Glass House

New Canaan, Conn.; 203-594-9884
www.philipjohnsonglasshouse.org
Architect Philip Johnson '27, B.Arch.'43, called the 47-acre property his “fifty-year diary.”

Historic New England

Boston; 617-227-3956
www.historicnewengland.org
The nonprofit owns: Cogswell's Grant (Bertram Little '23 and Nina Fletcher Little, filled with American folk art); Marrett House (Maine minister Daniel

Marrett, A.B. 1790); Nickels-Sortwell House (industrialist Alvin Sortwell and his sons: Daniel, A.B. 1907, Edward, A.B. 1911, and Alvin, A.B. 1914); Otis House, (Harrison Gray Otis, A.B. 1811, politician and developer of Beacon Hill); Quincy House (controversial Harvard president Josiah Quincy, A.B. 1828); and the Gropius House (Bauhaus founder and Harvard professor of architecture).

The Trustees of Reservations

Beverly, Mass.; 978-921-1944
www.thetrustees.org
The nonprofit owns: Naumkeag (lawyer Joseph Choate, A.B. 1852); The Old Manse (a center for transcendentalists such as Ralph Waldo Emerson, A.B. 1821); and Appleton Farms (Francis Randall Appleton, A.B. 1875, among other family members who are also alumni).



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An “Urban Farmhouse”

Puritan & Company's thoughtful food with local flavor



surprising was a fun little dish called swordfish pastrami (\$13), Gilson's take on the Reuben sandwich. Thin slices of lightly smoked fish, encrusted with peppers, came curled over something brown, beside a delightful mustard gelato. The flavors were crazily good, especially grounded by the brown stuff: puréed pumpernickel bread.

The black pepper pasta entrée (\$17) featured fine homemade noodles with mushrooms (there could have been more of those), but the sauce tasted too much of salt and vinegar. The roasted chicken (\$24) was simply that—juicy and delicious, having been seriously brined. Sunchoke purée added an earthy bite, as did fingerling potatoes cooked to perfect firmness.

Desserts change often. The homey butterscotch pudding (\$7) was rich and sweet and thick, almost like an Indian pudding. (Sweet fiends might have chosen the more highfalutin molten chocolate cake, for \$1 more, instead.)

Opened last November, Puritan & Company (named for the cake factory once located in its space) has already won several awards—and is beloved by local residents.

That's just what the owners, who include Gilson, Eugenia Huh '04, and her husband, MIT graduate Ming-Tai Huh (a financial manager who largely put the project together), had hoped. The Cambridge couple, new to the restaurant industry, got married in the Puritan space last fall, while it was still under construction. The creative venture has been inspiring. “I love being part of a local business, where people want to come,” says

Eugenia Huh, who does marketing for a law firm, “and being part of what makes Cambridge unique and vibrant.” ~N.P.B.

BILLED as an “urban farmhouse” that pays homage to the chef's family farm, Puritan & Company is the newest member of the Inman Square restaurant scene. Two long tables for group dining set the tone in the center of the open room; we sat at a two-person table near the lively kitchen, which felt just as communal.

The interior has an airy, clean, look, with its high ceilings, creamy woodwork, and gray-blue walls, tinted a bit lighter than the color of a robin's egg. We liked the spacious white bar top, too, and the evocative decorative details: the 1920s porcelain-coated stove at the entrance, and a hutch with big metal hinges.

Clean and thoughtful also sum up the food: morsels of meat (think duck egg and pork belly) are doted over, and a range of vegetables arrives unadulterated by sauces—or even much cooking. The shaved and seared broccoli salad (\$12) had a faintly Asian-styled thin brown dressing and was downright

Puritan & Company offers a country-style respite from city life.

crunchy. The kitchen must want to ensure that all the cruciferous vegetable's beta carotene, vitamin C, and soluble fiber still hold sway post-ingestion. The broccoli tasted delicious, as though we'd hacked it off its root and taken a hulking bite right there in the noonday sun. The “Little Gem” salad (\$10) also featured lettuce so crisp it could practically stand up on its own. A thick sprinkling of fresh herbs—such as dill, spearmint, and oregano—excited the palate, obviating the need for any other vegetables. (No doubt chef Will Gilson learned the art of “herbing” from his family's Herb Lyceum and restaurant; see “Rustic Charms,” July-August 2011, page 12K.)

But someone in the kitchen is also clued in to bread. The house-made potato Parker House rolls were warm, spongy mouthfuls of comfort, easily pulled apart. And each bite fed some deeply buried, hungry inner child.

The carefully constructed *gougères* (\$6), pastry dough infused with rosemary and cheddar mornay sauce, were golf-ball-sized treats. More

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Montage

Art, books, diverse creations



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Literary Gardening

A Berkshire yard that recalls poetry, fiction, and drama

by CRAIG LAMBERT

THIS IS an English garden, to be sure, with plantings arranged to mimic natural settings such as ponds or meadows or woodlands—very unlike the geometric, clipped formality of French or Italian gardens. “I must congratulate you—you’ve built an English garden outside of England,” observed an elderly British visitor a few years ago. But this isn’t just another well-tended bower: in 2008, the Smithsonian Archive of American Gardens added the property to its national archive, and on “open days,” organized by The Garden Conservancy, hundreds of visitors from

neighboring states have admired its riches.

The splendid garden fills a verdant acre at the home of Ilona Isaacson Bell ’69, RI ’89, and Robert Bell, Ph.D. ’72, in Williamstown, Massachusetts. (She is the main gardener, he an actively engaged appreciator; a few hours a week of hired help aids with weeding and other maintenance.) The house is a century-old carriage barn remade into a residence, which the Bells acquired in 1978. Both teach English literature at Williams College, and appropriately enough, their cultivated landscape has several embedded literary references.

Mistress and her domain: the “hot border” in summer, at left; Ilona Bell at her outdoor window; at right, “Aslan” watches over all.

A line from Andrew Marvell’s poem “The Garden” (“A green thought in a green shade”) surmounts a wooden window frame in the center of things; not surprisingly, Ilona Bell specializes in Renaissance poets like Marvell, John Donne, George Herbert, and Mary Wroth. The Bells named a stone statue of a seated lion “Aslan,” after the central char-





Cultivated retreats
(above): the water garden,
with surrounding planters,
and the vine-covered folly.
A statue of Titania holds a
solar-powered orb.

acter in *The Chronicles of Narnia* by C.S. Lewis—also a Renaissance lit scholar; another statue depicts Titania, the queen of the fairies in *A Midsummer Night's Dream*. And one of the garden's "rooms" is a white garden (based on white foliage and flowers) designed in tribute to a room at Sissinghurst Castle in Kent, England, the creation of Vita Sackville-West, a lover of one of Ilona Bell's favorite authors, Virginia Woolf.

Seeing Sissinghurst in the 1970s "was a revelation," Bell says. "The complexity of the design—each room had a different wood, tone, color scheme, architecture. In England, a garden room is an enclosed area, often surrounded by walls that can be eight or 10 feet high. Here, I've tried to create a distinctness to each area." Rather than brick walls or high clipped hedges, as at Sissinghurst, she used a pergola, for example, to separate her extensive kitchen garden from the neighboring water garden, where goldfish swim among water lilies and lotuses in a small pond piped to allow a burbling flow of water. A folly composed of a few "ruined" columns defines another space ("I call it 'Bob's folly,'" she explains, "but he calls it 'Ilona's folly.')" The wooden window, a classic garden element, helps frame the central space, and supports climbing vines.

As in many English gardens, the Bells grow various trees (including a ginkgo and a weeping beech), shrubs, and perennial flowers. Their "hot border" features flowers selected for their deep warm hues like

red, gold, and fuchsia; Bell studs the border with annuals like canna, perilla, and red salvia to keep the heat turned up as the seasons change. The garden is constructed so that there is always something in bloom in every space. But with thousands of plants, it's challenging (despite an inventory on Bell's computer) "to keep it all in your mind—to remember what's blooming on May 1, or June 15, and how they all go together."

As someone immersed in the literary arts, Bell readily sees the garden as an art form—created in partnership with Mother Nature and involving a temporal dimension, over seasons and years. It satisfies the senses of

sight, sound, touch, smell, and even taste (the Bells eat some flowers, as well as their homegrown vegetables). She has explored its dimensions in a lengthy essay, "Super-ego in Arcadia: Gardening as Performance," which appeared in a special issue of *The Southwest Review* in 2010. "The trouble with the garden as art," she explains, "is that as soon as you get it the way

you want it, something gives up the ghost. One of our hemlocks got diseased and had to be removed—that changed *everything*."

She does have some advice, though, for those seeking a perennial philosophy. "If you want a garden to look good," she says, "you have to pay more attention to the leaves than the flowers, as they are there all season long." No matter the season, the endless project never loses its allure. "I like the imaginative complexity of the challenge it poses," she says. "There are so many elements in play."

Harvard Square, the Novel

A café-goer's view of Cambridge, a generation ago

A YOUNG EXILE comes to Cambridge, masters his studies, and succeeds—that's the life story, at Twitter length, of André Aciman, Ph.D. '88. An Egyptian Jew from a once-wealthy family, Aciman arrived at Harvard in 1973 to study comparative literature. More than a decade later, he earned his doctor-

ate and launched a doubly successful career: writer or editor of eight books of fiction, essays, and memoir, and Distinguished Professor in comparative literature at the Graduate Center of the City University of New York.

His third novel, recently published, is *Harvard Square* (Norton). In its brisk and stylish prose, an Egyptian Jew from a



Visit www.harvardmag.com/extras to view a video of the literary garden.

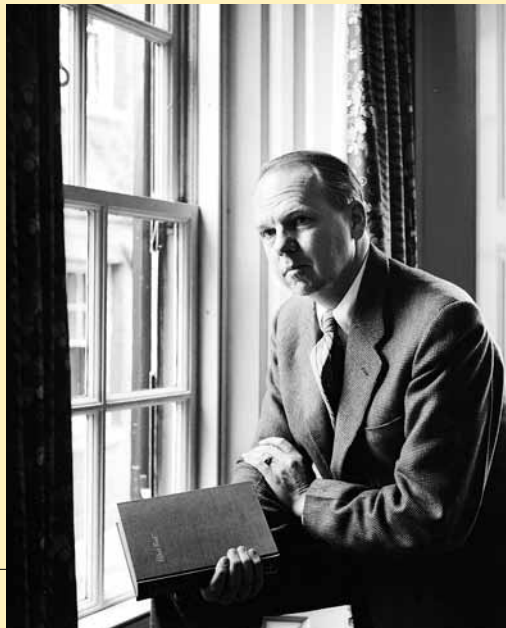
O P E N B O O K

On Reading Well

Ph.D. '36, the late Cabot professor of English literature and founder of the classic General Education course Humanities 6, "Interpretation of Literature." This edition has a new foreword by William H. Pritchard, Ph.D. '60, Folger professor of English at Amherst, where Brower was teaching when he wrote the book, two years before leaving for Harvard. Pritchard, who was Brower's student at Amherst and then a member of his Hum 6 staff in Cambridge, writes of his mentor, "When Brower taught in the English department at Amherst College, it was very much a teaching rather than a research-publishing enterprise." The method, he summarizes, was "asking what the poem was 'like' rather than how it was structured so as to produce a 'meaning'...." The spirit of Brower's "experiment" in reading, Pritchard says, is suggested by the book's opening sentences:

This is a book to read with, an experiment in critical reading. While writing it, I have always been thinking of literature as read by someone, as an active engagement between the reader and the printed page. My aim has been twofold: to demonstrate some methods of reading analysis and to use them in discovering designs of imaginative organization in particular poems, plays, and novels. A book of this sort necessarily calls for active participation if the experiment is to be even moderately successful. The ideal reader of the chapters that follow will stop to read a poem more than once, or come back to a chapter a second time after he has reread the novel or play that is being discussed. He will on occasion want to read a poem or a passage of prose aloud. Above all he will not forget that he is making an experiment, that he is learning to do something, rather than passively viewing a series of more or less revolutionary interpretations on which he is to vote "yes" or "no." I shall not measure the success of this book by whether the reader agrees or disagrees with my interpretations, but by the way in which he interprets the next poem or the next novel he reads. If by adopting some of the methods I have used he discovers relations he had missed before, then he may

Professor Brower, reader, 1957



Publisher Paul Dry '66, Ed.M. '67, has reissued *The Fields of Light: An Experiment in Critical Reading* (Paul Dry Books, \$14.95 paper), by Reuben Arthur Brower,

agree with me that the experiment has been successful....

There is no simple and certain way of defending critical reading, as there is no simple way of defending any educational activity. Two sorts of justifications are suggested by the two quotations at the head of this introductory note. Practice in defining the meanings of words in literature is an "instrument of a liberal culture" [Leo Stein] since it is practice in making discriminations. Practice in discovering the "masses of implications" [Le Corbusier] in a work of literary art is practice in finding relationships, in finding order in experience. These are among the primary activities of civilized men.

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onetime-wealthy family is a graduate student in Harvard's comparative literature department, obsessed with Proust and the 1678 French novel *La Princesse de Clèves*. Set in the summer of 1977, *Harvard Square* is an interwoven series of romances, with Har-

vard, women, and an outsider culture vying for the narrator's attention.

Caught between worlds, the narrator is friendless. At Café Algiers on Brattle Street, he meets an exile from Tunisia who's everything he's not: when Kalaj isn't

driving a cab, he holds down a table in a series of Cambridge restaurants, delivering machine-gun bursts of rage that provoke men and, on a good night, attract women.

The narrator's friendship with Kalaj (a nickname shortened from "Kalashnikov,"

Off the Shelf

Recent books with Harvard connections

1940: FDR, Wilkie, Lindbergh, Hitler—the Election Amid the Storm, by Susan Dunn, Ph.D. '73 (Yale, \$30). Some elections really *are* watersheds. Here, the indefatigable Third Century professor of humanities at Williams College extends her prior narrative, *Roosevelt's Purge* (on the president's effort during the 1938 midterm campaign to defeat party members who resisted his initiatives), with a gripping narrative of the dramatic 1940 contest for the White House.

Intuition Pumps and Other Tools for Thinking, by Daniel C. Dennett '63 (W.W. Norton, \$28.95). The author, University Professor at Tufts and co-director of its Center for Cognitive Studies, presents a lay summing-up of his work as a philosopher, introducing "intuition pumps" and other devices for provoking, and providing insight into, thought.

In the Balance: Law and Politics in the Roberts Court, by Mark Tushnet, Cromwell professor of law (W.W. Norton, \$28.95). A legal historian and scholar of judicial review on the Law School faculty examines the Supreme Court, as led by Chief Justice John G. Roberts Jr. '76, J.D. '79, and finds not neutral "umpiring" but a politicized jurisprudence on a politically divided court in a highly partisan era.

Sidetracked, by Francesca Gino, associate professor of business administration (Harvard Business Review Press, \$25). A specialist in negotiation and decisionmaking details the obstacles—narrow focus, lack of perspective, and so on—that derail decisions, and suggests strategies for sticking to the plan.

Bioluminescence: Living Lights, Lights for Living, by Thérèse Wilson, senior research associate emerita, and J. Woodland Hastings, Mangelsdorf research professor of natural sciences (Harvard, \$45). A clear explanation, beautifully illustrated, of the mechanisms and evolutionary dispersal—far beyond summer's fireflies—of one of nature's most beguiling phenomena.

The Citizen Patient, by Nortin M. Hadler, M.D. '68 (University of North Carolina, \$28). A professor of medicine and microbiology/immunology and a rheumatologist, the author is a skeptic about the contemporary healthcare system and "the many perversities that characterize" it, driving up costs and clouding the doctor-patient relationship. He addresses consumers, urging them to

understand the system and to envision reform for the benefit of patients.

How Everyone Became Depressed, by Edward Shorter, Ph.D. '68 (Oxford, \$29.95). The Hannah professor in the history of medicine—and professor of psychiatry—at the University of Toronto examines the ever-broadening diagnosis of depression, its frequently inappropriate (in his view) treatment with antidepressants, and, he asserts, the fundamental misunderstanding of a suite of symptoms and problems in need of informed care.

Probably Approximately Correct, by Leslie Valiant, Coolidge professor of computer science and applied mathematics (Basic Books, \$26.99). A scholar at the intersection of computing and evolutionary neuroscience, Valiant explores "algorithms": algorithms that learn by inter-

acting with their environment, not from their designer—and so are fundamental to the process of evolution. His text is clear and approachable, with some work; the argument is sweeping.

Alice Aycock Drawings, by Jonathan Fineberg '67, Ph.D. '75 (Yale, \$45). The Gutsell professor of art history emeritus at the University of Illinois at Urbana-Champaign, who also curates at various institutions, provides the analytical continuity for an exhibition catalog/book of the industrial-techno sculptor's fantastically detailed drawings.

Designed Ecologies: The Landscape Architecture of Kongjian Yu, edited by William S. Saunders (Birkhauser, \$54.95). The former editor of the Graduate School of Design's *Harvard Design Magazine* here assembles expert views on, and project



Red Ribbon Park, along the naturally verdant Tanghe River in Qinhuangdao, Hebei Province, China, 2007

descriptions of, the work of Kongjian Yu, D.Dn. '95. Yu still commutes from Beijing to teach studios at the GSD; his firm, Turenscape, is perhaps the preeminent landscape enterprise in China, and he is a leading voice for environmentally sound design in a country that desperately needs a new model of urban development. His work was covered in "Global Reach" (May-June 2010, page 51).

COURTESY OF KONGJIAN YU

In his old haunts: novelist André Aciman in the center of Harvard Square

for his rapid-fire rants) is anything but a feel-good buddy story. “Perhaps he was a stand-in for who I was, a primitive version of the me I’d lost track of and sloughed off living in America,” the narrator says. “My shadow self, my picture of Dorian Gray, my mad brother in the attic, my Mr. Hyde, my very, very rough draft. Me unmasked, unchained, unleashed, unfinished: me untrammelled, me in rags, me enraged. Me without books, without finish, without a green card. Me with a Kalashnikov.”

Harvard Square is a book of contrasts, all brutal. An undergraduate writing her thesis on Proust comes to talk to the narrator and becomes his lover. She’s any exile’s dream of a trophy wife—beautiful, rich, whip smart, principled, and, of course, a WASP. Lacerated by her nobility and goodness, he ends the romance and returns to Café Algiers, where, as Aciman explains, “Kalaj teaches him how to read people—and once you can read people, you can read books.”

Autobiographical? All of it. Like his

narrator, Aciman was obsessed with Proust and *La Princesse de Clèves* at Harvard. Like his narrator, he was a resident tutor in Lowell House. Like his narrator, he was disabused of his illusions at Harvard. They even share the same Coop number. And as in all of Aciman’s fiction, the narrator is unnamed. “If you write in the first person and use your name, it’s memoir, and if you make up a name, it’s fiction,” Aciman says. “I write ‘faction.’”

Novels occasionally pose the question:

What is the truth? Because it is so autobiographical, *Harvard Square* poses that question in a way that presents the reader with an uncomfortable problem. It’s not hard to sympathize with an outsider struggling to assimilate, and Aciman’s narrator is doing his best; as the author says, “The story of my life is the opportunity to marry up.” But assimilation and upward mobility



Visit www.harvardmag.com/extras to hear Aciman read a portion of his novel aloud.



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are rarely smooth, and the narrator often falls out of love with Harvard and dreams of going home.

Kalaj, in contrast, shares none of the narrator's ambivalence. Like the narrator, he's needy and vulnerable and oh, so lonely, but his tenderness is masked by his nonstop aggression. His hostility toward America is so transparent—"Americans are not

born, they are manufactured. Ford-ersatz, Chrysler-ersatz, Buick-ersatz"—that the reader wants Aciman to call it an exaggeration and disown it. But he doesn't.

"The narrator tells you things he's not happy about, and Kalaj is even more brutally honest," Aciman says. "My writing is unusually bold—those rants of Kalaj's, I wrote them—but I write in a way that's

smooth, even elegant, so you're not overwhelmed by how savage life can be."

Harvard...savage? Aciman doesn't back off. "Have I ever felt at home at Harvard, at home in America? No. But I was no more at home in Egypt. I'm an outsider who is still trying to learn how to fit in. But really, there are no insiders. Like my characters, we're all exiles." ~JESSE KORNBLUTH



John Huth navigating through a rock slot of Placentia Island in coastal Maine

Huth's story starts with kayaking. An avid paddler, he became disoriented in fog several years ago while exploring the waters around Maine's Cranberry Islands. He had neither map nor compass. Using his knowledge of primitive navigation techniques—then quite rudimentary, though well beyond the average smartphone addict's—Huth called up a mental map of the area, noted wave angles and incidences to determine where the coast lay, listened for shore-crashing waves, and counted out time as he paddled straight toward his anticipated landfall. Eventually he made it. Rattled, yet pleased with his use of general navigational techniques, Huth decided to study offshore-navigation techniques more carefully before next setting out.

Several months later, Huth again found himself paddling in fog, this time off the coast of Cape Cod. Better prepared by his study, he had noted wave, shore, wind, and sound patterns *before* setting out, and thus, when the fog hit, he navigated home without worry. But the next day, he read in the newspaper about two other Cape Cod kayakers who had not been so lucky. Sarah Aronoff, 19, and Mary Jagoda, 20, had been enveloped in the same fog; they never made it back to shore.

Huth surmises that, equipped with neither compass and map nor his knowledge of navigation techniques, the young women became *truly* lost. This tragedy convinced Huth that he needed not only to study primitive navigation for himself, but to get knowledge of those techniques to the smartphone-dependent public. *The Lost Art of Finding Our Way* is dedicated to the memory of Aronoff and Jagoda in the hope that it may educate other adventurers who someday find themselves lost.

The Lost Art of Finding Our Way, by John Edward Huth (Harvard, \$35)

How Not to Be Clueless

Navigating the smartphone world

by ISABEL W. RUANE

WE'RE LIVING in a smartphone world. It seems everyone's roommate, professor, kid brother, and even grandmother lives, eats, and breathes for access to 4G (and good battery life). Ask (almost) anything of (nearly) anyone at (just about) any time, and her smartphone's got the answer. Lose track of how to get to the doctor's office, forget your appointment's time, or need, indeed, to *find* a doctor, and your smartphone's got your back. It hardly seems hyperbole to designate the smartphone the most revolutionary tool for the dissemination and acquisition of knowledge since Gutenberg's storied press.

But as fun, helpful, and *indispensible* as our smartphones may seem, might they also be our biggest crutch? In his new book, Don-

ner professor of science John Edward Huth, a high-energy physicist, argues just that.

In *The Lost Art of Finding Our Way*, Huth reexamines the post-smartphone world with an eye to the losses we have incurred in exchange for boundless information at our fingertips. The book is a fascinating guide to the "primitive" (and yet, we soon realize, incredibly sophisticated) techniques by which our forebears charted, measured, predicted, and navigated their place in space. Most important, Huth weaves through all his practical information the argument that in order to maintain touch with our natural world, we must relearn and retain direct understanding of the natural world. Humans' loss of our intrinsic, visceral connection to nature would be regrettable—and, in some cases, tragic.

I Choose Harvard...



**David Feinberg '81,
JD '86, P'13**

David Feinberg '81, JD '86, P'13 learned early on that education can elevate people's lives. "My father [Maurice] believed that through education, you could change cycles of poverty and the trajectory of families for generations," Feinberg recalls. "So the best way for us to honor him, after he died in 2002, was

to endow scholarships." Feinberg and his family established the Maurice Feinberg Undergraduate Scholarship Fund in 2006 to support Harvard's commitment to enrolling outstanding students from all socioeconomic backgrounds. Now a lawyer from Brookline, Massachusetts, Feinberg lived in Lowell House and concentrated in social studies. He was involved with the Institute of Politics and Phillips Brooks House, where he ran a tutoring program for prisoners. "Harvard College made me strive to think deeper and broader," says Feinberg. "They were four of the best years of my life."

TO READ MORE, PLEASE VISIT WWW.ALUMNI.HARVARD.EDU/FEINBERG



Mark Carbone '79

When he headed off to Harvard in the mid-'70s, Mark Carbone '79 was an anomaly in his hometown of Quogue, New York. "I was the second or third kid from eastern Long Island to go to an Ivy League school," he recalls. Carbone never regretted the choice. Now a real estate developer, he is giving promising students from

that region and beyond a chance to attend the College. He established the Mark E. Carbone Scholarship Fund in 2005, grew it to support two students in 2009, and intends to sustain two more in honor of his 35th reunion in 2014. Carbone, who lived in Leverett House and concentrated in government, applauds the University's efforts to make a Harvard education affordable. "I hope the financial aid program continues to grow and reach more and more students throughout the country."

TO READ MORE, PLEASE VISIT WWW.ALUMNI.HARVARD.EDU/CARBONE

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LEFT: THE 2012 HARVARD-YALE GAME

Having decided to share his navigation research at Harvard, Huth first crafted a freshman seminar. From there, the material grew into a General Education course, Science of the Physical Universe 26: Primitive Navigation. (SPU 26 shared many features of Harvard College's longest-running course, Astronomy 2: Celestial Navigation, which is still offered, but was intended as a broad survey of navigational techniques and history, rather than an in-depth introduction to celestial navigation.)

I participated in the last iteration of "PrimNav" (as undergrads dubbed the popular class) before the book's final editing. Not surprisingly, it closely mirrors the proceedings of the course. Huth begins with surveys of basic land navigation based on "dead reckoning" and progresses to the more sophisticated application of compasses and maps. From there, he examines celestial navigation via stars, sun, moon, and the horizon. He next heads seaward, discussing waves, tides, currents, wind, and sailing vessels. He also includes a long, informative section about weather.

Interspersed throughout are narratives of navigation from other cultures—particularly those of Arab traders, Vikings, and Pacific Islanders.

In the age of "my world is my iPhone," Huth's book will provide most readers with new, useful, enlightening information—the space beyond the screen, as it were. In fact, I would rather have read the book than taken the course: when curiosity is your motivating force, you'd rather soak in the information than worry about assignments and grading. But class participation did have its merits. Our assignments sent us out into the Cambridge streets, across the Charles River bridges, and up to both of Harvard's observatories—successfully putting the practical back into science.

My own experience of the world has certainly changed since I spent a semester studying primitive navigation. Now, I always orient myself to the cardinal directions based on the sun's location and the time of day. I notice the passing of the seasons based on the angle of the sun's ascent. I can track

the approach and arrival of warm fronts and cold fronts, and understand what sorts of winds and precipitation these weather patterns will bring. I can entertain a nighttime crowd by pointing out constellations beyond Orion and the Dippers. And I am confident that when I am out in a sailboat (my own maritime hobby), I, too, will have the tools to avoid getting lost.

The Lost Art of Finding Our Way should be a field guide, not merely an armchair exercise. As you read it, you *must* try its techniques out in the world. If Huth has done his job, and I think he has, then all his readers will turn this valuable book's last page feeling similarly enlightened and confident about setting forth into Cambridge, across land, and even out to sea. If you become lost some day—or, God forbid, your phone's battery runs out—there will be nothing but your eyes, ears, and mind to guide you home. ▢

Former Berta Greenwald Ledecy Undergraduate Fellow Isabel Ruane '14 is a history concentrator and co-captain of the sailing team.

The Screenwriter's Toolbox

Danny Rubin teaches the "impossible" craft.

WRITING A SCREENPLAY "isn't that hard," says Danny Rubin, Briggs-Copeland lecturer on English. "It's only impossible." In other words, turning

out a 120-page script—the standard length for a two-hour feature film, computed at one page per screen minute—isn't an especially difficult challenge, but writing "one that actually works, that reaches the audi-

ence, comes alive, engages us emotionally" certainly is. In 2008, when the English department decided to add screenwriting to its creative-writing offerings, it tapped Rubin, who has written dozens of screenplays in the past two decades. Three have been produced, including his big hit, *Groundhog Day*, the 1993 existential comedy starring Bill Murray and Andie MacDowell.

In Cambridge, Rubin has taught the screenwriter's craft to Harvard undergraduates, graduate students, and even Nieman Fellows in workshop-format courses, "Dramatic Screenwriting" I and II. His students write short films of eight to 10 minutes; in many other screenwriting courses, students frequently attempt a full-length movie but end up completing only the first act. (The standard formula breaks feature films down into three acts, roughly equivalent to the story's set-up, development, and resolution.) Rubin wants his aspiring writers to have the experience of finish-



Screenwriter Danny Rubin at home

ing a full story, with a beginning, middle, and end. “Anyone can write a first act,” he says, “but when you are done with my course, you will have the tools to write a feature film.”

Movie storytelling, he explains, boils down to “three basic things: who is your character, what do they want, and why can’t they have it?” Suspense helps drive the narrative, and its most basic form is: “How does this story turn out?” Suspense can also energize a scene, keeping viewers on the edge of their seats: “You have to expect something to happen, and then it doesn’t.” Expectation alone can do it: an Alfred Hitchcock scene might show two people conversing, and then reveal a bomb beneath the table. “Now that conversation becomes filled with dramatic energy,” Rubin explains. To keep the audience hooked, “You ask a question and then don’t answer it. Keep that ball up in the air as long as possible. Once you answer the question, the dramatic energy is over.”

Perhaps the most fundamental tool is writing in a *visual*, not literary, mode. “One of the things I have to train out of prose writers is the idea that it’s about the language,” he says. “The script uses a visual language: that means scenes where people are *doing* things, not *saying* things.” A novelist can describe the inner experience of a character in great detail—think Henry James—but that doesn’t exploit the power of film, which tells its stories in pictures, with a strong assist from sound. “We get a lot more information that way than we realize,” Rubin explains. “In the first 10 minutes of *ET*, for example, there isn’t a single line of dialogue. You don’t want characters *telling* the story. Free up the dialogue to do more interesting things, like crack a joke or establish a character.”

A standard screenwriting technique is to externalize the characters’ inner states. For example, “You can give value to an object,” he notes. “Like taking a wedding ring and throwing it into the toilet. Or later reaching into a toilet to *retrieve* a wedding ring to show a change of heart.” Another tool is to build a routine and then



In a scene from Rubin’s 1993 “existential comedy,” *Groundhog Day*, Bill Murray swigs from a carafe of coffee before a horrified Andie MacDowell.

break it. A character might line up for his daily bus ride to work, get on the bus, pay the fare, and then get off the bus before it leaves. “That could show that somebody has changed his mind,” says Rubin. “If the story has set it up, we’ll already know where the character has decided to go instead.”

During his five-year Harvard appointment, now nearly complete, Rubin has written and sold an original script, completed two rewrite jobs, and also pub-

lished the book *How to Write Groundhog Day* (2012), which contains the screenplay, Rubin’s notes, and his saga of how the classic film came into being, via the tortuous Hollywood path of agents, studios, producers, directors, and actors.

It isn’t, though, a “how-to” book on screenwriting, of which there are dozens. “Everyone in Hollywood reads these books,” he explains, “and they *think* they understand how to write a screenplay. But it’s like looking for the secret of how to live your life. You go to see the philosophers, and each sage has a different piece of wisdom. The books give guidelines and rules to follow, but the craft is knowing when and where to apply them. No one can tell you how to live your life.” —CRAIG LAMBERT

Jewish Jokes, Theoretically

Does in-group humor displace political action?

by DANIEL KLEIN

OY, SUCH A provocative book this is—I’m telling you, I can’t tell you.

But funny?

Not so much, the comical picture of Groucho on the cover notwithstanding. Delving into the history, anthropology, sociopolitical utility, and moral value of Jewish humor has the same built-in limitations as analyzing sex—you really had to be there to fully appreciate what all the *tzimmes* [fuss] was about. Come to think of it, the book’s title may be intended to warn the reader *not* to expect a totally satisfying *shpritz*. Sarah Silverman, author Ruth Wisse is not.

What Harvard’s Peretz professor of Yiddish literature and professor of comparative literature does offer is a far-reaching discussion of the essential role humor plays in an

ethnic group that historically has dwelt in the margins of the nations and cultures of others. Clearly, irony and satire often provided a palliative outlet for the Jewish outsiders, but this is only the starting point for Wisse’s analysis; she goes on to raise questions about both the appropriateness and the effectiveness of making funny when anti-Semitism has reached dangerous levels. Can humor abet the oppressor? Can it neurotically internalize the prejudices of the other? Can it subvert creative energies that would be better used to take effective political action?

Much of *No Joke*’s focus is on the extent to which Jewish humor traditionally has been aimed inward, satirizing the Jewish storyteller himself and other members of

Ruth Wisse, *No Joke: Making Jewish Humor* (Princeton University Press, \$24.95)

his tribe, as compared to poking fun at the dominant culture that surrounded him. (Wisse notes that only the Scots rival the Jews in lampooning their own stereotypes; apparently Scots tell barrelsful of skinflint jokes—at their own expense, so to speak.)

The most poignant and prevalent target of this humor are Jews who try to pass for gentiles. These stories and gags strike at the heart of the assimilation dilemma: how many steps in the direction of assimilation does it take to cross the line into unfaithfulness to one's Jewish identity? And at what point does the assimilated Jew find himself ineluctably betraying his own people? Painful material, hilarious gags.

My personal favorite among such jokes (it is not in Wisse's book) involves two Jews who pass a church displaying a sign promising \$1,000 to all new converts. After much debate, one of the men decides to go for the money and enters the church. An hour passes, then another and another as the friend waits outside. Finally the Jew comes out of the church and his friend eagerly asks, "So, did you get the money?" The first man glares back and says, "Is that all you people ever think about?"

Oh, the levels, the levels. The joke pokes fun at the Jew not only as stereotypically money obsessed, but as all too eager to take on the persona, including the prejudices, of a gentile. Yet gentiles do not get away untarnished either; the converted Jew in the joke is a parody of gentile holier-than-thou-ness. At a secondary level, the question arises of whether there is a significant difference between a gentile telling this joke in public and a Jew telling it exclusively to other Jews. This raises yet another question, one that springs to Jewish lips so habitually that it has become a joke unto itself: Is this story "good for the Jews?" Finally, there remains the simple query: Shouldn't the first and most pertinent question about any joke be, "Is it funny?" A scholar and social critic like Wisse might only shrug at this last question. *Funny? Is that all you people ever think about?*

Although the bulk of *No Joke* is a compre-

hensive and insightful historical survey of Jewish humor and its perpetrators, ranging from Heinrich Heine to Woody Allen, its recurring theme is the dangers of Jewish-wrought humor that is *not* "good for the Jews"—psychologically, morally, aesthetically, and politically. For Professor Wisse, such dangers are the serious questions.

For example, at the end of a section about the heyday of Borscht Belt comedians in the 1930s, a time when American Jews were beginning to prosper in

strict mutual exclusion. People have been known to both laugh *and* act, even to act bravely. Some have even taken succor from laughter in a way that *invigorates* them to act bravely. This, sadly, was not the case for most American Jews in the 1930s, but is it reasonable and fair to blame American Jewish inaction on Milton Berle and Mel Brooks and their cackling Catskill audiences?

This finger-wagging attitude toward North American Jews and our supposed shallowness with regard to humor crops

up in other contexts. Wisse recounts a personal story about attending a dramatic reading of Sholem Aleichem stories by a Yiddish actor in Montreal: "The actor had chosen a funny story and performed it well, but there was less and less laughter with every sentence. The humor was simply too dense—too intimate, too *good*. Rather than continuing with the second Sholem Aleichem story, our entertainer switched to a sketch by the American Yiddish humorist Moise Nudelman—a tale that was thinner in substance and heavily dosed with English. This went off much better, inadvertently showing us how much was gone from our culture...."

Clearly, the audience in this anecdote is being put down. They do not know good humor from bad, or richly layered European-born Jewish humor from adulterated, simple-minded, feel-good Jewish-American humor. I do believe that some of us American Jews have just been insulted, albeit humorlessly.

That's funny, because insulting the audience has a long, sidesplitting history for Members of the Tribe. Don Rickles and Jackie Mason are only recent American incarnations of this tradition. *No Joke* takes us back to the golden era of Yiddish in Europe, when insults and curses, often uttered by uneducated women, were so delightfully serpentine—slipping artfully from blessing to stinger—as to be uproarious miniature comic fables in themselves. Here is one from the book: "May you have the juiciest goose, but no teeth; the best wine, but no sense of taste; and the most beautiful wife, but be impotent." That



Jewish humor central: comedian Jackie Mason at the Frank Sinatra Theatre, Sunrise, Florida, in January 2008

the New World even as their European counterparts were falling under the repressions of Nazism and Stalinism, Wisse concludes: "What, then, are we to make of the fantastic spurt of Jewish laughter in the very years when American Jews ought, perhaps, to have been laughing less and doing more?"

The author's either/or formulation—either laugh or take political action—may strike some readers as an unnecessarily

LARRY MARANO/GETTY IMAGES

Chapter & Verse

Correspondence on
not-so-famous lost words

Lewis Klebanoff seeks a poem, possibly titled "Together," describing a married couple aging together, in their living room, the husband reading, the wife knitting. "As I recall, they didn't speak, but the poem dealt with the depth of their communication and relationship."

Bob Tieger asks whether "more brio than class" has a literary origin, and if so, who said it about what or whom.

"I'm a city boy myself" (May-June). Daniel Rosenberg and David Goldber were the first to identify the conclusion of Saul Bellow's *Humboldt's Gift*.

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

insult is so delicious that the insulted could endure it with a measure of joy.

Alas, there is not much joy in *No Joke*. Obviously, writing seriously about humor, especially its potential to lead to shame and defeat, does not lend itself easily to funny expression. But does this mean such a book must be virtually devoid of fun and wit? The entire enterprise of evaluating humor by extraliterary standards, particularly moral and political standards, is very much with us these days. Comedians and just plain partygoers routinely endure serious condemnation for going outside the bounds of political correctness with their witticisms. Undoubtedly, this represents a step forward in sensitive civil behavior, but one cannot help wonder if something gets lost in the process. Something funny. ▢

Daniel Klein '61 is the coauthor, with Thomas Cathcart '61, of *Plato and a Platypus Walk into a Bar—Understanding Philosophy through Jokes* (see "Jocular, Ergo Sum," May-June 2007, page 26). Klein's most recent book is *Travels with Epicurus*.

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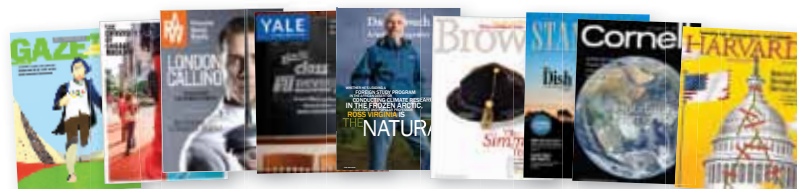
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Anatomy of the Euro Crisis

The political economy of a continent at cross-purposes

FORUM

“Ten years into its existence, the Euro is a resounding success. The single currency has become a symbol of Europe, considered by Euro-area citizens to be among the most positive results of European integration....” Barely five years after the European Commission issued this 2008 celebration of its new currency, the statement seems highly ironic. Europe is locked in a struggle for the survival of the euro—and indeed, for the prosperity of the continent and its people. German chancellor Angela Merkel does not exaggerate when she says that “the euro crisis is the greatest test Europe has faced since the signing of the Treaty of Rome in 1957”—the foundation of the European Economic Community (EEC).

Across southern Europe, millions of families are living in misery, as rates of unemployment exceed 25 percent in Greece and Spain and approach 15 percent in Portugal (and, on the western periphery, in Ireland), while the salaries of teachers, nurses, and other public employees are slashed, and firms go bankrupt in unprecedented numbers. The suicide rate in Greece has doubled during the past three years. This economic stagnation is now depressing performance even in Germany, normally the engine of the European economy; gross domestic product (GDP) in the 17 Eurozone countries is forecast to contract this year.

by PETER A. HALL

Hunger stalks southern Europe: A nationalist political party distributes food in Athens, September 14, 2012.

How did the Europeans get into this mess—and how are they going to get out of it? There are no obvious answers—indeed, the regional variation in the answers usually given across Europe is telling. But deeper analysis can be illuminating, not only about the euro crisis itself, but about that unique political construction that is the European Union (EU).

“Rules Rule”: Putting a Theory into Practice

READING ABOUT THE EURO in the financial press is like watching *Rashomon*, that marvelous Japanese film about memory and forgetting. Many who once applauded the monetary union now condemn it. Today, everyone agrees that the institutional structure of economic and monetary union (EMU) is inadequate. Why then did the Europeans agree to it in the Maastricht Treaty of 1992?

Monetary union was adopted as much for political reasons as for economic ones. The EU members were dissatisfied with the previous system that fixed their exchange rates within narrow bands—a system that provided monetary stability but required painful negotiations when current-account imbalances arose between the member states; moreover, some governments resented the dominant role played by the German *Bundesbank* in this

process. Ironically (in retrospect), the move to EMU was in some respects an effort to escape this need for transnational negotiations about economic policy.

There were also economic payoffs. Germany was to gain secure markets in neighboring countries that would no longer be able to devalue their currencies to increase the competitiveness of their goods vis-à-vis German ones, while the French imagined that the new European central bank would be more sensitive to their interests than the *Bundesbank*. But EMU was also conceived against the backdrop of German reunification after the fall of the Berlin Wall in November 1989. There was never a strict *quid pro quo*, but the single currency was sold in France and Germany on the understanding that it would bind a newly powerful Germany to Europe. It matters for events today that EMU was ultimately a *political* construction, seen then as the crowning achievement of European integration.

But the institutional design of EMU was highly technocratic. Authority over monetary policy was vested in a new European central bank (ECB) entirely independent of political control. Fiscal policy was to be guided by the minimalist rules of a Stability and Growth Pact that limited national deficits to 3 percent and national debt to 60 percent of GDP. There was *no* institutional provision for medium-term coordination of fiscal policy among countries, and the ECB was forbidden to issue debt to subsidize national governments—a capacity most national central banks have.

Behind this design we can see the influence of the economic doctrines of the early 1990s. By then, the Keynesian view that growth depends on active governmental macroeconomic management had been discredited by the stagflation of the 1970s. A new “rational-expectations” economic orthodoxy specified that monetary policy has few effects on the real economy and fiscal policy is generally ineffective. Thus, monetary policy should be rule-based and targeted only on inflation, while growth was said to depend, not on the management of *demand*, but on structural reforms to the *supply side* of the economy—based on changes to regulations and tax rates designed to increase competition in markets for goods and labor. “Rules rule” ran the graffiti in the City of London at the time, and that is what EMU provided.

The Theory Derailed

WHAT WENT WRONG? The conventional answer, popular in northern Europe, is that the southern Europeans and Irish broke the fiscal rules of EMU. There is some truth to this. The crisis was sparked in December 2009 by a new Greek government’s revelation that its budget deficit was more than twice as large as previously reported. Because Greek national debt was already at 113 percent of GDP, these new figures sparked a crisis of confidence in the international bond markets that soon spread beyond Greece, raising the cost of borrowing for the Irish, Spanish, Portuguese, and Italian governments (the other Eurozone members perceived to have weak economies or national balance sheets). After torturous negotiations, the member states of the European Union (EU) and the International Monetary Fund (IMF) offered long-term loans to bail out the Greek, Irish, and Portuguese governments, while the ECB pumped funds into their banking systems to assure their liquidity.

If only these states had not violated the terms of the Stability and Growth Pact, so this narrative goes, there would have been no crisis.

But that is only half of the story. Clinging to the illusion that monetary union had freed them from the need for serious negotiations about differing national budgets, the European governments were reluctant to enforce the terms of the pact—especially because the first countries to violate it were Germany and France. (Even on the brink of the crisis, Spain remained well within its terms.)

Moreover, much of the lending that fueled the crisis had gone *not* to spendthrift governments, but rather to the *private* sector. The euro crisis is really Europe’s version of the global debt crisis (as the collapse of the housing market was in the United States). There was plenty of “irrational exuberance” to go around. During the past decade, for instance, Spain built more houses than Germany, France, and the United Kingdom *combined*, and the Irish banks so inflated their balance sheets that rescuing them in 2010 briefly swelled the Irish budget deficit to 32 percent of GDP. In such instances, the lenders as well as the borrowers are to blame. With the advent of the single currency, international financiers treated *all* the member states as safe markets and flooded them with cheap money. Was it entirely unwise for firms and governments to take advantage of those funds to fuel their growth? Perhaps—but as we know in this country, they were not alone.

Among those most eager to lend to the periphery were the financial institutions of northern Europe, which by the end of 2009 held more than €2 *trillion* in Irish and southern European debt. Thus, the crisis of confidence that occurred in 2010 was really a crisis for the European financial system as a whole. When they bailed out Greece, Portugal, and Ireland, the northern Europeans were also bailing out their own banks—although it was more politically expedient to blame the problems on southern governments.

Those seeking deeper causes for the crisis often fasten on the rising imbalances in payments across Europe, as Germany built up large current account surpluses and the peripheral member states deficits. The southern Europeans were buying more from northern Europe than they sold there, and financing those purchases with loans from the north. Behind these imbalances was a growing gap in unit labor costs, a conventional measure of national competitiveness, as wages in southern Europe rose faster than those in much of the north. On this basis, many claim that southern Europeans used the first decade of the euro to live beyond their means without taking enough steps to keep their economies competitive.

Asymmetrical Economies

TAKEN LITERALLY, this is incontrovertible, but the reality is more complicated. What governments and firms can do is conditioned by the organization of the political economy. That is based on institutions that develop over long periods of time and cannot be changed overnight. The EMU joined together several *different varieties of capitalism*, each of which pursues economic growth in a different way. To simplify slightly, we can distinguish between northern and southern European economic models.

Germany’s coordinated market economy exemplifies the northern model. That nation can hold down labor costs because its industrial-relations institutions encourage firms and unions to coordinate on modest wage increases. Its highly collaborative vocational training system, operated by strong employer associations and trade unions, provides firms with skilled labor

that gives them comparative advantages in producing high-value-added goods and capacities for continuous innovation—enabling German enterprises to compete globally on quality as well as price. An economy organized in this way is ideally suited to mount the kind of export-led growth strategies that lead to success inside a monetary union.

By contrast, Spain, Portugal, Greece, and Italy entered EMU with political economies *not* well-suited to this type of growth strategy. They have fractious labor movements divided into competing confederations, and weak employer associations. As a result, they lack the capacities for collaborative skill formation and wage coordination central to northern European economic strategies. Instead, their governments have tended to rely on *demand-led* growth, in which governments increase spending to encourage domestic consumption and then use periodic depreciations of the exchange rate to offset the inflationary effects of this strategy on the competitiveness of their products. Depreciation *lowers* the price of a country's exports in foreign markets and *raises* the price of imports that compete with domestically produced goods.

For these countries, entry into monetary union offered as many handicaps as advantages. By expanding education and initiating structural reforms to make labor and product markets more flexible, they could improve the competitiveness of their firms—and to varying degrees, all southern European governments undertook some such reforms. But in the face of strong producer groups defending vested interests, these reform processes are bound to be protracted. In the meantime, unable to operate export-led growth strategies, these countries continued to pursue growth led by domestic demand—but in a context where they could no longer offset its inflationary effects on the competitiveness of their products: they could no longer devalue their national currencies. The result was ballooning current-account deficits.

At the root of the euro crisis, therefore, is an institutional asymmetry built into EMU from its inception. The northern Europeans entered monetary union with institutional frameworks well-suited to the export-led growth strategies that yield success in such contexts, whereas the southern Europeans entered with ill-suited frameworks—and lost the capacity to devalue on

which some had relied. These issues escaped notice when EMU was designed (because it was widely assumed that the member economies would converge on a single set of best practices), and they are still ignored by those who think that the solution to the current crisis is for the southern European economies simply to become just like those in the north.

Is There a Euro Future?

So **WHERE** does this leave the euro today? Can it survive continuing pressure in the international bond markets? What does the response to the crisis tell us about the European Union itself?

The problems are certainly daunting, because the euro crisis is actually three crises in one: a crisis of confidence in the bond markets, a debt crisis in the European financial system, and a growth crisis for the continent as a whole.

- The *crisis of confidence* is reflected in the reluctance of international investors to purchase sovereign debt in parts of Europe, raising the cost of borrowing for some countries and firms to unsustainable levels. Although confidence could fall again at

The euro crisis is three crises in one: in the bond markets, financial system, and growth.

any moment, this crisis is abating. The ECB's announcement last September that it was prepared to purchase unlimited amounts of sovereign debt from countries that met conditions imposed by the European Stability Mechanism (the Euro-area bailout fund) had a calming effect on the markets. With this step, Mario Draghi, the Italian president of the bank, was deftly skirting the rules of EMU to offer something close to a guarantee for these countries' bonds.

- The underlying *debt crisis*, however, remains unresolved. A debt crisis arises when existing levels of debt are too high to be fully repaid. The key to resolving it is determining who will pay what—and who will not get paid. Economists often argue that such steps will be less painful if taken quickly. Aside from some restructuring of sovereign debt in Greece, and of bank debt in Spain and Ireland, however, the member states of the European Union have largely put off such decisions. At the outset of the crisis, this posture may have saved their financial system from even bigger problems, but the day of reckoning cannot be postponed forever.

The ground has been laid for a resolution of this problem through a series of steps that put much of the questionable debt into the hands of national governments, the ECB, and European rescue funds. This suggests that some of the debt may be forgiven, with the public sector footing the bill. But negotiations about which governments will pay, and whether the ECB will pay as well, are bound to be painful. Not much will likely get done until after the German elections this fall, but governments will then be seeking solutions that obscure the precise distribution of costs and benefits, as they did in February when Ireland's promissory

Political passions: Madrid protesters against austerity wear nooses and bag their heads with a European Union flag motif, March 16, 2013.



Photograph © popicinio/Demotix/Corbis

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Debt in Dublin: A street protest in Ireland condemns the crushing burden of servicing bank debt and budget imbalances without addressing joblessness, February 9, 2013.

notes were replaced by long-term bonds.

From an electoral perspective, obscuring those costs is important because the initial response to the crisis by the northern European governments has made their long-term task more difficult. Instead of presenting the crisis as an existential dilemma for Europe, northern politicians reacted as if it were entirely attributable to the fiscal fecklessness of southern European governments. The media soon translated that into crude stereotypes about “lazy Greeks” that have evoked similar images in the south of “jackbooted Germans,” thereby eroding the pan-European solidarity the EU worked for so long to cultivate. The resulting ill will has made the problem of mobilizing political consent for *any* adjustment strategy more difficult.

- Unfortunately, there is no solution in sight for the *growth crisis* afflicting Europe. Its effects have been worst on the periphery. During the past five years, GDP has fallen by more than 20 percent in Greece and nearly 7 percent in Spain, Ireland, and Italy. Because 40 percent of German exports, and 60 percent of French ones, go to the Eurozone, continental growth is now depressed as well, and the ECB forecasts that GDP will grow by only 1 percent in the Eurozone next year. In response, the European Union claims it has a growth strategy based on two pillars: a fiscal compact that will commit most of the member states to balanced budgets, and a program of structural reform that will intensify competition in markets for products and labor. But neither step is of any real value in the short term. As the IMF recently confirmed, fiscal austerity is making the problems of the south worse: in some countries, budgetary cutbacks designed to reduce the share of the public deficit in GDP are depressing output so much that the debt share is in fact *increasing*. And even though structural reform can make some economies more efficient in the long term, the hope that it will regenerate growth in the near to medium term is a mirage. Sophisticated European policymakers know this, but because they have to have a growth strategy, in the absence of any agreement on an alternative, they keep repeating this mantra.

Is there an alternative? In the immediate future, coordinated fiscal reflation, which would see austerity relaxed in the south and government spending increase in the north, would help. But because that could entail fiscal transfers from north to south, it is hard to sell to electorates, and northern governments fear that if they loosen their fiscal demands on the south, the reform process there will stop. Only when electorates across Europe realize that they are all in the same boat will they take turns rowing together. But the question is whether they will realize that before experiencing the kind of prolonged stagnation seen in Japan during the 1990s.

The longer-term issues in the south are even more intractable. Most of the northern European countries have viable growth models, and Ireland can likely grow again as a low-tax site for multinationals in Europe. But it is unclear whether Spain, Portugal, and Greece can continue to prosper inside the single currency. They do not yet have a strong institutional base for high-value-added production, and their low-wage sectors face stiff



competition from the world’s emerging economies. Monetary union is making it hard for them to pursue demand-led growth.

The Political, European Union Solution

BUT IT WOULD BE premature to predict the monetary union will break up. For Europeans, the single currency is not simply a convenient economic arrangement. It is the symbol of an integrated Europe to which many are committed—and the EU has a history of making novel political arrangements work. This is a fundamental point often missed in dry economic analyses of the institutional requisites for monetary union. Where there is a will, the political elites of Europe have often found a way, even when it entails protracted negotiations and unwieldy compromises.

The big question, therefore, is whether that will can be sustained and given effective political expression in the face of a debilitating austerity that has left southern electorates disillusioned and confused. Only with difficulty did Italy cobble together a coalition government after an election in which the third-most-popular party was led by a comedian incensed at political corruption, and the third-most-popular party in Greece is an anti-immigrant movement given to fascist tactics. It is not surprising that southern Europeans are fed up with their leaders. Many want monetary union without austerity. But that is not currently on offer from their northern neighbors or the bond markets. Even with more help from the north, it is not clear that the political systems of the south will continue to yield governments willing to take the measures that would make monetary union sustainable.

Since monetary union has always been a political construction, perhaps it is fitting that its fate now turns on the political capacities of Europeans to reconstruct it. Unless national governments can mobilize electoral majorities in favor of burden-sharing, the prospects for EMU do not look auspicious. Watching them try has been a sobering and at times ugly spectacle. But, even on this side of the Atlantic, we know that democratic politics is an inefficient process, and Europe has a postwar record of reinventing itself that suggests the task is not impossible.

Peter A. Hall is Krupp Foundation professor of European studies and co-director of the Successful Societies Program of the Canadian Institute for Advanced Research. His most recent book, edited with Michèle Lamont, Goldman professor of European studies and professor of sociology and African and African American studies, is Social Resilience in the Neoliberal Era (Cambridge University Press).

Albert Bigelow

Brief life of an ardent pacifist: 1906-1993

by STEVEN SLOSBERG

ADDRESSING the Democratic National Convention in Charlotte, North Carolina, last September, Georgia congressman John Lewis recalled his first visit to the city—in 1961, as one of the 13 original Freedom Riders. Their bus trip was planned by the Congress of Racial Equality (CORE) as a journey from Washington, D.C., to New Orleans to test a 1960 Supreme Court ruling banning racial discrimination in interstate public facilities. Just south of Charlotte, in Rock Hill, South Carolina, Lewis and his seatmate, Albert Bigelow '29, tried to enter a white waiting room. “We were met by an angry mob that beat us and left us lying in a pool of blood,” said Lewis. “Some police officers came up and asked us whether we wanted to press charges. We said no. We come in peace, love, and nonviolence.”

Lewis would later describe “Bert” Bigelow, born into a prominent Boston family steeped in Harvard connections, as “a big, rugged-looking guy from New England who looked as if he belonged on a sailing ship a century ago.” And several years before he boarded that bus, Bigelow had sailed, literally, into the annals of mid-twentieth-century nonviolent protest and political activism. In the spring of 1958, as skipper of a 30-foot ketch, the *Golden Rule*, he and four other men tried twice to navigate into the Pacific nuclear-bomb testing grounds at Eniwetok Atoll in the Marshall Islands to protest nuclear proliferation. Each time, the voyage was foiled by the U.S. Coast Guard and Bigelow was eventually jailed for 60 days in Honolulu—but the attendant publicity provided him with a stage for his political views.

Bigelow explained the evolution of his activism in his 1959 book, *The Voyage of the Golden Rule*. “Later in World War II,” he wrote, “I was Captain of the destroyer escort *Dale W. Peterson*—DE 337—and I was on her bridge as we approached Pearl Harbor from San Diego when the first news arrived of the explosion of the atomic bomb over Hiroshima. Although I had no way of understanding what an atom bomb was I was absolutely awestruck, as I suppose all men were for a moment. Intuitively it was then that I realized for the first time that morally war is impossible.”

Bigelow described himself as he entered the navy as having “an enormous latent desire to conform, to ‘go along.’” He had studied architecture at MIT after Harvard and then worked at designing residences; he also helped design buildings for the 1939 New York World’s Fair. Left a widower after a brief and tragic first marriage, he married Sylvia Weld, an actress, in 1931. After the war, he searched for “some sort of unified life-philosophy or religion,” and eventually followed his wife in joining the Quakers, in 1954. A year later, with their own two daughters grown, the Bigelows welcomed into their Greenwich, Connecticut, home two “Hiroshima

Maidens,” young women who had been injured and disfigured by the A-bomb blast and then brought to the United States for plastic surgery. Bigelow’s experience with the two women, he wrote, “forced me to see that I had no choice but to make the commitment to live, as best I could, a life of nonviolence and reconciliation.”

In 1956, before the presidential election, he sent \$300 to Dr. Martin Luther King Jr. and mentioned his plan to write in King’s name for president. In 1958, he became involved with an anti-nuclear-proliferation docudrama, *Which Way the Wind*, sponsored by the American Friends Service Committee; he served as a producer and narrated performances after his Pacific expedition. One of the *Golden Rule*’s crew members, James Peck ’36, a union organizer, was also active in CORE projects and Bigelow later joined him in civil-rights causes, including that first Freedom Ride. He also continued to speak out tirelessly against the arms race in print and at rallies at home and abroad. Reflecting on his years of activism in 1964, he wrote, “I remain an optimist despite mounting evidence that, if we do not blow ourselves off the earth, we shall soon eat ourselves off the earth.” (Vegetable gardening, he added, had become a “principal side interest.”)

By the mid 1960s, his public activism quieted, though he still railed in lectures and letters against nuclear proliferation. He savored sailing and a longtime love—painting (the Mystic Seaport museum in Connecticut owns eight of his marine works)—and stayed involved in community affairs, at one point as “the sole male member of the [local] League of Women Voters.”

Although Bigelow’s prominence faded, his name and activism live on, in commemorations of the Freedom Rides and through the efforts of Veterans for Peace, a national organization of military veterans committed to the cause of world peace. The group is far along in its work to restore the *Golden Rule* (found derelict in a small California shipyard) and ultimately sail it as both a symbol and a classroom for instruction against the “manufacture and use of nuclear weapons.” The project serves as a fitting legacy for a man born to privilege who was jolted from complacency by the devastation wrought by war and committed himself to justice and peace.

“I sense that most of us feel overwhelmed by a disintegrating world, seemingly beyond our control,” he wrote in his fiftieth anniversary class report. “...At the same time, we have the potential to preserve and enhance our delicate, beautiful planet and create on it a society of respect, sharing, and caring—where love will not be considered a sign of weakness.” ▢

Steven Slosberg worked as a journalist and columnist for three decades. He lives in Stonington, Connecticut.



Antinuclear activist Albert Bigelow (second from left) with crew members William Huntington '28, Orion Sherwood, and George Willoughby in Hawaii in 1958; (inset) the 30-foot Golden Rule under sail, with James Peck '36 and Willoughby visible

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The Art of Subtraction

No one has carved wood like David Esterly since...well, about 1700.

by CRAIG LAMBERT

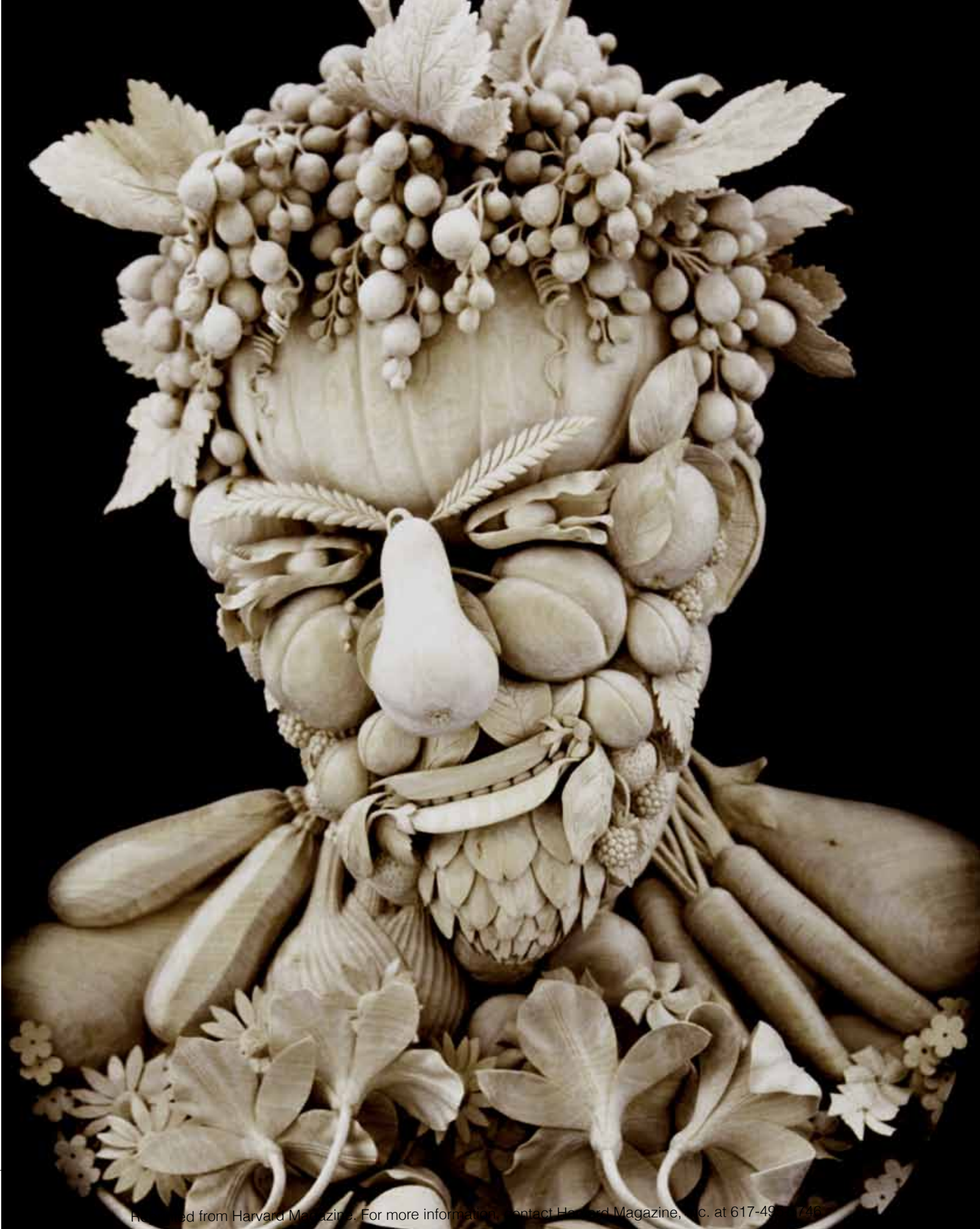


THE ROYAL PALACE of Hampton Court, built on the Thames nearly 12 miles upstream from London by Henry VIII in 1514, suffered a devastating fire on March 31, 1986. A bedside candle in the room of the elderly Lady Gale, a resident who perished in the flames, probably started the blaze. Grievously, the fire also consumed or seriously damaged some of the incomparable woodcarvings in the King's Apartments, an addition that Christopher Wren built for William III near the end of the seventeenth century. These delicate depictions of botanical subjects in wood, hung on walls and surmounting doorways and mantelpieces, were the masterworks of the final period of Grinling Gibbons (1648-1721), the Dutch-born artist widely regarded as Eng-

land's finest woodcarver, a "golden codger, almost of the order of Samuel Johnson, Thomas Chippendale, Charles Dickens or William Morris," as David Esterly '66 puts it in his 2012 book, *The Lost Carving: A Journey to the Heart of Making*.

Given the British reverence for historical (and royal) heritage and the carvings' importance, there was no question that restoration would proceed after the fire. Miraculously, most of them had survived, despite damage, but one spectacular overdoor drop, a pendant of flowers and leaves, in the King's Drawing Room, had been incinerated. The problem was that in the nearly three centuries since Gibbons's time, such finely detailed, high-relief carvings in limewood (the British term for linden wood) had become a lost art. There had been "sorry attempts at

Above, a work in progress on the carving bench; opposite, a botanical head (2001), after the painter Giuseppe Arcimboldo (1527-93)



Gibbons revivals in the nineteenth and early twentieth centuries: crude embarrassments, almost all of them,” Esterly writes. In 1986, a number of English carving conservators were working assiduously in limewood, but the artist to whom the British entrusted the restoration was a 42-year-old craftsman living outside Utica, New York, who had been carving limewood for about a decade: Esterly himself.

Then as now, Esterly was and is internationally regarded as the most accomplished practitioner of the “subtractive art” of limewood carving since Gibbons. Indeed, Esterly is something of an anachronism: he has devoted most of his adult life (“I work seven days a week, after dinner, all the time”) to chiseling soft, malleable limewood, a particularly receptive medium for these delicate renderings. Many of his pieces take a year or even two to complete: such carvings are a painstaking art that calls on skills cultivated over decades. Thus Esterly has created a magnificent, if small, oeuvre: his 38-year career has produced only a few dozen carvings, almost all in private collections.

They are not hidden from the public, though. This January, Esterly assembled 15 of his most recent works for an 11-day show at

Esterly at his workbench, below, and, at right, attacking limewood with the two-fisted technique of woodcarving. Opposite, a foliage drop (2005)

the W.R. Brady and Company gallery in Manhattan. Soon thereafter, the collection went on display for six weeks in an exhibit, *The Art of Subtraction*, at the Munson Williams Proctor Arts Institute, an elegant museum in Utica designed by Philip Johnson '27, B.Arch. '43.

Borrowing the carvings from their owners, transporting the fragile works, and putting them on display was “an arduous undertaking,” Esterly reports. “It will probably never happen again.” Photographs, however, are viewable on his website (davidesterly.com).

Exhibits are challenging to mount partly because Esterly sells everything he makes: he cannot afford to own his creations. He works almost solely on commission (and never lacks for one), but given the labor-intensive nature of his craft, he is hardly getting rich, despite the six-figure prices his works command. His artistic approach, a modern version of Gibbons’s style, is “so time-consuming that other carvers avoid it like the plague,” he writes. “Carvers are starvers, the old saying goes, and Gibbons’s style, with its fineness and naturalism, its profusion of detail, and its arduous undercutting, is regarded by most carvers as a shortcut to starvation.” (Undercutting is carving the back side of figures or objects to heighten their delicacy.) He may be the only professional woodcarver ever to graduate from Harvard.

IN RETROSPECT, it seems that Esterly was born to carve limewood, but in fact he discovered his calling only after earning a doctorate in English literature. A native of Akron, Ohio, he is the son of Firestone executive James Esterly '33, a football star lionized for playing the second half of the Yale game despite breaking his back in the first. When David was 11, the family moved to Orange County, California, a place that didn’t resonate with the boy’s temperament: “I was very anxious to get out of Southern California.” At Harvard, he was “hugely intimidated by the prep-pies,” and pursued perfection of the work rather than the life—“I was a grind.” He wrote his senior English thesis on Yeats.

A Fulbright took him to St. Catharine’s College, Cambridge, where the students seemed “fantastically bright and affable, and exceedingly witty,” he says. “They had an amused relationship to life which I liked a lot.” His first meeting with his tutor was a watershed moment. “He diagnosed me immediately,” Esterly recalls. “He offered me sherry or whiskey—we had two. We talked about rowing, hunting, shooting, living in the countryside, Shakespeare. He gave me no assignment, and ended by saying, ‘This has been nice. Go out and get to know people here, join a boat club, row. Tuesday nights my wife and I are at home. Come back and let’s talk again in six weeks.’ I felt like a pit pony let loose from the coal mine. It was incredibly liberating.”



Photographs by Steve Potter

On track to become a literary scholar, Esterly wrote his dissertation on Yeats and Plotinus. Yet, “I wanted to do something physical,” he says, recalling Yeats’s admonition to “think in the marrow-bone.” He had daydreams of making furniture in Yorkshire, seeking Yeats’s “unity of being,” he says. “I wanted to integrate the intellectual, moral, and physical.” He moved back to Akron for a time to work as a teamster; then, in Boston, at an earplug manufacturer—“The machinery was so loud that you had to wear earplugs!” He also reconnected with Marietta von Bernuth, a porcelain restorer whom he had known in England, and the couple moved to London in the mid 1970s. Esterly got an office job and was “at loose ends.”

One afternoon, on their way to meet Esterly’s parents for tea at Fortnum & Mason, von Bernuth pulled him into St. James’s Church in Piccadilly, where he saw, on the reredos behind the altar, a tangle of vegetation carved to airy thinness by Grinling Gibbons. He was thunderstruck. “From a technical point of view, I didn’t believe wood could be handled in this way—it looked like a pliable substance you could model with your hands,” he recalls. “It was also a hyperorganic form of art, a botanical medium portraying botanical forms; it seemed to say something that couldn’t be said any other way. Mind and body connected.” His book elaborates: “The sickness came over me. It seemed one of the wonders of the world. The traffic noise in Piccadilly went silent, and I was at the still center of the universe....my tongue seem to be moving over carved ivory, cool and smooth. Don’t ask. I haven’t a clue. It’s what I still feel in the presence of great limewood carving.”

Yet that was not the real turning point. Esterly at first “assumed it was an academic interest—I thought I should write a book about Gibbons. I went to libraries.” Trying to understand how Gibbons invented this kind of carving, he got books on carving techniques, then bought some chisels and limewood. “I fastened the wood to a garden table, took a stroke, and the genie flew out of the bottle,” he says. “Very quickly I lost interest in writing about Gibbons.”

He and von Bernuth moved to a cottage on an estate in the South Downs of Sussex where, during the next eight years, penniless but in splendid country surroundings, he taught himself to carve. His only mentor, really, was the long-dead Gibbons. “So my instructor was trial and error, an exacting master whose teaching methods involved the cracking of wood and sometimes the spilling of blood,” he writes. “I learned that long grain was strong, short grain weak, end grain tough....I learned these things the way a carver has to learn them, in the muscles and nerves. There was plenty of feedback from the wood. The air was filled with its reports.” He recalls these years as one of the happiest times of his life.

At first he sat on a chair to carve, but the craft soon forced him to his feet. “Your whole body gets involved,” he explains. “Your torso is twisting in this contrapposto way.” A carver must work ambidextrously, and grip the chisel with both hands. (Strictly speaking, *chisels* have flat blades and *gouges*, which he uses 95 percent of the time, have semicircular ones. Esterly owns 130 chisels and gouges, most of them very old. Knives play no part in carving, though glue comes in handy on rare occasions.) With two hands in play, one hand impels the tool while the other resists the motion, giving the carver precise control. “You take the resistance of the wood internally,” Esterly explains.

High-quality limewood is essential. Anglophiles planted European linden trees in the United States around 1900, and Esterly has



tried linden wood from Central Park and from Newport, Rhode Island, but “the trees grow too fast in our hot summers,” he explains. “So the wood isn’t as dense, as crisp, or as strong”—and that is what allows the carver to radically undercut it. Undercutting is crucial: it is what makes the carved form very delicate—fashioning a flower petal, say, that’s nearly as thin as a real one. “Undercutting defines the edges of things,” Esterly explains, “and edges are extremely important in defining their forms.” Limewood enables this due to its “wonderful combination of strength and softness,” he says. “And its grain is mild, forgiving, and crisp.”

He imports his limewood from England. “The problem now is that they are worried about pests and won’t allow any hardwood into the United States unless it has been kiln-dried,” he says. “But kiln drying damages the carving properties. I have to get what amounts to a congressional waiver to import my limewood; I can import air-dried wood that I have to fumigate under complete supervision of the customs office. I would pay any amount for good limewood.”

ESTERLY’S WORKROOM is right in his home. For a long time, he and his family have lived in a converted barn (“This place was built on a shoestring—everything here is salvage”) on beautiful country land north of Utica, the summer property of von Bernuth’s family. The couple married in 1980 and have a daughter, Flora, a Columbia graduate and literary scout in New York.

Of his improvement as an artist over the years, he says, “I never had a sense of getting better, but my earlier work gets worse and worse.” Carving, for him, is “a profession for high-functioning obsessive-compulsives.” He explains that “the first 90 percent you can do with 50 percent of the effort. The last 10 percent may take another 50 percent of effort. But that last 50 percent is what changes it into something good.”

For Esterly, conceptual art is unsatisfying because “conceptualists don’t care a lot about execution.” He calls his own work a compendium of sins against much of contemporary art. “First, it takes unabashed delight in beauty,” he explains. “It also delights in natural forms, realistically presented—that’s pretty bad. It doesn’t seek to upend a tradition so much as to establish a bond with the past, rather than a break with it. It uses a poignantly archaic medium, wood—I mean, really, *wood*? One of the worst things is that it’s free of irony, it’s sincere; ironic and jokester art is pretty much the norm. It doesn’t have an intellectual or conceptual agenda—it doesn’t project a critique or comment on a social problem. It’s made by hand, with no power tools. And it’s actually made by the artist.”

His time at Hampton Court was “when I really became a carver,” he says. The restoration allowed Esterly to finally escape the “anxiety of influence” from Gibbons. “It’s uncanny—serving an apprenticeship to a long-dead master, this great predecessor whom you revere and rebel against,” he says. At times, at the workbench, he could almost feel Gibbons’s presence. “He would

STEVIE POTTER



Opposite, detail of a gardening overmantel (2007); at right, a musical trophy (2004) and, below, a wall-mounted letter rack, Quodlibet #1 (2012)

seem to be saying, over my shoulder, ‘I’ve done that—but *here’s* how you should do it.’”

Esterly kept a daily journal during his year carving the restoration, a diary that became the springboard for *The Lost Carving* two decades later. The book narrates his evolution as a woodcarver and describes how the project crucially shaped his own artistic development. *Philadelphia Inquirer* reviewer Rita Giordano noted that even a reader who cared nothing for woodcarving could “still be absolutely in thrall to the lushness of Esterly’s language, his passion for creation, his reverence for the physical act of work. *The Lost Carving* is a study in the marvel—both the pain and the joys—of doing a thing well.”

In 1998, he returned to his beloved England to curate the exhibition *Grinling Gibbons and the Art of Carving* at the Victoria and Albert Museum, marking the 350th anniversary of the great carver’s birth. Esterly wrote a companion book of the same title, which has just been reissued.

In replacing the incinerated carving at Hampton Court, he at first tried to *become* Gibbons for a while. But it was hard to find the master’s underlying design. The palace authorities unearthed one glass-plate photograph from the 1930s, “but it was poorly lit and difficult to read,” Esterly says. He had to work up a design, but “a design will only get you so far, and that’s emblematic of how far designs in general will get you. After that, something else takes over.”

Midway through the work, “I looked down at this half-completed, unpromising carving, and suddenly I saw it with the same eyes as the guy in 1699,” he recalls. “I could see with complete freshness why decisions were made. At that messy halfway point, in mid course, the work will tell you what needs to be done next, if you’re open to it. The work will tell you where it wants to go. That halfway point is where the real creativity comes in, in the act of *making*. As observers of art, we pick that up—we mimic the creation of the work in hearing it, reading it, seeing it. That’s why, with the greatest art, you almost have the sense that you are making it yourself: you’re picking up the embedded creativity that occurred in the making of the thing. Inspiration comes in the business of making.”

Craig A. Lambert ’69, Ph.D. ’78, is deputy editor of Harvard Magazine.



STEVE POTTER

Buffering the Sun

David Keith and the question of climate engineering

by Erin O'Donnell

DAVID KEITH talks fast and takes stairs two steps at a time, as though impelled by a sense of urgency. The Harvard scholar is interested in both the scientific and the public policy questions that bear on climate change and has a hand in a surprising range of projects related to climate and energy. He co-manages the Fund for Innovative Energy and Climate Research (FICER), established by Microsoft founder Bill Gates '77, LL.D. '07, to support innovative climate-change research, and has founded Carbon Engineering, a company that appears on track to build the first industrial-scale plant to capture carbon dioxide from the air for possible commercial use. But Keith is best known for his work on solar geoengineering: strategies to counter rising global temperatures by reducing the amount of sunlight that reaches Earth and its atmosphere. Such work might someday save the planet.

As skeptics continue to question whether global warming is real, and worldwide efforts to cut greenhouse gases stall, a small but growing number of scientists believe that humans may need to consider a "Plan B" that takes control of our climate's future. Solar geoengineering encompasses multiple proposals to adjust the planet's thermostat, including deflecting sunlight away from the earth with massive space shields or with extra-bright low-altitude clouds over oceans. One suggestion, inspired by sul-

fur-spewing volcanoes, involves modifying a fleet of jets to spray sulfates into the stratosphere, where they would combine with water vapor to form aerosols.

Dispersed by winds, these particles would cover the globe with a haze that would reflect roughly 1 percent of solar radiation away from Earth. (The 1991 eruption of Mount Pinatubo, which shot some 10 million metric tons of sulfur into the air, reduced global temperatures about 1 degree F for at least a year.)

Scientists have discussed such strategies for decades, but (until recently) mostly behind closed doors, in part because they feared that speaking publicly about geoengineering would undermine efforts to cut greenhouse-gas emissions. Keith, who is McKay professor of applied physics in the School of Engineering and Applied Sciences (SEAS) and professor of public policy at Har-

vard Kennedy School, strongly advocates bringing discussion of geoengineering into the open. He says, "We don't make good decisions by sweeping things under the rug."

And even as he endeavors to publicize the geoengineering debate, Keith has also sought to move the science itself beyond computer models, toward the possibility of small-scale field-testing. "It is by no means clear what the right answer is, or how much, if any, geoengineering we should use," he says, "but the balance of evidence from the climate models used to date suggests that doing a little bit would reduce climate risks."



David Keith

Constructing Consensus

BY KEITH'S ACCOUNT, the topic of solar geoengineering has transitioned in the last five years from an obscure area, studied by only a handful of what he calls "geonerds," to a subject that draws increasing attention from both scientists and the general public. That lends Keith's own publicizing efforts some of their urgency; he not only sees a need to "broaden the scientific community to avoid the risk of groupthink," but also wants to help shape the conversation about these strategies and chart the course of related research.

He and fellow FICER administrator Ken Caldeira (of the Carnegie Institution for Science's department of global ecology, at Stanford), have used the fund for projects that assess the risks of a warming planet and the benefits and risks of advanced technologies to address the problem. They've also used a small portion of the money to jumpstart the development of new technologies to deal with climate change. Not only are good solutions to the problem currently lacking, Keith says, but there is nothing approaching "a social consensus that it's worth making serious efforts to solve the problem."

Meanwhile, the world's nations emitted an estimated 38.2 billion tons of carbon dioxide—the principal greenhouse gas, by volume—into the air in 2011, an increase of 3 percent over the previous year. This rate is expected to accelerate as developing nations such as China and India burn more coal and expand their vehicle fleets. In May, scientists reported that the average daily level of CO₂ in the atmosphere surpassed 400 parts per million, a level last seen two to four million years ago. Even if humans miraculously halted *all* carbon emissions next week—an impossibility, and an economic catastrophe—the problem of climate change would still loom ahead: most of the heat-trapping gas will linger for decades or centuries. One study found that 40 percent of the peak concentration of CO₂ would remain in the atmosphere for a thousand years after the peak is reached—and even then, inertia in the world's warmed oceans will prevent a quick return to cooler temperatures.

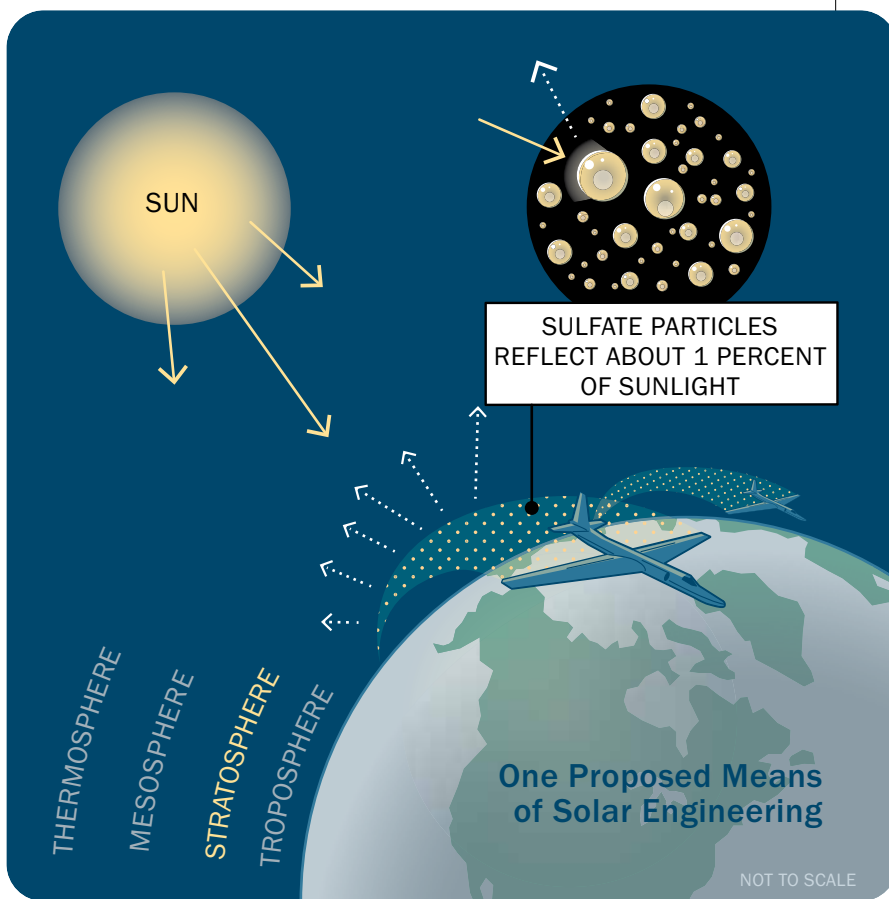
"We have already committed ourselves to a certain level of warming in the future, whatever we do about our emissions," says Andy Parker, a fellow in the science, technology, and policy program at the Kennedy School's Belfer Center. The most optimistic predictions for the rest of the century, cited by the Intergovernmental Panel on Climate Change in its 2007 assessment report, forecast a rise of 2.0 to 5.2 degrees by 2100, while the direst anticipate a rise of 4.3 to 11.5 degrees. Among the anticipated effects are rising sea levels, increasingly severe storms and droughts, and melting glaciers and permafrost.

Given these projected long-term consequences of global warming, certain geoengineering strategies that seem to offer relatively quick-acting countermeasures could become especially attractive.

In 1992, Keith and his mentor Hadi Dowlatabadi, a physicist and applied mathematician, both then at Carnegie Mellon, wrote one of the first papers assessing geoengineering strategies. Today, the term is often used to refer both to removing CO₂ from the air (for re-use or for storage in reservoirs such as the deep ocean—see "Captur-

ing Carbon," page 26), and to limiting the amount of sunlight that reaches the earth in the first place (where it can be trapped in the atmosphere by greenhouse gases and contribute to warming).

Although these two strategies could work together to ease global warming, they have different costs and risks, and Keith argues against lumping them together. "We will have a better chance to craft sensible policy if we treat them separately," he told a congressional committee in 2010. The massive scale of the CO₂ problem means that carbon removal "will always be relatively slow and expensive," he added. It carries some local risks, but has no chance of harming the entire planet. Solar geoengineering, in contrast, could work quickly—and at surprisingly low cost. (By recent estimates, spreading sulfur in the atmosphere to reduce global temperatures could cost a few billion dollars annu-



ally, a fraction of the projected cost of reducing greenhouse gas emissions. One 2006 review by the British government estimated that cutting emissions by 25 percent by 2050 would cost about 1 percent of annual global GDP, or about \$1 trillion in 2050.) Keith argues that costs for solar geoengineering are so low that "cost will not be a decisive issue." Instead, he says, scientists and policymakers will have to weigh risks: "the risk of doing it against the risk of not doing it."

Keith speaks candidly about the risks and uncertainties of solar geoengineering, acknowledging a range of possible outcomes. "The balance of evidence so far suggests that solar geoengineering could reduce climate risks, but early science might be wrong," he says. "We need experiments, which might show that it does not work."

Additionally, some research suggests that sulfate aerosols may further damage the ozone layer, an issue that he says needs further study.

Alan Robock, professor of environmental sciences at Rutgers, is one critic who has raised other concerns, theorizing that sun-light-blocking strategies could not only reduce the amount of electricity produced through solar power but also alter weather patterns, which might trigger widespread droughts. Keith does not find these possibilities convincing. He believes solar energy would be affected only in “extreme scenarios” with very heavy use of solar geoengineering, and he says he has not seen serious analysis that supports the possibility of drought. Studies have found that crop yields could increase in some regions, because plants grow more efficiently in diffuse light, and excess CO₂ from the atmosphere could have a fertilizing effect. Yet one critical issue remains: solar geoengineering doesn’t address the underlying danger of CO₂ emissions, which would continue to build up and create further problems, such as acidification of the oceans, which harms coral reefs and other marine life.

Above all, the techniques currently proposed would have to be applied gradually, to limit drastic climate changes. That presents knotty governance challenges—requiring diverse nations (and political groups within those nations) to agree on a joint course of action, something they have been largely unable to do when negotiating treaties to address greenhouse-gas emissions. “With solar geoengineering, at some level you’ve got just one knob,” Keith says. “That demands collective global decisionmaking.”

And yet solar geoengineering’s relatively low cost raises the possibility that a single nation, or perhaps a group of island nations threatened by rising seas, could act unilaterally to initiate it. “One small group of people can have a lot of influence over the entire planet,” Keith says. But he does not view this as an inexorable threat. “If some crazy group decides they’re going to start flying airplanes and putting sulfur in unilaterally,” he says, “it’s not that hard to stop.” Still, he’s concerned. “I think the underlying brute reality”—that so-

Governing Geoengineering Research

DAVID KEITH, McKay professor of applied physics in the School of Engineering and Applied Sciences (SEAS)

and professor of public policy at the Harvard Kennedy School, is eager to establish governance structures so that small-scale field studies of geoengineering technology can move forward. He also acknowledges the need for some government oversight, in part to limit rogue projects by individuals or countries acting unilaterally.

But the field is too young to expect a treaty that provides governance. “It’s not something that they’re going to spend an hour on at the next G8 meeting,” Keith says. In an article published in the journal *Science* last spring, he and coauthor Edward Parson of the UCLA School of Law suggest starting with an informal document, written by the main research bodies of the United States, Europe, and China, that would outline guiding principles for geoengineering studies, including ways to manage risk and promote transparency. “A document like that can have a lot of power,” Keith says, “and you could do that next year if you wanted to.”

Cox professor of law Jody Freeman, director of the Law School’s environmental law and policy program, says it

Capturing Carbon

DAVID KEITH founded a company, Carbon Engineering, in 2009, while he held the Canada Research Chair

in energy and the environment at the University of Calgary, to capture carbon and use it to develop low-carbon fuels, among other projects. (He launched it with \$3.5 million from a group of angel investors that included Bill Gates.) The pilot plant, which he expects to be operational by next summer, should capture a modest 1,000 tons of carbon per year, roughly the amount generated by the activities of 50 average Americans in 12 months. Eventually the company expects to sell the CO₂ it captures for applications such as enhanced oil recovery (oil companies would use the gas to force oil out of the ground) and the production of algae-based biofuels. A commercial-scale plant built with this technology might capture up to 100,000 tons of CO₂ a year, but Keith stresses that his is a small company with a new technology. “Anyone who knows anything about carbon and energy knows that there isn’t any one magic bullet,” he says. “We’re not trying to solve the world’s climate problems.”

He is careful to separate his efforts on behalf of his company

A rendering of Keith’s proposed modular carbon-capture plant; he says such plants will not solve the carbon emissions problem.



from his academic work. Not only does he see carbon capture and solar geoengineering as technologies with very different risks and costs, he’s also conscious of critics who have suggested that he aims to profit from his aerosol-reflector research. In fact, he has lobbied in Washington to outlaw patents on sun-blocking technologies. Because such global-scale climate solutions can have a dramatic effect on the planet, Keith says, “I think this is a bit like nuclear weapons, and there should be no for-profit work.”

COURTESY OF CARBON ENGINEERING LTD.

would also be important to address such questions in the United States. “We simply don’t have a domestic legal infrastructure to regulate these kinds of experiments,” she says. “None of our current laws really address it.” Who would oversee the research and decide what’s permissible? If there are risks to this research, who would be liable for the risks? These questions and more need to be considered carefully, Freeman says, but her sense is that the public is largely unaware of geoengineering, and other than a small elite group, most policymakers lack knowledge about it.

Freeman, who served in the White House Office of Energy and Climate Change from 2009 to 2010, says the Obama administration is focused on the pressing issues of greenhouse-gas mitigation and adaptation to global warming, so geoengineering “has not been at the top of the policy agenda.” She continues, “Sometimes geoengineering pops up [in Washington], but it just hasn’t broken through because it sounds so contingent and risky and unknown, and I think politicians are a little wary of it.” Although she’s noticed increased attention to the topic of geoengineering, “it’s really not part of the mainstream dialogue yet, but it might be before long.”

The dialogue may broaden through efforts undertaken through the Solar Radiation Management Governance Initiative (SRMGI), an NGO-driven project to encourage good governance of

solar geoengineering, convened by the Royal Society, the Environmental Defense Fund, and the Third World Academy of Sciences, the academy of science for the developing world. One way to ensure responsible decisions around geoengineering is to engage more countries in the conversation, including developing nations, says Andy Parker, a research fellow in the science, technology, and policy program at Harvard Kennedy School’s Belfer Center, who has been involved in multiple SRMGI efforts.

Parker helped organize a series of meetings about solar geoengineering in Senegal and South Africa in 2012, and Ethiopia in 2013. Held jointly with the African Academy of Sciences, the meetings were designed to introduce academics, NGO staff, policymakers, and the public to existing scientific and governance questions related to geoengineering, and to encourage critical discussion of these technologies. “It’s extremely important to have a high degree of international cooperation over this research and its governance,” Parker says. “I think this [initiative] gives us a chance of handling this issue responsibly as it develops and becomes more controversial or pressing.”

SRMGI held similar meetings in India, Pakistan, and China in 2011. Its website (www.srmgi.org) states that the organization does not advocate for or against solar geoengineering because “it is impossible to tell at this stage whether the technology will be helpful or harmful.”

havior when it comes to protecting the natural world. It’s convenient for critics to pigeonhole me as a booster and cite some skeptical social scientist on the risks,” he says, but he and fellow researchers in the field “have usually been the first to voice concerns about risk and governance challenges.”

Difficult Conversations

IN 2007, Keith, then at the University of Calgary, and Daniel Schrag—professor of environmental science and engineering, and director of the Harvard Center for the Environment—invited a group of environmental scientists and policymakers to Cambridge for a daylong workshop on geoengineering. The meeting was held off-campus and closed to the public.

Keith and Schrag also invited three science journalists, who were permitted to write about the discussion, but couldn’t quote participants without their consent. Keith believes this is a useful way to run early meetings on new and controversial topics. “People need time to figure out what their opinion is, and to say things that they’re not sure about,” he explains. “If everything’s public, you don’t have the freedom to say ‘Maybe it’s a nutty idea, but maybe we should do X, or maybe we should do Y.’ For a thing like this, if it’s all out in public, you shut people down, and they’re not free to engage in a give-and-take.”

Although this wasn’t the first major meeting about geoengineering, it was among the first to include social scientists and policymakers. “There was an excitement about confronting all these mind-blowing issues,” remembers professor of economics Martin Weitzman, an attendee who believes the meeting changed some minds. He recalls a range of opinions: participants who believed geoengineering technologies should be used as a first line of defense against global warming, others who felt strongly that

scientists shouldn’t even discuss such strategies, and most people “arrayed between those extremes.” Weitzman says the meeting crystallized his sense that initial research should proceed to prepare for emergencies, such as unilateral action by a rogue nation. He calls geoengineering “a scary proposition,” but adds, “It’s better to be informed than to be...caught unaware.”

Keith himself was particularly struck by a point made at that 2007 conference by Eliot University Professor Lawrence Summers, who warned against withholding information about global-warming solutions, or prejudging how the public might react to these ideas. “I don’t think scientists by virtue of being scientists have deeper political insight or more moral weight,” Keith says. “The idea that we as a scientific class should decide what the rest of society is able to handle is really obscene, and I think that Larry was very clear about that.”

But even as Keith considers public participation essential to a geoengineering conversation, he recognizes the need for public education beforehand. That brings the issue of small-scale field-testing into play. Experimentation is necessary to determine whether an aerosol solution is even viable. He’s currently working with Weld professor of atmospheric chemistry James Anderson to develop a test that would send a helium balloon bearing small quantities of sulfur and water into the stratosphere, to monitor how they affect ozone; previous research has shown that sulfur and water vapor react with atmospheric chlorine, changing it to a form that damages ozone. The experiment would likely use just a couple of kilograms of sulfate particles and would have no effect on the climate, Keith says. Its impact “will likely be much less than a single commercial airline flight.”

But the study may be a long time coming, in part because such research is so controversial. Some (please turn to page 75)

JOHN HARVARD'S JOURNAL

COMMENCEMENT 2013



Lows and Highs

THERE WERE frost warnings for northern and western Massachusetts on Memorial Day eve, and snow fell on Mount Greylock. But by Commencement eve, at the honorands' dinner in Annenberg Hall, President Drew Faust hoped, uncharacteristically, for a few clouds to dampen the forecast turn in the weather; she even wondered aloud whether undergraduates would wear clothes under their gowns. Thursday morning, a summer heat wave settled clamorously upon the Commonwealth: umbrellas were wielded to ward off the sun. The symbolism seemed almost *too* broad, in a year when Harvard swung between low points and high.

The Administrative Board probed undergraduate academic misconduct on an unprecedented scale—dozens of students

were sanctioned. Concern about leaks from that inquiry led to investigations of resident deans' e-mail accounts, punctuated on May 28, minutes before the Phi Beta Kappa literary exercises, by the announcement that Harvard College dean Evelyn M. Hammonds was stepping down (see page 52). The campus calendar was battered by Superstorm Sandy, a blizzard, and the manhunt that locked down the metropolis after the Boston Marathon bombing (an act of terror that took the life of a University staff member's daughter—see page 59).

But undergraduate House renewal began. Plans were made, finally, for an academic commitment to Allston (to be the School of Engineering and Applied Sciences' new home). Scores of faculty members engaged in ways to enhance learning and teaching, and dozens in the experimental online-course platform (see pages 48 and 50). The

CLOCKWISE FROM UPPER RIGHT: JIM HARRISON (2); STU ROSNER



Celebrants all. Opposite page (from top): psychology concentrator Jem Marie Lugo '13 of Cabot House; brand-new doctors (from left) Sheena Chew, Sagar Anil Patel, Benedict Uchenna Nwachukwu (also M.B.A. '13), Stephanie Marie Cantú, Emily Morell Balkin, Sidharth Venkata Puram (also Ph.D. '11), Kristine Marie Specht; doctor of education Lynette Nicole Tannis. **This page (clockwise from top left):** Ph.D.s, from left, Jonathan Ruel, Pan-Pan Xueke Jiang, Alison Lynn Hill, and an unknown colleague; seniors Charlotte Annie Lieberman and Zoe Tucker stood out among their more sedate fellows; true-blue Lowellians; and legal scholars Salwa Mohamed Saleh, Flora Maina Amwayi, and Sasha-Anaïs Sharif

men's basketball team won its first NCAA tournament game, defeating New Mexico—and prompting Latin Salutatorian Fanaye Yirga '13 to utter the immortal phrase, “...*il lam unicam cladem gloriosam Novorum Mexicanorum!*” (“... that single glorious defeat of those in New Mexico!”). Stupendous eight- and nine-figure gifts were announced to support some of these priorities, and others like biomedical engineering—a harbinger of more to come as The Harvard Campaign lifts off this fall.

Sober Sentiments

THE FORMALITIES of the 362nd Commencement reflected the temper of the times. President Faust's baccalaureate address, on Tuesday afternoon, made the only official mention of the cheating controversy (the year “began with revelations about breaches of academic trust and raised hard questions

for all of us. What is success? What is integrity? How do we uphold it, in our own lives and as a community?”). But mostly she drew on Boston's heartbreaking reprise of New Yorkers' heroism on 9/11, with first responders dashing to the danger: she talked with the seniors about “lives of *running toward*,” impelled by “something larger than yourselves, lives of engagement and commitment and, yes, risk—risk taken in service to what matters to you most.” (She might also have been channeling Facebook COO Sheryl Sandberg '91, M.B.A. '95, best-selling author of *Lean In*, who keynoted Harvard Business School's half-century celebration of co-educating the M.B.A. program—see page 55.)

The contemporary theme carried over to the morning exercises. Third-generation

Boston police officer Stephen McNulty led the singing of the national anthem. Faust then came forward to ask for a moment of silence for the victims of the Marathon bombing and of the recent Oklahoma tornadoes (cataclysms manmade and natural that prefigured her afternoon remarks on the purposes of research universities; see page 47). The McNulty family's tradition of service mirrors that of Jon Murad '95, the graduate English speaker. The mid-career M.P.A. recipient signs his e-mails, simply, “Detective, NYPD/Harvard Kennedy School '13” (see page 47). New York and Boston, fierce rivals in sports and other realms, are now bretheren among American cities on the receiving end of terrorism.

During the conferral of degrees, Provost

Alan M. Garber made note of three people who have served Harvard: Graduate School of Education dean Kathleen McCartney, appointed president of Smith College; Michael Shinagel, dean of continuing education and University extension, retiring after a record-setting tenure; and the College's Dean Hammonds.

Significant public-sector service was also recognized in the conferring of an honorary degree on Boston's street-savvy mayor, Thomas M. Menino, who is concluding 20 years in office, an era of robust growth in the

local healthcare, high-technology, higher education, innovation-driven economy—all aligned with Harvard's aspirations, particularly on the mayor's side of the Charles River. Cleverly echoing the rallying cry that helped knit Boston together after the bombing, his citation lauded a leader "whose love of his city and passion for its betterment have made and kept Boston strong."

Outside Tercentenary Theatre, and before Commencement proper, most of the week's guest oracles were similarly high-minded and serious. Law School class day speaker

Jeffrey Toobin '82, J.D. '86, legal analyst for *The New Yorker* and CNN, addressed the Supreme Court's changing composition. He noted the retirement of associate justices John Paul Stevens, Sandra Day O'Connor, and David Souter '61, LL.B. '66, LL.D. '10, observing that no one is likely to see "three more different people" than that trio, yet, "all were moderate Republicans who left the Court completely alienated from the modern Republican party." He explained that "the notion of moderate Republicanism has disappeared from the Supreme Court, just

Honoris Causa

Six 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://harvardmagazine.com/honorands-13>.



Donald Roswell Hopkins

Donald Roswell Hopkins, M.P.H. '70. Director of international health programs for The Carter Center, the leader of efforts

to eradicate Guinea worm disease. Doctor of Science: *Vanquishing fiery serpents with missionary zeal, banishing plagues from countless houses, he nimbly wields the rod of Asclepius, with a scientist's skill and a humanitarian's care.*

JoAnne Stubbe. MIT's Novartis professor of chemistry and professor of biology, a pioneer in discovering how enzymes guide DNA replication and repair. Doctor of Science: *Boundlessly curious, relentlessly rigorous, enrapt by the helical strands that encode our existence, a sage of science who elucidates enzymes crucial to the chemistry of life.*

Sir Partha Sarathi Dasgupta. Ramsey professor emeritus of economics,



Elaine Hiesey Pagels

University of Cambridge, a leading thinker at the intersection of econom-

ics, natural resources, population, and social welfare. Doctor of Laws: *An inexhaustibly resourceful economist, dauntless in confronting the largest of questions, he trains his keen eye on the plight of the poorest and insists we value Nature when we gauge the wealth of nations.*

José Antonio Abreu. Founder of El Sistema, the Venezuelan music-education and social-welfare program for hundreds of thousands of disadvantaged youths. Doctor of Music: *Magnanimous maestro of an uplifting movement, orchestrating harmonies that far transcend the stage; in the sublime power of music he finds opportunity's major key.*

Lord Robert McCredie May. Professor, University of Oxford, past president of the Royal Society, national science adviser, and mathematical modeler of ecology and biodiversity. Doctor of Science: *A prodigious polymath and peerless peer whose mind conceives models that sustain life and whose voice resounds in support of enlightened inquiry.*

Elaine Hiesey Pagels, Ph.D. '70. Princeton's Paine Foundation professor of religion, the preeminent interpreter of Gnosticism and of early



José Antonio Abreu

Christianity and its orthodoxies and heresies. Doctor of Laws: *Bold expositor of the Gnostic Gospels, reading ancient scriptures anew, a scholar transcending tradition's constraints to bring forth books of revelation.*

Clemmie Dixon Spangler Jr., M.B.A. '56. North Carolina business and education leader, past president of the Board of Overseers, Business School benefactor and volunteer. Doctor of

Laws: *Exponent of education, executive extraordinaire, a transformative benefactor both gracious and wise, who always does something for others while he has the chance.*

Thomas M. Menino. The longest-serving mayor of Boston, now completing his fifth elected term. Doctor of Laws: *The consummate mayor of the people, for the people, an urban mechanic turned urban legend whose love of his city and passion for its betterment have made and kept Boston strong.*



Thomas M. Menino

Oprah Winfrey. Talk-show host, media entrepreneur, and philanthropist. Doctor of Laws: *Opening books, opening doors, opening minds to life's possibilities, a bountiful altruist and woman of valor whose audiences owe her a spirited standing O.*

as it has from American life.” Toobin’s characterization of today’s court was sobering: a body “that now has five Republicans and four Democrats—and that tells you most of what you need to know.” (Phi Beta Kappa orator Linda Greenhouse ’68, another distinguished Supreme Court reporter, touched on these issues as well; see page 44).

Both the Education School and Kennedy School speakers focused on children and learning. At the former, activist and civil-rights pioneer James Meredith emphasized the role of faith and religion in education, and slightly recast the parable of the Good Samaritan. He said the religious leaders who passed by and did nothing “probably asked the wrong question: ‘What will happen to *me* if I help this child?’ The question *should* be, ‘What will happen to this child if I don’t do my duty?’” Geoffrey Canada, Ed.M. ’75, L.H.D. ’01, president and CEO of the nonprofit Harlem Children’s Zone, urged the government graduates-to-be not only to contribute to the unfinished dream of bettering American society inherited from generations before them, but to remember that they can aspire to a higher calling without “needing to take a vow of poverty.”

“Some of you better go out and make some money!” he urged, to a wave of applause and laughter, as “some folk need to be really rich” in order for others to do good work.

Creativity and the arts also got their due. Graduate School of Design guest Richard Saul Wurman—who went “bankrupt, belly up” as an architect before founding the TED conferences—hailed design as a foundational “way of thinking about the world” because it enables students to make abstract connections, see patterns among diverse disciplines, and use information in novel ways. Acting on that instinct, he suggested that the auditorium be redesigned, shunned the podium, nixed the planned introduction to his remarks, and ordered audience mem-

bers to move closer to the front. “You should assert yourselves in listening,” he said. “Listen to what people say and see if you can make the connective tissue work.” (Wurman might have liked the venue for the Radcliffe Institute’s Friday morning “From Artist to Audience” discussion, on the set of

The Pirates of Penzance, then at the Loeb Drama Center—prompting Institute dean Elizabeth Cohen to call the participating artists “the panelists of Penzance.”)

Hug-Fest

AFTER the acknowledgments of tragedy, aspiration, and achievement, it was left to Commencement day’s final speaker, the nation’s unquestioned queen of talk and listener-in-chief, hono- rand Oprah Winfrey, to bring both high-wattage celebrity and an emollient presence to the occasion. (Such is her fame that she has transcended even the ranks of those accorded first-

name identification; her honorary-degree citation deftly nodded in recognition, ending by saying her “audiences owe her a standing O”).

The morning exercises proceed by a strict script, “The Form of Conferring Degrees,” a document with wonderfully formal instructions (“The Sheriff advances to the front of the platform and strikes it thrice with his staff,” “Here follows the prayer,” and so on).



Fortitude: Officer Stephen McNulty sings “The Star-Spangled Banner.”



As in years past, degree candidates from Harvard Kennedy School celebrated their global ambitions.



Nearing the end of the rainbow: Winthrop House comrades and imminent graduates (from left) Nicholas L. Moore, Andrew K. Cohen, Blaine Bolus, and Yusef Jordan

When summoned by the provost, each dean comes to the front of the platform, doffs her or his cap, and bows to the president, the Fellows of Harvard College, and the president and members of the Board of Overseers, before reporting on and presenting the candidates for their respective degrees—which are then presidentially bestowed, “By virtue of authority delegated to me....”

So it was startling to see many of those grown men and women, resplendent in their academic gowns, practically sprinting from the microphone toward Winfrey for that famous, consoling, inspiring hug. Graduate School of Arts and Sciences, School of Engineering and Applied Sciences, Harvard Medical School—none could resist, each approached with open arms for an embrace. Jules L. Dienstag, the dean for medical education, broke the new tradition by crossing to “shake the hand of our mayor,” Menino (the medical school is located in Boston). He then shook Oprah’s hand. Divinity dean David N. Hempton invoked a higher power to spare her yet *another* hug. After handing over Winfrey’s honorary degree, Secretary of the University Marc Goodheart gave her a hug of his own.

Introducing Winfrey at the lunch for honorands before the afternoon speeches, Harvard Alumni Association executive director John P. Reardon said of the hugathon, “You have brought a sort of informality to our Commencement this morning that I have never seen—and it’s only to the good.” After a year like this, Harvard *needed* some hugs.

They Said...

Taking stock of the talk

SERIOUS RHETORIC prevailed for much of this Commencement, not yet seven weeks past the post-Boston Marathon bombing manhunt that shut the city down. Nonetheless, the addresses varied in tone and texture. Phi Beta Kappa orator Linda Greenhouse put evolving social attitudes into a fine-grained, crimson context. Business School class day speaker Ann Moore glossed changing management mores. Graduate English speaker Jon Murad challenged Harvard perceptions in order to teach about service. President Drew Faust highlighted universities' mission—and threats to it. And in a year when it seemed Harvard needed someone it could *talk* to, Oprah Winfrey had soothing advice. For reports on all the principal addresses, visit harvardmagazine.com/commencement-2013.

Too Long Unacknowledged
Deploying the storytelling skills that earned a Pulitzer Prize for her New York Times Supreme Court reporting, Linda Greenhouse '68, a member of the Board of Overseers, delivered an unusually personal oration. She recalled her service as chief marshal during



Linda Greenhouse

the 1993 Commencement, when the guest speaker, General Colin Powell, symbolized the military's discriminatory policies toward homosexuals—an issue society and the court had yet to resolve:

I started getting calls from classmates after General Powell's selection had been announced. I knew some of these classmates, but not most of them. *I'm gay*, these classmates told me. And they asked: How can I possibly participate in a ceremony honoring someone who embodies a policy that withholds dignity and respect from men and women who want only to serve their country? How can I enjoy my reunion?

Protest seemed likely. At the luncheon she hosted between the morning exercises and Powell's address, I invited one of my very out classmates, who arrived in his top hat and tails, festooned with banners and buttons proclaiming the gay-rights cause and denouncing "don't ask, don't tell." He went

up to Colin Powell, whose uniform was festooned with a general's stars and medals....*"General Powell," my classmate said, "I look forward to the day when this issue no longer divides us."*

...For all my classmate knew, General Powell would spurn him, cut him dead. Instead, the general embraced



Drew Faust

him with both arms, and replied: "So do I, and I hope that day comes sooner rather than later." My classmate was so taken aback and touched by this response that he had tears in his eyes as he recounted it to me. Word of the encounter spread quickly among the gay community as the crowd gathered in Tercentenary Theatre.... The mood had shifted: the anxiety and incipient anger were gone. When General Powell got up to speak, some of my classmates stood in silent, dignified protest. The general acknowledged them graciously. What might have been an experience of pain and isolation became instead one of solidarity and community.

...I saw connections being made among people who, while they had a Harvard degree in common, had been in a basic sense strangers to one another.... Wounds that for too long had gone unacknowledged were at last being recognized and healed.... Harvard,...through an accident of history, had nonetheless managed to bring us together in a way that no one could have scripted and no one would ever forget. We were, as always, but in a new way, in Harvard's debt.

Sobering Up Corporate America

In the Business School's fiftieth-anniversary year of admitting women to the M.B.A. program (see page 55), Ann Moore, M.B.A. '78, former chair and CEO of Time Inc., took this year's graduates back in time: I had two things in my first New York office in corporate finance that you won't find in your offices. First, the absolutely all-essential adding machine.

The second? A fully stocked liquor cabinet.

For those of us who had young children at home, getting blasted at work wasn't on

Commencement Highlights

From Class Day speeches to a run-through of Thursday's events, harvardmagazine.com brings you in-depth 2013 Commencement coverage.



Soledad O'Brien: Don't Take Advice

At Harvard College Class Day, the CNN special correspondent urges the class of 2013 to follow their own paths. With video.

harvardmag.com/classday-13

The Right Way to Honor Veterans

President Faust, in her ROTC address, urges better understanding between civilians and their military.

harvardmag.com/rotc-13



"Pugnacious" Poet and Pulitzer Prize-Winner

August Kleinzahler and Linda Greenhouse spoke at Harvard's Commencement-week Phi Beta Kappa literary exercises.

harvardmag.com/pbk-13

www.harvardmagazine.com/commencement

JIM HARRISON

Commencement Confetti

JIM HARRISON



Carl F. Muller



Stephanie Wilson

THE SOUTH, RISEN. At the Harvard Alumni Association's annual meeting on Commencement afternoon, president Carl F. Muller '73, J.D.-M.B.A. '76, noted a hat-trick unprecedented for Harvard: President Drew Faust is from Virginia, speaker Oprah

Winfrey from Mississippi, and he himself from South Carolina. In heaven above, he said, "Our Puritan fathers are scratching their heads and wondering what is going on." As a proper Southern gentleman, he felt obliged, he said, to refer to the honored guest as "Miss Winfrey." Farther afield, he noted that the chief marshal of the twenty-fifth reunion class, astronaut Stephanie Wilson '88, might open a Harvard Club on the moon. (At lunch, Wilson gave Winfrey a magazine article about the honorand's South African girls' academy that had flown on *Discovery* with her in 2010, for 6.2 million miles: straightened out, enough for several trips to lunar club events.)

Weather Watch

Everybody *talked* about the weather, but....During the Senior Chapel Service on Thursday morning, the Reverend Jonathan L. Walton—concluding his first year as Pusey minister in the Memorial Church and Plummer professor of Christian morals, but already wise to the

ways of fundraising—suggested an air conditioner as an apt naming opportunity. He urged the class of 2013 to

use their privilege and power to "shift the cultural climate. We need you to be thermostats, not thermometers." *The Boston Globe's* live blog showed Oprah Winfrey (gowned, like all the honorands, but more experienced with hot studio lights) mopping her brow at 10:16 A.M. President Drew Faust made the weather a theme of her afternoon address—a segue to research on climate change and energy—and observed that Harvard, which had not closed for meteorological reasons since 1978, did so twice this year. While Cambridge melted, the thirty-fifth re-

union class playfully recalled the great Boston blizzard that closed Harvard (and everything else) during their senior year. South Carolinian Carl Muller came prepared, in a light jacket, for his afternoon speaking duties as president of the HAA.

Deans, Entering and Exiting

"This is more nerve-wracking for me than presenting my own thesis defense," confessed Graduate School of Arts and Sciences (GSAS) dean Xiao-Li Meng, presenting the Ph.D. candidates for the first time—in front of a world media figure, no less. "If I mispronounce anything, all your theses will be wasted and you will not get your degrees." (He didn't.) Harvard's longest-serving dean, the Extension School's Michael Shinagel, who is retiring, introduced himself as "the lame-duck dean" for extension studies.

Guests and Grads

Among those celebrating were Louise Richardson, Ph.D. '89—principal and vice-chancellor of the University of St Andrews, former executive dean of the Radcliffe Insti-

tute—who picked up a GSAS Centennial Medal (see page 66), and her husband, Thomas R. Jevon '75. Their daughter, Fiona Jevon '13, graduated from the College, as had sister Ciara Jevon '11. President emeritus Neil L. Rudenstine and Angelica Rudenstine were part of the extended family attending nephew Jason Wagner, M.B.A. '13, newly "ready to lead people and organizations in enterprises that will serve society."

Early Birds for a Day

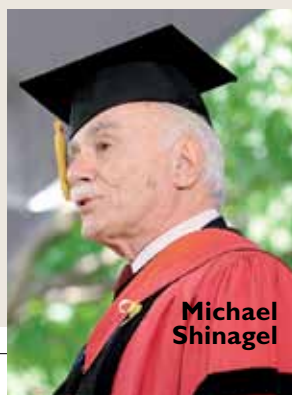
At the Quincy House champagne breakfast on Commencement day, beginning at 6:30 A.M., master Lee Gehrke observed to the seniors as they ate, "I am here for breakfast nearly every morning and I don't think I have ever seen 90 percent of you here at this hour." Offering granola bars and bottled water to go, co-master Deborah Gehrke warned of the rigors ahead: "You won't eat until 1:00" (regular breakfast time, perhaps, for many).

CommencementX

Ever more events are streamed online. Gluttons for graduation oratory with enough screens could have taken in simultaneous live versions of the College's and several professional schools' class days. Priming the pump, the Harvard Alumni Association's associate director, alumni digital engagement, e-mailed graduates to encourage submissions of "gradvice" to 2013 degree recipients (complementing the wisdom they would hear from speakers, live or streamed, presumably) by tweeting to @HarvardAlumni #gradvice to #Harvard13, posting #gradvice on Facebook to the HAA group, and via other channels. Among the pearls shared: "Follow your dreams" and, pertinently, "Be skeptical of crowd-sourced advice."

Crimson Cred

Beyond her crimson dress, Oprah Winfrey established her Harvard smarts early in her talk. Referring to the former Radcliffe, now College, Houses considered less desirable than those closer to the Charles River,



Michael Shinagel

STU ROSNER

she said she hoped to offer inspiration to “anybody who has ever felt inferior or felt disadvantaged, felt screwed by life—this is a speech for the Quad.”

Degrees Data

Harvard conferred a bumper crop of 7,321 degrees and 44 certificates: 1,651 from the College, 950 from the Graduate School of Arts and Sciences, 909 from the Business School, 744 from the Education School, 740 from the Law School, 650 from the Extension School, 564 from the Kennedy School...and on down to 79 from the School of Engineering and Applied Sciences and 73 from the School of Dental Medicine—reversing their order of finish in 2012.

Top Theses

Radcliffe awarded the Captain Jonathan Fay Prize for the most original theses to three College seniors. Mathematics concentrator Ashok Cutkosky wrote about DNA topology. Benjamin Naddaff-Hafrey, a history and literature concentrator, explored the “War of the Worlds” radio broadcast. History concentrator Laura Savarese was recognized for research on slavery in antebellum St. Louis.

Nobelists Need Not Apply?

After the Centennial Medalists luncheon, GSAS dean Xiao-Li Meng, Jones professor of statistics, noted that there is no Nobel Prize for mathematics or for statistics. With so many candidates to choose among for GSAS’s medal, he

AN ORTHOPEDIST IN THE HOUSE?

Honorands Thomas M. Menino, mayor of Boston (recovering from a fractured leg and facing surgery the next day), and Maestro José Antonio Abreu traveled to the Commencement stage by wheelchair, and ascended around the back, avoiding the steps. Rev. Jonathan Walton navigated with a crutch (torn Achilles tendon). They all had a sympathetic helper in the indefatigable Grace Scheibner, Commencement director (recovering from a broken kneecap), who made some use of a golf cart.

joked, the selection committee discussed whether winning a Nobel was a positive factor or a negative one.

Decanal Directive

At the end of the Graduate School of Education’s convocation on Wednesday, Dean Kathleen McCartney prepped her charges for Thursday’s big event. The provost would call her forward, she said, and she would introduce the degree candidates: “I have the honor of presenting to you these women and men who will be leaders in education policy, practice, and research.’ And then *your* job is to be very, very loud!” (“They were wonderful!” she reported after the ceremony.)

Presidential First

Harvard’s 2013 ROTC cohort received copies of *The Yellow Birds*, a novel by Iraq veteran Kevin Powers, from President Drew Faust at their commissioning ceremony. When the students presented their gift to her, she exclaimed, “I’ve never been given an artillery shell before!” The engraved brass casing included the statement, “CONTINUING THE PROUD TRADITION OF HARVARD IN OUR NATION’S SERVICE.”

Reunion Reflections

John Daley ’61, LL.B. ’64, of the Happy Committee, on duty in front of Sever Hall, recalled that Paul Freund, the late Loeb University Professor emeritus, used



Grace Scheibner

JIM HARRISON

to say he liked attending fifth reunions and fiftieth reunions, but skipped the others, because “Up to the fifth, they’re all just friends; after the fiftieth, nobody cares anymore; in between, everyone is on the make.” Proving at least part of Freund’s point: Éva Borsody Das ’63 said her reunion was way more fun and not nearly so much work as climbing Mount Kilimanjaro (accomplished prior to her forty-fifth). “The best thing is, everyone is getting more and more relaxed and fun-loving. Last night, people were doing the twist and rock-’n-roll like a bunch of giddy teenagers—without the angst!”

Timely Academic Publishing

Following a year during which the College has been roiled by the investigation of academic misconduct (see page 52), Harvard University Press will release *Cheating Lessons: Learning from Academic Dishonesty*, by James M. Lang, of Assumption College, late this summer. Nearly three-quarters of college students cheat, the jacket blurb observes—“because their learning environments give them ample incentives to try.” More effective course design and classroom practice can reduce cheating *and* improve learning, Lang finds.

91.5, DEGREED. Accompanied by several family members, and reversing the normal educational sequence, Thomas C. Hall, M.D. ’49, rose from his wheelchair and walked across the Lowell House courtyard to receive his bachelor’s degree—73 years after enrolling in the College class of 1944 (see page 68). His undergraduate studies were interrupted by World War II, when he served a 13-month prison sentence for refusing to register for military service. Paroled, he took more courses, then entered medical school. He completed his biochemistry concentration requirements in 1976, but was four courses shy of a degree. He finished that work by computer and through visits to registrar Michael Burke and Brett Flehinger, lecturer on history. “I don’t like to leave things dangling,” said Hall, giving new meaning to lifelong learning.



Thomas C. Hall '44 ('13)



Ann Moore

ROSS CAMPBELL

our schedule. I think working mothers should take some credit for sobering up Corporate America. The good old days weren't all that great, as I recall them.

A Municipal Cop

After college, Jon Murad '95, M.P.A. '13, became an actor. But "something tugged at me," he wrote in his tenth-anniversary class report—and he joined the New York Police Department, where he learned the virtue of clip-on ties (useful, he told the morning-exercises crowd, "if someone's trying to choke you").

About to earn a midcareer public-administration degree, he put service in the context he had learned during the past 18 years:

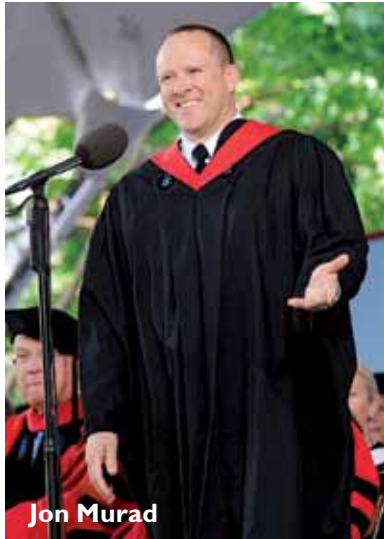
Back then, greatness was the only option, and if you'd told me then that I'd end up a cop in the Bronx, I'd have slooowly backed away. Harvard graduates don't take jobs like that; they become bankers and start-up entrepreneurs....

My hope today, in this time before the diplomas and the family photos and the deserved revels, is to remind us all—to assure us all—that there is as much stature in our being social workers and teachers, soldiers and preachers, nurses and, yes, even cops, as in being presidents and poets laureate.

A lot of you know this already, but I did not, when first I sat out there. And now? I'm probably not the *only* municipal cop in the country with two Harvard degrees, but I'm surely in a tiny cohort, and that's not a boast, it's a lament. If there is something special about this place and the lessons we've learned here, and I think there is, then America—the world—needs people like you in these roles.

"The usual work of this University"

In a year when disasters natural (Superstorm Sandy, a blizzard) and manmade (the Boston Marathon bombing) closed Harvard for the first time in a generation, President Faust devoted her afternoon address to explicating universities' role in society—and a manmade obstacle to their continued success.



Jon Murad

STU ROSNER

Starting with nature, she said:

[T]he weather isn't something that simply happens at Harvard....It is a focus of study and of research, as we work to confront the implications of climate change and help shape national and international responses to its extremes.

Similarly for the Marathon bombings, where she cited the work of University security officers; personnel from the affiliated hospitals who treated the wounded (all survived); researchers seeking to improve trauma care; and scholarship on emergency leadership, humanistic and behavioral aspects of terrorism; and more. Summing up, she said:

Three unusual days, making for an unusual year. Yet these three unusual days illuminate

and underscore the usual work of this University: calling on knowledge and research to address fundamental challenges and dilemmas with resources drawn from the widest scope of human inquiry—from the insights of natural and social sciences to the reflections on meaning and values at the heart of the humanities. Universities urge us towards a better future and equip us as individuals and as

societies to get there.

Yet this work cannot be taken for granted, she said, given new challenges to the "fundamental assumptions undergirding American higher education and the foundations of our nation's research enterprise." Faust reviewed the university-

public research partnership during the past half-century, now at risk from "the erosion of federal support for research—a situation made acute by the sequester."

The world and the nation need the kind of research that Harvard and other American research universities undertake. We need the knowledge and understanding that research generates—knowledge about climate change, or crisis management, or melanoma, or effective mental health interventions in schools, or hormones that might treat diabetes, or any of a host of other worthy projects our faculty are currently pursuing. We need the support and encouragement for the students who will create our scientific future. We need the economic vitality—the jobs and companies—that these ideas and discoveries produce. We need the nation to resist imposing a self-inflicted wound on its intellectual and human capital. We need a nation that believes in, and invests in, its universities because we represent an investment in the ideas and the people that will build and will be the future.

...Even in a year when sometimes the world felt too much with us, we have never lost sight of how much what we do here has to do with the world. And for the world. To sequester the search for knowledge, to sequester discovery, to sequester the unrelenting drive of our students and faculty to envision and pursue this endless frontier... puts at risk the capacity and promise of universities to fulfill our commitment to the public good, our commitment to our children and grandchildren and to the future we will leave them.

TALK THERAPY

A year ago, Oprah Winfrey said, when her new network seemed a flop, Harvard came calling. She repaired to the shower ("It was either that or a bag of Oreos") and emerged determined to turn her business around before her Commencement address. "There is no such thing as failure," she said. "Failure is just life trying to move us in another direction"—so graduates must consult their "internal moral, emotional GPS." Success and happiness would follow, as it had for her, if the graduates "fulfill the highest, most truthful expression of yourself as a human being. You want to max out your humanity," she urged—and then concluded, like her interview subjects anxious to be validated, "Was that okay?"

Oprah Winfrey



JIM HARRISON



PICTURESQUE PLAZA. Harvard Law School's Wasserstein Caspersen Clinical center is pedestrian-friendly along Massachusetts Avenue, with varied landscaping and views into classrooms. To the rear, a second-floor landscaped courtyard and green roof create an elevated quad: an oasis for conversation or lunch, for students to indulge in sun-and-study biathlons, and for small functions. The green spaces also helped the building secure a LEED Gold certification for energy and environmental design.

Talking about Teaching

EVER SINCE the Harvard Initiative for Learning and Teaching (HILT) was launched in late 2011, it has catalyzed conversation on cognition and learning, course design, classroom spaces, educational technology, and assessment through a series of innovation grants to faculty members and an annual symposium. Its second symposium, on May 8—attended by several deans among the audience of hundreds—suggested the variety and reach of educational experiments under way in every Harvard school. The edX online venture, formed in May 2012, has ridden a national wave of interest in massive open online courses (MOOCs), but HILT, operating less visibly, likely engages more

faculty members and students in enhancing on-campus education.

HILT director Erin Driver-Linn, the associate provost for institutional research, introduced the conference theme: what are the essentials of good teaching and learning at a time of disruption and innovation for universities? Innovation may seem risky and time-consuming, but “Education with inert ideas,” she said (citing Alfred North Whitehead’s 1916 essay, “The Aims of Education”), “is not only useless: it is, above all things, harmful.”

Driver-Linn discerned “a spirit of innovation” at Harvard, ranging from edX to new curricular and course offerings, and in the 50 or so HILT-supported faculty experiments. The aim was “innovation informed by evaluation and grounded in practice”—and shaped by a commitment to analytical assessment and by the institution’s educational culture.

Provost Alan Garber, alluding to “a time of turmoil and uncertainty in higher education,” with threats to federal research funding, tuition, and other revenues, said universities had to take control of their own destinies by posing questions to

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themselves. HILT had enabled Harvard to “think in new ways about how we teach and how we learn,” and the faculty had demonstrated its readiness not only to “ask hard questions but to experiment.” As the HarvardX leader, Garber underscored that online innovations were *not* a diversion from classroom education (like his own freshman seminar). “The future is not really about *online* education,” he said. “It is about *rethinking* education” to improve learning outcomes.

• *The Science of Learning.* The three psychologists on the symposium’s first panel addressed cognition and learning, emphasizing the importance of *practice and cumulative engagement* with a subject in order to master it, and of *perspective* on the part of teachers who need to know what their students *don’t* know in order to help them learn.

Daniel T. Willingham, Ph.D. ’90, professor of psychology at the University of Virginia, explained that critical thinking—the desired outcome of so much learning and education—“is hard, it’s taxing...It’s not obvious that it’s going to pay off.” The best way to inculcate such thinking, he said, is lots of practice, which makes this a “curricular issue”: looking beyond one course to the deep problems in a discipline, and devising a *curriculum* that cumulatively teaches students how to approach such problems.

Katherine Rawson, associate professor of psychology at Kent State University, who studies strategies that promote durable learning, noted that as students progress through their education, they are asked to learn ever more content, and to learn more outside the classroom—but receive less guidance about *how* to learn. Common study techniques (rereading or highlighting texts) are the *least* effective, she said. The *most* effective ones—self-administered testing (for example, she joked, via the “f” word—flash cards) and other forms of practice—are used least. She detailed the efficacy of “successive relearning” of foundational knowledge: drilling oneself on new foreign-language vocabulary, for instance. Teachers have to help students use such techniques, she said; she provides course study-guides.

Pierce professor of psychology Daniel Gilbert underscored part of Rawson’s message from a different angle. His two-year-old granddaughter, he noted, “hid” by covering her own eyes, assuming that if she

could not see, she could not be seen. Piaget, he said, observed, “Children think everybody thinks like them,” and learn, over time, that this is not so. Yet experiments have shown that knowing the outcome of a problem or test—as teachers do—*changes* one’s prediction of how others will behave or answer: a serious matter for instructors trying to gauge what their students know or can grasp. Skillful teachers have to take this human tendency into account.

• *The Art of Teaching.* On the second panel, Jennifer L. Roberts, professor of history of art and architecture, made the case for *decelerating* education by reintroducing Internet-era undergraduates to the virtues of deep patience and close attention. She requires her students to prepare for an intense research paper on a single work of art by examining the object closely for three hours. Students emerge “astonished by what they have been able to see.” Vision—seeing—has come to mean instantaneous apprehension, she said, but “There are details, relationships, and orders that take time to see.” For Roberts, these were some of the fruits of “teaching strategic patience”—of giving students permission to slow down and exercise their unknown faculties.

Psychometrician Andrew Ho, assistant professor of education and research director of HarvardX, then made the case for assessment in support of the art of teaching. Given rising criticism of tuition costs and demands for more value from education, he said, such testing was good offense.

The third speaker, Jonathan L. Walton—Plummer professor of Christian morals, Pusey minister in the Memorial Church, and professor of religion and society—delivered a stem-winding sermon on the importance of passion, not just expertise, for teaching. He told how his parents prepared for a fish dinner: his mother drove to the local Winn Dixie supermarket—but his father phoned a buddy, readied his tackle, drove to Florida, chartered a boat, and, as often as not, after failing to hook anything, swung by the supermarket on the way home. His mother was expert, but his father was passionate—and Walton, saying he learned far more his dad’s way, concluded, “Let’s go fishing.”

• *Innovation, Adaptation, Preservation.* The day’s final panel turned to the vexing issue of effecting change. UPS Foundation professor of service management Frances X. Frei said the human drive to perform to

high standards collides with deep devotion to others (children, students), making it difficult to achieve desired levels of excellence. She also explained that Harvard Business School has found that its case method of teaching—*talking* about what to do—no longer suits all the challenges its students will meet; thus, the new field-immersion course for first-year M.B.A. students is focused on learning by *doing*. Frei said the innovation worked because it was designed to complement and reinforce the case curriculum.

Harvard School of Public Health dean Julio Frenk, surveying his faculty’s centennial-year revision of its curriculum, said instruction was being designed around competency-based learning, with modular, experiential units accommodating students at various points in their professional lives. The mix of online and face-to-face instruction would vary with the purpose: greater reliance on the former for “informative,” expertise-oriented learning, and progressively more personal instruction for “formative” (values and professional) and “transformative” (leadership) courses. Among institutional hindrances to change, he listed a cultural factor: how to shift from the term “teaching *load*” to one that gives teaching a value equal to research.

The final speaker, Nan Keohane—president emerita of Wellesley and Duke, Harvard Corporation member, and Rockefeller Distinguished Visiting Professor at Princeton’s Woodrow Wilson School—briskly listed attributes of higher education worth defending in the online era. She said it would be “desirable” to preserve institutional loyalty (of faculty, students, staff, and alumni); the traditional undergraduate rite of passage to adulthood; shared extracurricular activities not available online; and the beautiful campuses and treasures in libraries and museums that many institutions possess. Among the “essential” attributes to retain if higher education is to serve the future, Keohane identified: accessibility for all who are ambitious, curious, and prepared; the canon of human achievements in every field; works that are not classics—tax records, deeds, letters—but needed to understand human history; “the marvelous symbiosis between teaching and research, for both teachers and students”; and “the community of teachers and learners.”

• *The Way Forward.* After an “innovation fair” exhibiting nearly four dozen HILT-

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



Bill Jaeger

Bill Jaeger never meant to become a union organizer: when he arrived at Harvard in 1984, shortly after graduating from Yale with a degree in Russian studies, he planned to work at the Russian Research Center and then go to graduate school. But with workers in his office and across Harvard unionizing, he was drawn in. “I saw some really thoughtful, really impressive people throwing themselves into that,” he says. Jaeger grew up outside St. Louis, where his father was an accountant for McDonnell Douglas. After high school, looking for more diverse geography, he headed to Yale, where he met his wife, Susan Mintz, while singing in the glee club. They now live in Arlington, where he enjoys watching European professional soccer with their two sons and plays recreationally with an over-50 club called the Arlington Pond Dawgz. At Harvard, he gave up on a master’s degree after a semester and joined the unionizing effort full time in 1986. As director, he now represents the Harvard Union of Clerical and Technical Workers’ 4,600 members in negotiations with the University—which can involve as many as 60 to 70 formal meetings a year. This past March, nine months after their contract expired, HUCTW and Harvard settled on a new three-year agreement. Jaeger, a careful, measured speaker, says HUCTW makes use of what is known formally as an “interest-based approach,” and the union has never gone on strike. Even so, settling the contract, and pushing forward on talks about health insurance, have made for a “really tough year.” But it was because the agreement was slow to arrive that more of the Harvard community was able to join in a discussion about labor. “That wouldn’t have happened,” he says, “if this had been a quiet, quick, smooth negotiation.”

funded educational experiments, President Drew Faust celebrated the campus conversations about teaching during the past 18 months and cited the importance of conducting such experiments with an eye toward both future extension and assessment of their effectiveness. She also unveiled a second round of HILT grants, including much larger “Cultivation Grants”—from \$100,000 to \$200,000 apiece, with up to five conferred annually—in an effort to scale innovations up at the level of departments, larger organizations, or whole schools. Assuming HILT’s efforts to seed and support educational innovation flourish, Driver-Linn will need to find a bigger venue next year.

For a more detailed report, see <http://harvardmag.com/hilt-13>.

Online Overdrive

THE FRANTIC pace of expansion and experimentation in online education—spurring HarvardX and its edX partnership with MIT, and its principal for-profit competitors Coursera and Udacity—has if anything sped up in recent weeks. Herewith a snapshot of new alliances; intriguing new applications for massive open online courses (MOOCs); some emerging criticisms and counterreactions; and future course offerings.

• *Global reach.* On May 21, edX announced 15 new partners, bringing the total to 27. They include Cornell; a second liberal-arts college, Davidson; and, of particular importance, 10 international institutions, among them Peking and Tsinghua universities, in Beijing, the leading schools in China; Kyoto University (Japan); Seoul National University (South Korea); and two Hong Kong affiliates. Rival Coursera now lists 81 affiliates around the world, including several museums; Yale became a partner in mid May, having acted on a faculty committee’s recommendation to create an academic director of online education and a standing committee to advise its provost. Yale intends to offer four general-interest Coursera courses in the coming academic year, and will separately pursue its for-credit online language courses with Cornell and Columbia.

• *New audiences and approaches.* Beyond these institutional and geographic expansions, MOOC providers have introduced new teaching applications. First, Coursera rolled out free professional-development courses

es for elementary- and secondary-school teachers, on subjects from classroom skills to early-childhood development. Participating institutions include the University of Washington; the University of Virginia; Johns Hopkins; the American Museum of Natural History; the Museum of Modern Art; and others. Can courses for K-12 students be far behind? The potential market, and demand among hard-pressed school districts, would seem enormous.

Then, in mid May, Udacity and Georgia Institute of Technology announced an online master's degree in computer science, aiming to serve 10,000 students during the next three years (300 are enrolled on campus). The degree would cost \$7,000—a fraction of the annual tuition for residential students—in part reflecting a \$2-million sponsorship from AT&T, and Georgia Tech's need to hire only a handful of instructors to support the new online learners; Udacity will provide staff “mentors” to handle student questions.

And at month's end, Coursera unveiled a partnership with 10 large public university systems—including those of Colorado, Georgia, Kentucky, and New York—to create systemwide, for-credit online and “blended” classes. Coursera would reportedly charge from \$8 to \$60 per student, depending on the origins of the course content and its application. Both the State University of New York and the University of Georgia are focusing on tens of thousands of students who are not now served in their systems—a potentially huge boost for enrollment and degree completion. Former Princeton president William G. Bowen, who has written extensively about online education (and addressed the subject at a Harvard-MIT conference in early March), told *The New York Times*, “We have encouraged Coursera to work with the large state university systems...because that's where the numbers are, and that's where there are the biggest issues in terms of cost, completion, and access. It's still exploratory, but this partnership has the potential to make real headway in dealing with those issues.”

• *Critiques.* MOOCs are not for everyone, nor are they cost-free. In April, the faculty of Amherst—then being wooed by edX—voted against joining. Professors expressed concern about seeming to move away from the college's strong focus on residential, colloquy-based instruction. A few days later, Duke's Arts & Sciences Council vot-

ed against letting undergraduates at that university receive credit for online courses through the nascent 2U consortium. On April 29, philosophy professors at San Jose State University, which is experimenting with online courses and “flipped” classrooms (students view lectures and then meet in class to work through challenging content) wrote an open letter to Bass professor of government Michael J. Sandel, expressing concern that the HarvardX version of his popular “Justice” course could have the effect of wiping out indigenous faculties' teaching at less wealthy institutions like their own—a specific illustration of the economics of online teaching suggested by Georgia Tech's master's-degree experiment. The letter ignited a firestorm of comment in the academic press, focusing fears about the changes that online pedagogy might entail. And on May 8, American University's provost, Scott A. Bass, declared a moratorium on MOOCs while that school elaborates policies on their costs and benefits; release time for faculty who develop a course disseminated for free; academic oversight of MOOC courses; and other issues.

Members of Harvard's Faculty of Arts and Sciences touched on some of these concerns in their May 7 meeting (see “Governance at Issue,” below). On May 23, a letter signed by 58 FAS faculty members (among them three University Professors and four former high-ranking FAS deans) to Dean Michael D. Smith asserted, “It is our responsibility to ensure that HarvardX is consistent with our commitment to our students on campus, and with our ac-

ademic mission.” The letter, which was apparently meant to be confidential but leaked, went on to ask Smith to “appoint a committee of FAS ladder faculty to draft a set of ethical and educational principles that will govern FAS involvement in HarvardX,” to be voted on in the coming academic year.

Smith responded with a statement supporting “free inquiry and spirited debate” on these matters, while emphasizing his commitment to ensuring that all faculty members have the academic freedom to structure courses and pedagogy as they see fit, with institutional support as required. HarvardX, he wrote, “consists of the faculty members—from FAS and across the University—who have chosen to undertake these innovative efforts.” He indicated his comfort with the existing HarvardX committees, on which FAS is represented. What FAS decides on matters such as compensation for participating professors' time, granting credit for online courses, and so on, remains to be seen.

• *Forthcoming courses.* In the meantime, the roster of those courses continues to expand. The June HarvardX e-newsletter outlines new courses and “modules” (units shorter than a semester-length course), in fields ranging from public health (the fundamentals of conducting clinical trials) and poetry (modules on early New England and Walt Whitman) to modern Chinese history, education, religion (“The Letters of the Apostle Paul”), and cellular biology.

For continuing coverage, visit <http://harvardmag.com/topic/online-education>.

Governance at Issue

THE FACULTY of Arts and Sciences (FAS) devoted most of its last regular meeting of the academic year, on May 7, to an unusual, wide-ranging discussion of FAS and University governance.

The formal agenda item was introduced blandly: “On behalf of the Faculty Council, Professor Maya Jasanoff will lead a discussion on consultation, communication, and governance.” But its origins—from the faculty's elected council representatives, rather than from a substantive committee—suggested this was not routine business, a point

emphasized by a background memorandum from Jasanoff (a council member and vice-chair of the docket committee). That noted that “existing forums do not provide sufficient opportunity to discuss or respond to issues bearing on the FAS that originate outside or extend beyond it (such as HarvardX, the library, and the development of Allston).”

At the tense faculty meeting of April 2 (at which additional investigations of resident deans' e-mail accounts were disclosed, during a review of student cheating on a spring 2012 final exam—see “E-mail Imbroglia,” May-June, page 46), Jasanoff, a professor of history, had sug-



ROSE LINCOLN/HARVARD NEWS OFFICE

Maya Jasanoff

gested that communication within FAS fell short, and that many colleagues did not feel comfortable expressing themselves in such formal settings. Introducing the May 7 conversation, she said the “shared sense” that communication needed improvement arose both from faculty members’ crowded schedules and e-mail in-boxes and from “significant changes in higher education, the nation, the world, and Harvard.” The latter included some items from her memo: decisions about HarvardX and the online education partnership with MIT, edX; the prospective move of the School of Engineering and Applied Sciences (SEAS) to Allston; and the forthcoming capital campaign.

As background:

- Faculty members uncertain about HarvardX and edX (the development and deployment of “massive open online courses,” MOOCs, that disseminate classes worldwide electronically)—and their costs and implications for teaching and such matters

as who controls credit for online education—have raised concerns in prior faculty meetings (see “Online Education Accelerates,” March-April, page 50 and <http://harvardmag.com/edx-growth>, and this issue, “Online Overdrive,” page 50.)

- At the February 5 faculty meeting where President Drew Faust and Provost Alan Garber outlined the relocation of SEAS to Allston, several SEAS area deans rose to object that the decision was presented on short notice, and to express their then-unaddressed reservations about the prospective move (see <http://harvardmag.com/seas-13>).

- Although a large University capital campaign is under way (see “Campaign Chatter,” May-June, page 50), many—perhaps most—FAS members seem to have little sense of its aims and impact on research and teaching, beyond the known goals of funding financial aid and renovating the undergraduate Houses.

- Other recent issues disquieting faculty



Evelynn Hammonds

SCOTT EISEN/HARVARD NEWS OFFICE

members include the centralization of library services, under the provost’s direction; the provost’s spring 2012 announcement that financial-planning services for professors were being discontinued (see “Faculty Finance Frustrations,” July-August 2012, page 48); and throughout this academic year, the investigation of undergraduate academic misconduct, and the administrative probing of resident deans’ e-mail accounts, with the initial approval of FAS dean Michael D. Smith and University general counsel Robert Iuliano—and, subsequently, by Harvard College dean Evelyn M. Hammonds, without Smith’s knowledge or consent (see “E-mail Update,” below). The announcement on the Tuesday of Commencement week that Hammonds would step down at year end proved a kind of punctuation mark for this controversy.

Longer-serving faculty members remember the trauma—focused on discussions within FAS—that surrounded the administration of Lawrence H. Summers, his abrupt dismissal of an FAS dean, and the early end of his own presidency, in 2006. That was followed by the financial

E-mail Update

During the April 2 disclosure that the e-mail accounts of a resident dean were investigated multiple times in connection with an Administrative Board review of students’ academic misconduct (see “E-mail Imbroglia,” May-June, page 46), President Drew Faust told the Faculty of Arts and Sciences (FAS) that the University appeared to have “highly inadequate” policies and processes in place for treating electronic communications properly.

She therefore retained attorney Michael B. Keating, LL.B. ’65, to review the facts and report on whether the situation is fully understood; *The Harvard Crimson* subsequently disclosed that his report will be delivered to a committee comprising Faust and Corporation members Lawrence S. Bacow, William F. Lee, and Theodore V. Wells Jr. According to a statement issued by Lee:

In addition to discussing his findings with the Corporation committee, [Mr. Keating] will prepare a written report, with appropriate regard for confidentiality, that will be shared with the Harvard community. He aims to finish his work by June 30.

Separately, Faust set up a University task force to establish policies and guidelines on e-mail privacy, chaired by Green professor of public law David J. Barron. That group began meeting on May 6; it expects to make recommendations for Corporation action by the end of the coming fall term. It operates under this charter from Faust:

The task force will consider and recommend appropriate

policies regarding access to, and confidentiality of, electronic communications that rely on university information systems. It will consult with faculty, staff, and students in order to obtain a full understanding of the perspectives of each group.

In undertaking its work, the task force will inform itself about policies now in place at Harvard and other relevant institutions and solicit perspectives and advice on best practices.

The task force will consider whether and to what extent Harvard’s policies should be University-wide or specific to certain parts of the University or particular institutional roles and responsibilities.

The task force will be expected to focus on recommending policies for the future that are both principled and practicable and that account for the reasonable expectations of individuals, the legitimate interests of the University, and associated issues of notice and process....

Barron’s task force includes administrative, associate, and executive deans from the schools of divinity, public health, and medicine, and a dozen professors from diverse faculties (the complete list appears at <http://harvardmag.com/privacy-13>). It will be supported by vice presidents Marilyn Hausmann (human resources), Robert Iuliano (University general counsel), Anne Margulies (chief information officer), and Leah Rosovsky (strategy and programs).

crisis of 2008-2009—especially stressful for a faculty that had become particularly reliant upon the endowment for operating revenue. The University and FAS have come quite a distance since then, but many professors retain personal recollections of those governance and financial crises.

Although the May 7 discussion framed these mostly substantive differences in terms of communications processes and procedures, faculty comments illuminated some of the deeper concerns.

Francke professor of German art and culture Jeffrey F. Hamburger, a Faculty Council member, urged reaching out to the faculty majority who skip faculty meetings, either from genuine cynicism or mere expediency.

Professor of history Alison Frank Johnson—newly elected to the council—said colleagues, and she herself, believed “a proliferation of administrators who are not faculty members,” with new duties and responsibilities, had produced a “sense of alienation” and a “more corporate feeling” about faculty affairs “that not all of us fully understand.” Consultation is different from governance, she noted; people could be asked to share ideas, only to see them ignored as impractical or inconsistent with other aims. Professor of philosophy Edward J. Hall said colleagues he had spoken to were invited to meetings about online program implementation, but not to consult on whether the overall idea or educational direction made sense.

Saltonstall professor of history Charles Maier observed that governance involved talking together to contribute to government within the University. The sense had arisen, he said, that policies now *originate* within the administration. He cited the announcement of SEAS’s move; decisions about resources; the “debates and disquiet” about HarvardX (where it appeared there was a rush to board the “fast train at the station” without being sure of the destination); and the University’s internationalization via structures that might better serve the needs of professional-school faculties than those of FAS. As a result, he said, “We don’t quite know how to have an input.”

Other speakers’ specific suggestions for rethinking the Faculty Council or revisiting its originating legislation, and for enhancing digital communications,

Yesterday’s News

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

1913 Construction is underway on the new Larz Anderson Bridge, connecting Cambridge and Boston, with completion expected before the Yale Game.

1943 Widener Library receives 11,000 books, pamphlets, and periodicals belonging to Theodore Roosevelt, A.B. 1880, LL.D. 1902, including 150 personal scrapbooks and manuscripts, and microfilm copies of thousands of his letters.

1953 Asked to comment on fellow Appleton, Wisconsin, resident Nathan Marsh Pusey ’28, Ph.D. ’37, Senator Joseph P. McCarthy describes Harvard’s president-elect as a “rabid anti anti-Communist” and is promptly chastised by most of the national press.

Student housing remains a problem. Only 10 percent of incoming freshmen are commuters, compared with 25 percent in the 1920s and 15 percent in recent years.

1963 The College Pump reports that “at the exact moment the representative of the Twenty-Fifth Reunion Class presented the imposing Class gift of over a million dollars to President Pusey, a dramatic lighting bolt flashed across the western sky.”

1973 President Derek C. Bok’s name appears on the list of “political enemies” of the Nixon administration submitted to the Senate Watergate committee by John Dean. Possible explanations include Bok’s opposition to the nomination of Judge G. Harrold Carswell to the Supreme Court, and his Washington trip to protest the invasion of Cambodia.

The Department of Health, Education, and Welfare’s Boston office criticizes the University’s affirmative-action plan, specifically the dearth of “a department-by-department breakdown of goals and timetables for the hiring of minorities and women in the Faculty of Arts and Sciences.”

1988 Harvard announces plans to replace the 48-year-old Colonial-style Gulf station at the intersection of Mass. Ave. and Harvard Street with a “moderately priced” 150 to 200-room inn.

1993 Noting that in the past academic year, 64 percent of freshmen had Unix e-mail accounts, but only 42 percent of seniors did, the editors explain, “Computer technology at Harvard is advancing...[so rapidly] that seniors are substantially less computer literate than Yardlings.”



Illustration by Mark Steele

provided grist for future meetings.

The last speaker, Rakesh Khurana, Bower professor of leadership development at the Business School (but, as master of Cabot House, a member of FAS), a scholar of organizational culture, returned to Jasanoff's introductory presentation. The issue for FAS was "How do we create an engaged community" that feels genuinely consulted? An uncertain era for higher education made such engagement more important than ever before. The faculty needed to "create a psychologically safe environment," Khurana said, where silence was not interpreted as agreement, where there was no pressure to create unanimity, and where people were not judged for raising ideas before they were fully formed. He suggested creating discus-

sions to raise questions—and encouraging participants to do so—while deferring the presentation of solutions; and soliciting written feedback afterwards.

These may seem soft solutions to hard problems. Experiments like HarvardX and edX involve matters essential to professors' concerns, such as how they teach, at a time when everything about teaching is under question. A single MOOC—with videographers, computer programmers, and support services—may involve an investment of \$250,000—and a much more centralized approach toward "producing" a course. And further centralization has occurred. The University libraries in effect are now led by professional managers, not by faculty members. The 2008-2009 financial cri-

sis resulted in budget cuts and even more centralization of financial management to produce better controls. Funds from some faculty research centers continue to be tapped to shore up FAS's budget—a source of continued unhappiness.

Such factors have reshaped the context for faculty-administration relationships today, bringing discussion of governance to the fore within FAS once again. Khurana's remarks elicited applause, suggesting the faculty members' hunger for solutions to their current disquiet, and their enthusiasm for context-changing suggestions from someone they view as a colleague.

For a fuller account, see <http://harvardmag.com/governance-13>.

Systematic Drug Discovery

MIDWAY through clinical trials for the experimental melanoma treatment PLX4032, researchers were convinced they had a miracle drug. Patients on PLX4032 had shown significant tumor shrinkage within weeks of beginning treatment, a radical change from the effective death sentence that is metastatic melanoma. And this was no ordinary treatment. PLX4032 was among the first apparent successes in the field of targeted therapy. The drug was directed to a specific, cancer-causing mutation present in more than half of all melanomas, and its success seemed to herald a new age of personalized medicine.

What followed was heartbreaking. The drug's early successes were followed by the sudden emergence of resistant tumors. One after another, patients relapsed. The drug that seemed to snatch them from the jaws of death wound up delaying disease progression by only an estimated six months. PLX4032 eventually received federal approval as the drug Vemurafenib, but its results fell far short of its initial promise.

"We need to reexamine the fundamental science behind drug therapy," says Peter Sorger, Kraymer professor of systems pharmacology at Harvard Medical School (HMS) and head of the new Harvard Program in Therapeutic Science. The pathway to federal approval is littered with failed drugs, representing many years of labor and millions of dollars of investments; indeed, an estimated 70 percent to 75 percent of a successful drug's price reflects the cost of earlier losses during development. Even as science crafts increasingly sophisticated techniques for understanding chemical action at the level of molecules, the number of drugs approved by the Food and Drug Administration

(FDA) has declined from approximately 100 to about 30 per year in recent decades.

To tackle this stark reality, the new HMS program aims to use multidisciplinary approaches from systems biology (a new discipline that uses quantitative and computational methods to study emergent behaviors of biological components; see "Seeing Biological Systems Whole," March-April 2005, page 67) to create a more rational basis for drug development. "We don't know why most drugs work," Sorger says. As the case of PLX4032 shows, drugs often have unpredictable side effects and remarkable variation in efficacy from one patient to another. Sorger,

who has co-founded two companies himself, Merimack Pharmaceuticals and Glencoe Software, sees research potential in the problems that plague pharmaceutical companies, regulators, and clinicians. "If you were to work closely with a pharmaceutical company," he says, "you'd continuously find these fantastically interesting biological questions spinning out. These questions are usually shelved in industry because timelines are tight, but they come back to haunt you over and over again."



Peter Sorger

Photograph by Channing Johnson/Harvard Medical School

“The Girls of HBS”

Harvard Business School (HBS) commemorated the entry of women into its M.B.A. program, half a century ago, with the W50 Summit in early April—complete with a survey of alumnae and the announcement of a new senior associate deanship for culture and community (see <http://harvardmag.com/hbs-13> for a full report). A related exhibit, *Building the Foundation: Business Education for Women at Harvard University*, at Baker Library|Bloomberg Center through September 22, documents that progress from Radcliffe College's one-year certificate program in 1937 to the residential integration of women at HBS in 1970.

A two-page, typewritten memorandum in the exhibit, to “The Women of the Class of 1971” on the subject of “Life at H.B.S.,” composed by Robin Wigger, Class of 1970, gives a vivid sense of the world then, for women and men alike.

Written “in an attempt to answer some of the questions which I had last summer before beginning the MBA Program,” it starts with the “vital” suggestion that “every woman have a fairly definite reply to the question: ‘What’s a nice girl like you doing in business school?’” Wigger explained the context:

I do not wish to imply that you will be regarded as some sort of freak, for many times...this question is intended as a compliment. But I would like to warn you that the question will be a constant one, and it does help if you have a ready answer. Some of the first-year men appeared to assume that most of the single girls at HBS were there with the sole intent of finding rich husbands. Others really could not understand why any woman would want to learn about business and/or management.

From there, Wigger offered practical advice on “exactly what women were expected to wear to class.” Most of her peers, she noted, chose “clothes appropriate to the suits and ties of the male students. We wore dresses or suits with low heels and hose.” One consequence: “[I]f you just graduated from an all-women’s college, you may find the switch in dress to be a bit of a shock to your clothes budget (especially the cost of nylons).”

After advising matriculating women to relax and be confident that they could adjust to the workload, to “classes in which there is a strong emphasis on discussion,” and to “the frightening possibility of being called on to start a class,” Wigger revealed her pioneering spirit. She and three other first-year women had participated in an “Experimental Residence Project” during the second half of the year, “to determine the adequacy of the facilities for women and also to discover whether there were any major problems for women living in the men’s dorms.” All four,



One among many: Harvard Business School pioneer Robin Wigger, suitably attired, in class among fellow M.B.A. students, circa 1970

she wrote, “deemed the experiment a great success and have chosen to live on campus again,” in part to belong to study groups, use the library, and meet people. None suffered the imagined problem of “a possible loss of our (feminine) identity.” The accommodations were far better than those of Radcliffe Graduate Center—although women who chose campus living must “provide your own iron and ironing board.”

(A *Harvard Crimson* report of March 11, 1969, on “the only coed living plan at present in the University,” quoted Colleen Burke, who petitioned with Wigger to live on campus, to the effect that the HBS administration had been “flexible and progressive despite its conservative image.” They and “two other girls” drawn by lot, Peggy Jones and Dana Holzinger, inhabited McCulloch C-13 and -14, previously a lounge for female students. Wigger reported that “now guys can understand more why we’re here. A lot of guys have found out that girls are absolutely normal.” Men had apparently overcome initial misgivings, including, Burke said, complaints about “perfume wafting up the corridors.”)

Wigger concluded, “I would not be providing you with an accurate picture if I stated that being a woman at HBS involves no additional problems or adjustments than those faced by the male students. However, the difficulties are not insurmountable and the personal experience and education” well worth it. Apparently so: she went on to be general manager, distribution and marketing, of IBM and, subsequently, a corporate director.

The exhibition materials come from the Baker Library Historical Collections and the Schlesinger Library on the History of Women in America (at the Radcliffe Institute). The website for the exhibition, with links to oral histories and research materials, is www.library.hbs.edu/hc/wbe/exhibit_introduction.html.

Underlying the new initiative is the belief that drug discovery has been too focused on a reductionist approach. Historically, pharmacology has been focused on the idea of a magic bullet—a single drug for a single disease process, says Joseph Loscalzo, Hershey professor of the theory and practice of physic at HMS and

chair of the department of medicine and physician-in-chief at Brigham and Women’s Hospital (BWH), who is involved with the therapeutics initiative. Typical drug-discovery methods begin with high-throughput screens that identify single molecules that interact with a particular target—a protein or signal receptor that is

known to go awry in disease. Increasingly sophisticated technologies can provide a detailed understanding of how the drug and its target interact at different dosage levels across time and cellular space, but Sorger nevertheless views this knowledge as insufficient. PLX4032, for instance, was derived from this highly targeted ap-

proach—a single drug for a single cancer with a single mutation—but the cancer cells' rapid resistance, as observed in the clinical trials, also shows how much remains to be learned. "In the case of Vemurafenib, we need a much more sophisticated understanding of the drug pathways," he says. "Most of that massive resistance is due to bypasses, where one pathway turns off and the next turns on."

Sorger strongly advocates the use of more mathematical and computational methods to supplement biology's traditionally descriptive approach. When he taught at MIT, he co-founded its Computational and Systems Biology Initiative, and now his lab uses quantitative models to study the biological circuitry controlling decisions about programmed cell death, a process radically altered in cancer cells. "My interest in quantitative methods grew organically from being incredibly dissatisfied with this very anecdotal picture," he says. The new program in

therapeutics will draw on MIT's position as a leader in computational biology, and Harvard's in systems biology (driven by the creation of the department of systems biology at HMS in 2003). "We need a radical rethink in the way that we organize and interpret biological data," he says. A more integrative research approach, based upon predictive models of cellular networks, will help explain and predict drug side effects and interactions. "Many drugs provoke paradoxical responses," he says. "These are effects that, once understood, could be applied in industry. It's time to rethink some of these underlying concepts." (For an initial outline of the new approach, see "A New Prescription for Drug Development," <http://harvardmag.com/pharmacology>.)

Such an integrative approach will require more interdisciplinary collaboration. A key component of the therapeutics initiative is a new Laboratory of Systems Pharmacology (LSP), a therapeutics re-

search facility. Additionally, a therapeutics foundry will aim to develop methods and technologies for smarter drug design—for example, using known molecular parts to build proteins with desired functions. The LSP (construction is scheduled to finish in the spring) will eventually house an estimated 60 researchers from Harvard, MIT, and Tufts, and hospitals including Massachusetts General, BWH, and the Dana-Farber Cancer Institute. Researchers will have similarly varied backgrounds, ranging from experimental to computational biology, and from basic to translational to clinical research, all working in a single physical space. "Colocalization drives interdisciplinary science," says Sorger, praising the benefits of proximity among researchers. "No electronic technology we've discovered has been more than an aid." Loscalzo, whose own lab employs both experimental and computational approaches to medically relevant issues, hopes that by working alongside each other, researchers

University People

Peak Professors

Faculty of Arts and Sciences dean Michael D. Smith has named a new cohort of Harvard College Professors. The five-year professorships (five are conferred annually) recognize superb undergraduate teaching and advising. Honorands receive extra research funding and a semester of paid leave or summer salary. This year's cohort is: Joseph D. Harris, Higgins professor of mathematics; Steven R. Le-

vitsky, professor of government; Michael J. Puett, Klein professor of Chinese history and chair of the committee on the study of religion; Jennifer L. Roberts, professor of history of art and architecture and chair of the committee on degrees in the history of American civilizations (read about her presentation at the May learning and teaching conference in "Talking about Teaching," page 48); and Maryellen Ruvolo, professor of human evolutionary biology.

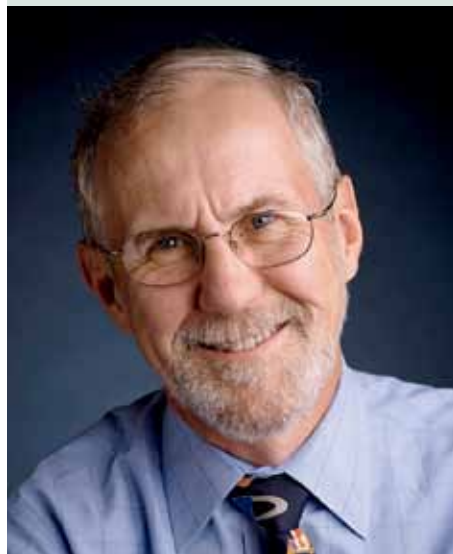
Scientists at the Summit

Eight Harvard faculty members have been elected to the National Academy of Sciences: Mitzi I. Kuroda, professor of

medicine and professor of genetics, Harvard Medical School (HMS); astronomer Ramesh Narayan, Cabot professor of the natural sciences, Faculty of Arts and Sciences (FAS); Norbert Perrimon, Stillman professor of developmental biology, HMS; Daniel L. Schacter, Kenan professor of psychology, FAS (see "The Social Life of Memory," page 10); Beth A. Simmons, Dillon professor of international affairs, FAS; Gerhard Wagner, Blout professor of biological chemistry and molecular pharmacology, HMS; Fred M. Winston, Andrus professor of genetics and tutor in biochemical sciences, HMS and FAS; and Horng-Tzer Yau, professor of mathematics, FAS.

Extraordinary Economist

The American Economic Association has conferred the 2013 John Bates Clark Medal on professor of economics Raj Chetty, who uses large data sets to examine taxation, employment, and education policy (see "Kindergarten Matters," November-December 2010, page 13). The medal recognizes the U.S. economist under the age of 40 judged to have made the most significant contribution to economic thought and theory. He was awarded a MacArthur Foundation Fellowship in 2012.



INTERIM ED DEAN. Thompson professor of education and society Richard J. Murnane has been appointed Harvard Graduate School of Education's acting dean, effective July 1. He is the interim successor to Kathleen McCartney, who departs to become president of Smith College, as previously announced. Murnane, an economist, has examined changing demands for workers' skills in the evolving U.S. economy, and the effectiveness of education policies in responding to those changes. He also studies the effect of income inequality on educational opportunity. The search for a permanent dean continues.

will gain a deep appreciation for the power of different research methods.

The new lab will explicitly tackle complex problems like neurodegenerative or inflammatory diseases, where traditional drug-discovery methods have made little progress. “I don’t think these are intractable problems,” says Loscalzo. “We have the data sets. We have the cellular and animal models, and we know the biochemical, molecular, and cellular underpinnings pretty well.” Here, collaboration is crucial. He suggests that a better understanding of basic biology will enable clinicians to characterize disease profiles in terms of their underlying biology, rather than their large-scale, end-stage physiological effects. In many cases, Loscalzo says, “the therapies that have been used so far have been largely focused on the *end result* of a disease, not the *causes*.” Exploring those causes could lead to novel therapeutic targets, as well as more effective diagnosis and treatment in a clinical setting.

The initiative also aims to foster a more

collaborative relationship between academia and industry. The high cost of drug failures places a limit on how much companies are willing to risk. “You get stuck in a rut,” says Sorger. “Research is too expensive, so you have to go with today’s ideas, even if today’s ideas aren’t good enough.” In contrast, he says, academia is better equipped to handle long-term, open-ended questions and to investigate principles that could lead to more rational drug design and usage. To that end, a graduate program in therapeutics will train students in the science behind drug discovery and regulation, while requiring internships at pharmaceutical companies to get a taste of industry. “Exposure to real-world problems will help students think about their own research projects,” he says, by showing them what topics are best suited to each context. Nine students from existing HMS medical and doctoral programs are expected to enroll this fall in the new therapeutics certificate program.

Sorger also sees a role for academia in mediating the adversarial relationship between pharmaceutical companies and federal regulatory agencies. Regulatory science, he says, could be restructured to enable companies to alter and improve their treatment regimes during the trial process, and to continue monitoring after a drug reaches the market. “The FDA is complicit in the reductionist view of drug development, in that the approval process requires the pharmaceutical industry to identify a specific target for the drug candidate,” adds Loscalzo. Yet infrequent toxicities and nontoxic side effects are also important components of how clinicians prescribe drugs. Furthermore, combination therapies may be the way forward for drugs like Vemurafenib (new drugs are already in development to combat the observed resistance), but the current lengthy approval process discourages collaboration between industry competitors on potentially powerful drug cocktails. Plans

PFOHO’S FIRST FAMILY. Anne Harrington, professor of the history of science—and acting chair and director of undergraduate studies for the department—and her husband, John Durant, have been appointed master and co-master of Pforzheimer House. Harrington’s scholarship focuses on the mind-body connection and neuroscience; she has been a member of the faculty since 1988. Durant is director of the MIT Museum and an adjunct professor in that institution’s science, technology, and society program. The couple have an eight-year-old son, Jamie. They succeed Nicholas Christakis and Erika Christakis, master and co-master since 2009, who are relocating to Yale.



Academy Academicians

Eleven faculty affiliates were elected members of the American Academy of Arts and Sciences: David M. Altshuler, professor of genetics; Xandra O. Breakfield, professor of neurology; Paul A. Buttenwieser, clinical instructor in psychiatry; David W. Latham, lecturer on astronomy; Sara Lawrence-Lightfoot, Fisher professor of education; Joseph Loscalzo, Hersey professor of the theory and practice of physic (see “Systematic Drug Discovery,” page 54); John F. Manning, Bromley professor of law; Richard J. Murnane, Thompson professor of education and society (opposite); Charles A. Nelson III, professor of pediatrics; William J. Poorvu, M.B.A. Class of 1961 adjunct professor in entrepreneurship emeritus; and Xiaowei Zhuang, professor of chemistry and chemical biology

and professor of physics (see “Shedding Light on Life,” May-June 2008, page 40).

Science Funding Lows—and Highs

The Boston Globe’s Robert Weisman reported in April that the city had for the eighteenth consecutive year led the nation in grants received from the National Institutes of Health (\$1.78 billion in 2012), with Massachusetts General and Brigham and Women’s hospitals (Harvard affiliates) and the Medical School (HMS) in the forefront. That such funding is being reined in is a source of worry and vulnerability for the school’s research enterprise. So it was heartening that six of 27 investigator awards announced in May by the Howard Hughes Medical Institute went to Harvard scientists, four of whom

are in medicine. The winners, whose salaries, benefits, and research are underwritten for five years, are: Adam E. Cohen, professor of chemistry and chemical biology and of physics, and Hopi Hoekstra, professor of organismic and evolutionary biology and of molecular and cellular biology, from the Faculty of Arts and Sciences; and professor of systems biology Vamsi K. Mootha, professor of genetics David E. Reich, professor of biological chemistry and molecular pharmacology Johannes Walter, and professor of neurobiology Rachel I. Wilson—all from HMS.

Harvard: The Mix Tape

by KATHRYN C. REED '13

are under way for a partnership between the new therapeutics initiative and the FDA to add nuance to the current regulatory structure, and to implement a structure for failure analysis, as in engineering. Sorger also hopes to develop the science needed to test novel treatment methods; gene therapies, stem-cell therapies, and engineered proteins, for instance, are promising research frontiers that the current system is poorly designed to evaluate.

Ten-year costs for the therapeutics initiative are estimated at \$200 million, with significant funding anticipated from private and philanthropic as well as federal sources; a \$5-million grant from the Commonwealth's Massachusetts Life Sciences Center is funding the construction of the LSP. In the next decade, Sorger believes, the initiative will make significant advances in areas like toxicology and personalized therapy. Although federal budget cuts have drastically decreased funding of scientific research, Sorger is undeterred. "In crisis lies opportunity," he says, and institutions have been willing to consider more collaborative ways to organize research. The financial crisis and public debates on healthcare have imparted an additional sense of urgency to current research. "Given these tough economic times, people realize that we are fundamentally dependent on the success of the broader economy, and our economy is, in part, medical practice," he says. "The piece we can drive is innovation: innovation focused on improving patient outcomes and reducing costs." By promoting a more integrative view of drug development—from research through testing to regulation—the new therapeutic science team hopes to provide the needed change in the status quo. "We're trapped in a linear narrative here," says Loscalzo. "Genetics, genomics, and conventional wet-bench biology have evolved through linear, reductionist reasoning. It's not a feasible approach if you're thinking about systems and networks."

~KATHERINE XUE

Katherine Xue '13, a former Ledecky Undergraduate Fellow at the magazine, concentrated in chemical and physical biology and will be a freelance writer for the coming year before entering graduate school in systems biology. She recently won Harvard's Bowdoin Prize for Undergraduate Essays in the Natural Sciences for a manuscript adapted from her senior thesis.

A FRIEND in middle school used to make me mix tapes. He would find me by my locker after the last bell to hand me the cassette. I could barely make out the names of the songs, written in scratchy boy handwriting. Usually, they'd be rap.

The tracks ran into one another; sometimes they'd be cut off. I would have my favorite songs, but it was too hard to get the rewinding and fast-forwarding just right. I'd always end up in the middle, then go back too far. It was easier to listen straight through, anyway, in the order my friend wanted them to be heard.

They were all I had to listen to, until I bought a Walkman at the end of the year. I still kept the tapes after that, though we started burning CDs. You could fit more songs on the discs; it was easier to skip around. We'd sit on the bus wearing headphones—the big kind that wrap around your ears. At home, we'd upload to our computers, bring back more the next day.

Listening to the mix tapes ended in eighth grade. (We had continued to trade them occasionally, despite the convenience of CDs.) But the iPod had just come out, making the Walkman seem cumbersome in turn. Eventually I acquired a turquoise mini. (It, too, would seem cumbersome now.) I could carry thousands of songs with me; instead of mix tapes, we traded mp3s.

AT HARVARD in the fall of my freshman year, I went to the *Crimson's* open house and signed up for every content board on the paper. Arts, Sports, News, Editorial, Fifteen Minutes—I thought I could do them all. "Most people only comp one," I was told. "Once you're on staff, though, you can write for any board you want." I went to each introductory meeting before deciding to drop to one.

A week earlier, my roommates and I had sat in our common room, searching through the course catalog, trying to decide what to shop. There were hundreds of options; for the next week, we could go to as many—or few—courses as we wanted. My friends made color-coded spreadsheets while I felt inundated by choices. I knew some who shopped more than 30



The Marathon Bombing

Among the three victims killed in the terrorist bombing at the Boston Marathon on April 15 was Krystle Campbell, daughter of long-time Harvard Business School Restaurant Associates employee Patty Campbell and sister of Cabot House dining-services staffer Billy Campbell. Krystle Campbell had herself worked for HBS Restaurant Associates while she was in college; she was remembered in a campus observance led by Dean Nitin Nohria. In a cruel twist, the surviving suspect in the bombings, Dzhokhar Tsarnaev, reportedly worked as a lifeguard at Malkin Athletic Center as a high-school student in Cambridge. Finally, among the lawyers assigned to represent Tsarnaev is Miriam Conrad, J.D. '87, the highly respected head of the Boston Federal Public Defender Office.

Visitas Derailed

With Boston and environs locked down during the day-long manhunt for terrorist suspects on April 19, the Visitas campus orientation program for admitted undergraduates was suspended, with many students en route. The admissions office coped by transporting some of the arrivals to hotels, while undergraduates shared information about campus life with the pre-frosh via VirtualVisitas. The impact on the yield was apparently nil: of 2,029 candidates offered admission to the class of 2017, some 82 percent accepted—the highest yield since 1973. (Separately, according to *The Choice*, *The New York Times* blog on admissions, Stanford's admissions rate was actually lower than Harvard's this year: 5.7 percent in Palo Alto, 5.8 percent in Cambridge. In 2012, it was Crimson 5.9 percent, Cardinal 6.6 percent.)

Sexual-Orientation Matters

After he was widely reported to have said that John Maynard Keynes was indiffer-

Brevia



PRIMATE DENOUEMENT. Harvard Medical School (HMS) plans to wind down operations of the New England Primate Research Center, in Southborough, Massachusetts. The school cited financial pressures; Carolyn Y. Johnson, of *The Boston Globe* (who earlier reported on the center's lapses in animal care, federal warnings, and ensuing changes in operations—and wrote “Animal Research Reforms” for this magazine, May-June 2012, page 45), cited an HMS estimate of \$25 million needed to sustain the facility. In the meantime, with federal research funding declining, HMS appears to be focusing on human research frontiers (see “Systematic Drug Discovery,” page 54). Provisions need to be made for the nearly 2,000 animals at the facility; about 200 faculty members, postdoctoral researchers, and staff employees will also be affected. See <http://harvardmag.com/primates-13> for details.

ent to the long-term effects of his economic theories because he was homosexual and childless, Tisch professor of history Niall Ferguson made several apologies, written and in person. In *The Crimson* of May 8, he also assailed his “vituperative online critics,” some of whom wrote about the conservative trope of attacking Keynes based his sexual orientation. *The Boston Globe* noted that Ferguson had himself gone into footnoted detail about Keynes's sexuality (in chapter 11 of his 1999 book,

The Pity of War). Separately, the Harvard Gay and Lesbian Caucus is changing its name to the Harvard Gender and Sexuality Caucus at the end of the academic year. And on income-tax day, the University

announced that it would extend tax-equalization payments of \$1,500 to faculty and staff members and post-doctoral fellows whose same-sex spouse (or same-sex domestic partner in states that do not recognize same-sex marriage) is covered under a Harvard family medical plan.

Earnings Update

Harvard Management Company has reported calendar-year 2011 compensation for its president and top-earning portfolio managers: Jane L. Mendillo, president and CEO, \$5.3 million; Andrew G. Wiltshire, alternative assets, \$6.6 million; Stephen Blyth, public markets, \$6.2 million; Alvaro Aguirre-Simunovic, natural resources, \$5.3 million; Apoorva K. Koticha, fixed income, \$3.1 million; and Marco C. Barrozo, fixed income, \$3.0 million. Separately, the University's tax return for its fiscal year ended June 30, 2012, revealed that President Drew Faust's salary was \$729,000, plus other compensation (principally, use of Elmwood, the presidential residence) of \$171,000. Other reported salaries, for the executive vice president and various vice presidents, ranged from \$579,000 to \$265,000. For details, see <http://harvardmag.com/pay-13>. As previously reported, Faust last year joined the board of directors of Staples, Inc., the office-supplies retailer. The company reported the value of her pro-rated cash compensation and stock awards during 2012 as \$275,000.

On Other Campuses

Echoing Yale, Princeton tapped its long-time provost, Christopher L. Eisgruber, a constitutional scholar, to succeed Shirley M. Tilghman, who became president

in 2001. He has published a pair of books with Harvard University Press....*Much* farther afield, private-equity executive Stephen A. Schwarzman, M.B.A. '72, of the Blackstone Group, has donated \$100 million and is raising \$200 million more to endow a Rhodes Scholarship-like program to bring 200 international students annually to Beijing, for one-year master's programs at Tsinghua University....As neuroscience research accelerates (see "Mapping the Way to a Brain Survey," page 9), Columbia recently secured a \$200-million gift to fund work in the field and the University of Southern California trumpeted hiring leading neurology professors away from UCLA, to anchor a new neuroinformatics institute for brain mapping and imaging.

Competing Campaigns

As the public launch of The Harvard Campaign nears, other institutions suggest the scale of higher-education philanthropy today. Johns Hopkins unveiled its \$4.5-billion "Rising to the Challenge" effort, following a \$3.7-billion drive that concluded in 2008 (much of it focused on medicine and on facilities). The new drive, begun with 43 percent of the goal in hand, seeks nearly \$700 million for financial aid, as well as funding to endow 300 professorships

atop the current 385. Interdisciplinary priorities include programs on global health, urban challenges, and education and the science of learning....Cornell secured a second nine-figure gift for its technology campus on New York City's Roosevelt Island: alumni Irwin Jacobs, co-founder of Qualcomm Inc., and his wife, Joan Jacobs, have donated \$133 million....Columbia received a second \$100-million gift for the business-school facilities at its new Manhattanville campus. The donor is Ronald O. Perelman, chairman and CEO of MacAndrews & Forbes Holdings Inc., and a member of the school's board of overseers. Diller Scofidio + Renfro are designing the two new buildings....Charles T. Munger, vice chairman of Berkshire Hathaway Inc., gave the University of Michigan, his alma mater, \$110 million for a graduate-student residential commons and fellowships.

Nota Bene

BOND BLESSING. Taking advantage of favorable market conditions, the University in April issued \$402 million of taxable bonds, maturing variously in 2023, 2031, and 2037, at interest rates scaling up from 2.3 percent to 3.619 percent. The proceeds are being used to refund all of a 30-year issue of similar bonds issued in 2006 at a 6.3 percent interest rate.

PULITZER HONORANDS. Tom Reiss '86 won the 2013 Pulitzer Prize for his biography of Alex Dumas (the basis for the Vita published in this magazine's November-December 2012 issue, page 30). Staff reporters of the online InsideClimate News, founded by David Sassoon '79, won the national-reporting prize for coverage of the regulation of oil pipelines. Finalists included Adams University Professor emeritus Bernard Bailyn (history), for *The Barbarous Years* (reviewed in the January-February issue, page 20); Juliette Kayyem '91, J.D. '95, a Harvard Kennedy School lecturer, for her *Boston Globe* columns (commentary); and *Globe* reporter Patricia Wen '80, as part of a team that covered compounding pharmacies (national reporting).



Tom Reiss

COURTESY OF TOM REISS

ANCHORING ARCHITECTURE. Iñaki Ábalos has been appointed chair of the department of architecture at the Graduate School of Design. A founding member of Ábalos + Sentkiewicz Arquitectos, based in Madrid, he has previously taught studios and lectured at the school.

MISCELLANY. William Russo has been appointed managing director of the American Repertory Theater, joining artistic director Diane Paulus in leading the nonprofit organization. He comes to Cambridge from the New York Theatre Workshop....President Barack Obama has nominated Penny S. Pritzker '81 as U.S. Secretary of Commerce....The Honorable Margaret H. Marshall, Ed.M. '69, Ed. '77, L. '78—a graduate of Yale Law School—has been appointed Senior Fellow of the Yale Corporation. She is the first woman and Yale Law graduate to hold that position—and the first person born outside the United States: a native of South Africa, she became a U.S. citizen in 1977. (Marshall is also an Incorporator of this magazine.)...Medical-software company athenahealth inc. completed its acquisition of the Watertown Arsenal complex, along the Charles River, from the University, for \$168.5 million. The company is headquartered there.

GALVANIZING GIFTS. The University announced in May that Hansjörg Wyss has made a second, \$125-million gift (complementing one in 2008) to support the Wyss Institute for Biologically Inspired Engineering, which focuses on developing new medicines and technologies for commercial application. It now engages 27 affiliated faculty members and a staff of more than 350 people, occupying 100,000 square feet of research space; see further details at <http://harvardmag.com/wyss-13>. The Blavatnik Family Foundation, led by Len Blavatnik, M.B.A. '89, has given Harvard \$50 million; the funds, following an earlier, \$5-million gift, will enable the Office of Technology Development to scale up the University's Biomedical Accelerator Fund, launched in 2007, now renamed for the donor. It is an investment vehicle that encourages further work on academic discoveries so they can become suitable for commercial development. The gift will also underwrite

postgraduate life-sciences-entrepreneurship fellowships at Harvard Business School. See a full report at <http://harvardmag.com/blavatnik-13>. And long-time Harvard benefactor Sidney R. Knafel '52, M.B.A. '54, has given the Radcliffe Institute for Advanced Study a gift of \$10.5 million to convene scholars from around the University and across the world to work together, and to support public programs. The renovated Radcliffe Gymnasium, now a conference facility, has been renamed the Knafel Center.



Hansjörg Wyss

MISIA LANDAU



Len Blavatnik

classes, running in and out. I went to seven and still had a hard time narrowing down to a final four.

I was overwhelmed sophomore year. My friends set up lunch dates and dinner dates, scheduling people and meals. Different people in different houses—I understood wanting to see them all. But that was too much inconsistency for me, too many people to cycle through. I preferred stability and the groundedness of a group.

By junior year, everyone was overcommitted—running to meetings, with little time between. A semester in, most people quit at least one organization. We realized we couldn't do it all, despite wanting to try new things.

THERE ARE 3,174 songs in my iTunes library. Compared to my friends' playlists, that's relatively few. I still haven't listened to 1,082. I put the same songs on repeat—over and over until I find something new. When I like a song, I'll buy the whole album. There's little reason to cut down when my computer still has room. Most are still sitting in my library. I've gotten used to them sitting there, waiting to be heard.

I tried to put too many tracks on my first mix tape; my favorite song gets cut off at the end. You can only fit so many on a cassette. The C46 has only 23 minutes per side—enough, if you put thought into your choices and keep track of time.

IN APRIL, I entered my "Senior Spring" at Harvard—something I don't think exists in quite the same way at other schools. Leadership positions in most student groups end in the fall; theses are submitted in March. Commitments slowly diminish and there is suddenly less to do. By April, dinner conversations last two hours. More time is spent

There are whispers of senior spring—the promised freedom that comes at the end.

in common rooms. There are whispers of senior spring as an underclassman, the promised freedom that comes at the end. Just work hard for seven semesters, the rumors tell you; then you can enjoy your time on campus and stop worrying about getting ahead.

I've tried to explain this to friends from home and my family, especially when they came to visit this past spring. The "what"

is fairly easy to answer. It's the "why" that has eluded me. No, no—there's plenty of fun for the first three years, I tell them. It just comes with added responsibility. It's hard to ever truly do *nothing*, with all of that running around. Focusing on one or two things at a time is better, rather than trying to excel at clubs, school, and a social life concurrently. The clubs, work, and thesis come first; then the final semester marks their endpoint, when obligations are complete. There's a reward at the end, what we'll remember when we leave. That's why we have senior spring.

The explanation makes sense at Harvard, when running between activities. My friends and parents would raise their eyebrows. *Doesn't make sense to me.*

THE FIRST MIX TAPE I made was country music—cowboy country, the kind I listened to with my dad. We had an old radio in my parents' bedroom, with two places for cassettes. You put the blank one in the right, the one with music on the left. I sat watching the tape rolling and tried to figure out where the music went. You had to get the timing just right when making a mix tape, pressing pause and play as soon as the song ended. Usually I'd get caught up listening; it was easy to forget.

You have to be careful when making a mix tape; it's important to get the order just right. There's a balance that goes into the creation, a weighting of tempo

and sentiment meant to carry the listener through. Thought is given to song choice, sure, but attention must be paid to the tape as a whole, too.

IN MAY, I made a list at the beginning of reading period: all the things I had not done. Most senior bucket lists are comparable, a mix of things we can still accomplish and missed opportunities. Mine had two col-

umns: the first, what I thought I might have added to my time at Harvard; the second, what I had chosen instead. The second list was shorter, though it had more depth.

I tried to weigh the decisions I had made, rereading the list on the right. There was nothing I would have removed and there was little space to add more.

The time couldn't be extended. There are many things I haven't done on campus, but—in seeing my lists together—I was happy with what I had.

MY FRIENDS used to reuse mix tapes, recording over them when they had listened long enough. They rewound, fast-

forwarded, paused until everything fit perfectly, without overlap. I never could erase what I had made, and always bought more cassettes instead. I liked knowing the intention behind what was included on my tapes, the character that they had.

My cassettes and semesters have been imperfect. Some things run into each other; there's little pause between. For a while, in the beginning, I tried to include too many things. There's something about finite space, the intangible that is added when you are forced to subtract. It's hard to get to the end without wanting more time, but I've learned to see both holistically.

Cassettes aren't often practical; it's easier to store mp3s. But sometimes I still put them in my parents' old player, though I've lost the inserts that list the tracks. I like that I have to listen to each side in succession, that it doesn't make sense to rewind and go back. I like that I've forgotten the songs I once wish I had included, and that the ones I did include still bring back the same memories. I can remember where I was when I first heard them—how it felt, even though the meaning is more distant, changed. At the time, I just wanted to fit in one more song. Now I flip the cassettes over, listen again. ▢

Kathryn C. Reed '13 is completing her term as one of this magazine's Berta Greenwald Ledecy Undergraduate Fellows.



Long Innings

The crimson Cricket Club, bowling and batting

ACTION IN CRICKET, as in baseball, starts with a ball thrown to a batter. But in cricket, everything else happens faster: the bowler—cricket's version of a pitcher—gets a running start, and even in recreational games the ball often heads toward the batsman, off a hop, at faster than 90 miles per hour. And it often heads right at the batsman: hitting your opponent as he guards the wicket is one of the surest ways to retire him.

"Attack, that's the name of the game," says Ibrahim Khan '14, the most recent co-founder of the Harvard Cricket Club. "You need to score rapidly." And in twenty-twenty (T-20), the scaled-down version of cricket usually played at American colleges, batsmen face fewer deliveries, meaning they're rewarded for aggressive batting even more than in the professional version of the game.

To score runs, a batting team tries to smack the ball past the 11 players on the opposing team. There are no foul balls,

which means that any contact with the bat puts the ball in play, no matter whether it goes up, down, forward, or backward. A ball in flight that reaches (or goes over) a perimeter fence is good for six runs. One that reaches a fence off a bounce counts for four. For singles, doubles, and triples, both the batsman (and his partner, called the runner, who is stationed near the wicket where the bowler lets fly his delivery) must run back and forth between wickets without being thrown out.

Wickets, two sets of three bamboo sticks placed 22 yards apart, are integral to the game: not only do they mark the distance a runner has to travel—like bases, in baseball—but if the opposing team's bowler or a fielder hits one with a ball during play, the batsman is dismissed and replaced. All of that gives the sport, and especially T-20, a much quicker pace than both its American cousin and the

full-length version of the game, in which matches can stretch across days.

But the games still aren't short. A typical T-20 match lasts three hours, structured around two halves, which are called innings. Each innings (the word is always plural) features 20 overs; each over consists of six deliveries, or pitches, by the bowler. And this is where the appellation T-20, or 20-20, comes from: 20 overs per innings, two innings per game. Scorekeeping, no surprise, is a major effort.

Khan, an applied mathematics and economics concentrator from Kirkland House, learned the game while growing up in his native Lahore, Pakistan, but had not played seriously before coming to Cambridge, owing to a cricket injury sustained as a young kid. "I got hit in the

head," he says. "Ever since then, my parents have always been a little bit paranoid about cricket." For years, he played a recreational version, with tennis balls covered in tape and no pads, but once at Harvard, he decided to revive its cricket club—originally founded in 1868, it existed on and off until 2009—at the end of his freshman year. He recruited a group of cricket fans in the fall of 2011 (all but one regular club member grew up in a Commonwealth country, or has parents who did), and for several months they played with tennis balls indoors at the Malkin Athletic Center. This year, they graduated to the real game, with proper equipment—leg pads and helmets for batsmen, and heavier leather-covered balls—and began practicing and playing at Jordan Field, home



Ibrahim Khan '14 talks strategy with teammates before a game against Boston University in May.



Sher Afgan Tareen, M.T.S. '13, bowls to a BU batsman at Jordan Field.

to Harvard's field-hockey squad.

Last spring, at a student-faculty dinner, Khan was chatting with Stephen Blyth, Ph.D. '92, managing director of the Harvard Management Company and professor of the practice in statistics. Blyth, who grew up in Great Britain, played cricket for the club in the late 1980s. (Cricket, he says, "is the first thing that an Englishman and a Pakistani would talk about.") Blyth soon agreed to be their faculty adviser; under American College Cricket rules, he is even allowed to participate in games if the team is short-handed. (When he plays, he's among the club's best batsmen.)

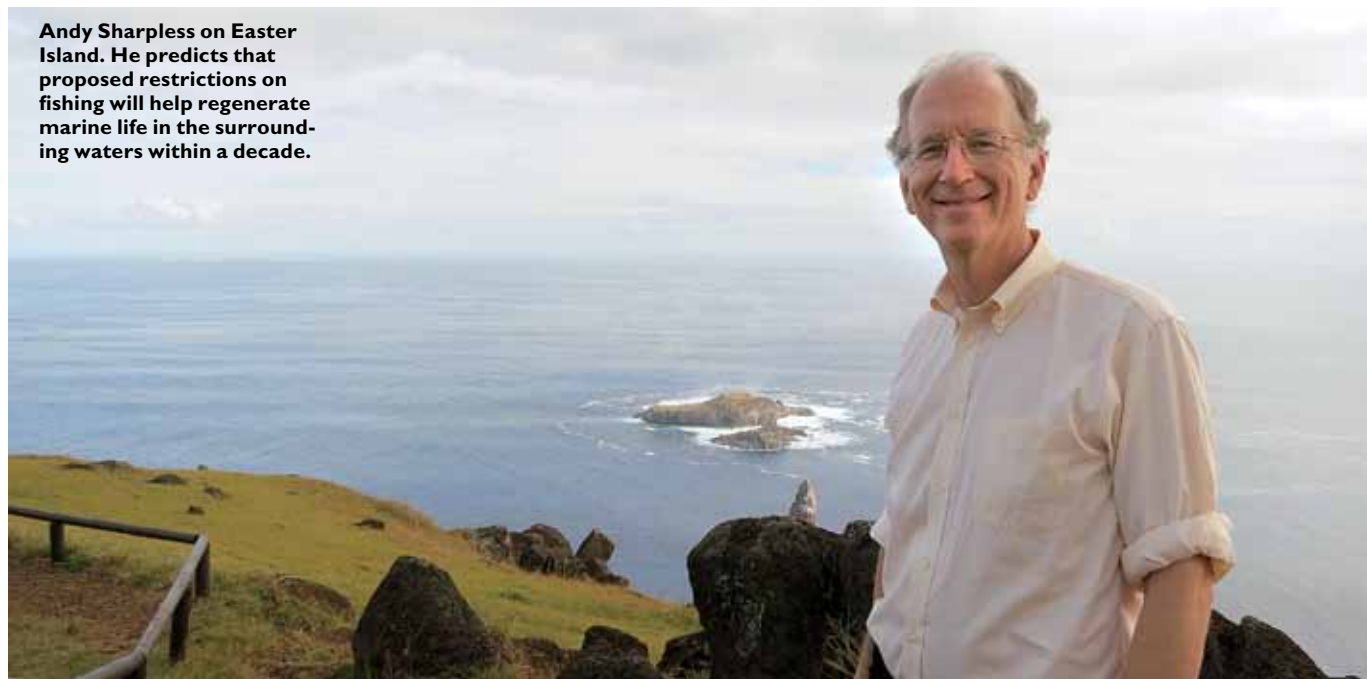
In competitive matches, teams often score more than 150 runs. They can score even more at Jordan Field: its narrow

confines make balls hit to the left or right much more likely to reach the fence. That's one reason why batting strategy—whether to attack with a full or checked swing, when to block a ball headed at the wicket, and whether to hit to the left or right—is a key part of the game. Likewise, a smart bowler will watch a batsman's habits and adjust his deliveries. "You can notice where the batsman likes to go," Khan says.

Last fall, the club won its first five games, then dropped six straight, and finished with a 6-9 overall record. But the cricketers played well at the New England regional tournament organized by American College Cricket (ACC), the sport's national governing body, and earned a spot at the national tournament in Fort

Lauderdale in March. There, playing in the only full-size cricket stadium in the country, they went up against some of the best college cricket competitors from among the 70-odd teams that play under the umbrella of the ACC. Their matches didn't go as well as Khan had hoped—several players were exhausted after driving nonstop from Cambridge to Florida—but they rebounded to score more than 200 runs at home in the final game of the season, losing only narrowly to Dartmouth. Next school year, Khan hopes to improve on the team's top-15 national ranking. The challenge will be getting more of the club's two dozen casual members to show up consistently for practices and games. "Planning," he says, "is in full force." ~PETER VIGNERON

Andy Sharpless on Easter Island. He predicts that proposed restrictions on fishing will help regenerate marine life in the surrounding waters within a decade.



ALUMNI

Fish by Fish

Oceana aims to restore the oceans' health.

ON A RECENT TRIP to Easter Island, Oceana CEO Andy Sharpless '77, J.D. '86, took a hike along the coast. The conservation group he runs has helped overhaul national laws to better protect marine

life throughout Chile's coastal waters and fisheries—and is now pushing to curb overfishing around the famous island, a Chilean special territory.

It is the most isolated inhabited place on earth, where hundreds of tourists nev-

ertheless arrive daily to see the famous carved-stone human figures, called *moai*, that dot the landscape. The ancient statues are impressive, Sharpless says. But so are signs of the island's current environmental problems—and its historic legacy as a man-made ecological disaster. "No fish jumped out of the water," Sharpless notes. The once abundant forests and plant life are long gone, along with the island's important role as a major rookery for seabirds. During a 12-mile hike over scrubby ground strewn with volcanic rocks, "We saw only two tiny forests, maybe a half-acre each," Sharpless says. "We also saw two birds, neither of which was native:

they were raptors introduced at some point to kill the rat population that the Polynesian colonists brought with them in the tenth century. The only other wildlife were horses and cows and three dogs.”

OCEANA, based in Washington, D.C., believes the world’s oceans “are in crisis from overfishing, acidification, and habitat destruction [and] works internationally to alleviate these and other problems through policy-oriented campaigns.” The nonprofit group has a \$20-million annual budget, about 130 employees, a team in Chile, and eight other overseas offices. (In addition to Sharpless, three other alumni are also involved: president Jim Simon, J.D. ’83, assistant general counsel Eric Bilsky, J.D. ’91, and board member María Eugenia Girón, M.B.A. ’92.) Its goals extend from banning the shark-fin trade and requiring seafood traceability in the United States to overhauling the European Union’s fisheries policy, preventing offshore oil drilling in Belize (and elsewhere), and saving specific endangered marine species and habitats, such as the Steller sea lion in Alaska. Earlier this year, Oceana publicized its “seafood fraud” investigation, which found that one-third of the seafood sold to American consumers was mislabeled. The results, Sharpless wryly notes, got more media attention than Oceana’s

fight against oil drilling during the year that “BP was ruining the Gulf of Mexico, proving that people care more about what goes in their stomachs.”

The fraud investigation supports Oceana’s push for a national system that tracks fish from “boat to plate”; Sharpless says that would reduce illegal fishing significantly. Bills to require such a system are pending in both the House and the Senate, and the American fishing fleet, he reports, agrees, for a change, with Oceana’s efforts “because they see themselves as more law-abiding than the foreign fleets.” (“More often,” he adds, “we are fighting with them.”)

Oceana focuses on influencing the laws of the nine countries, plus the European Union, that together control two-thirds of the world’s marine fish production. Seven out of eight fish are caught within 200 nautical miles of the coast in an “exclusive economic zone” controlled by the closest country; Peru, China, the United States, Russia, and Indonesia lead the pack. Sharpless outlines the workings of the global fishing industry as part of his first book, *The Perfect Protein: The Fish Lover’s Guide to Saving the Oceans and Feeding the World* (Rodale), published in May. The rest are nabbed in the “high seas” controlled by

committees such as the International Commission for the Conservation of Atlantic Tuna (ICCAT)—which Sharpless says is more commonly known in the industry as the commission “to Catch All Tuna.” It is much harder to change fishing operations at that level, he adds, because committees “tend to make decisions by consensus, which means they arrive at the lowest common denominator—and very often do not even enforce that.” By contrast, the top fishing countries, he says, “generally have the capability, if they choose to do it, to manage their fisheries well and to make them abundant forever.”

The Perfect Protein promotes eating more fish because Sharpless believes, along with many others, that it’s healthy for the brain, the body, and the world. Choosing meat or poultry instead, he argues, directly affects the demand for grain, which leads in turn to further deforestation and loss of biodiversity; the oceans, which cover 71 percent of the planet, can still recover, despite current pollution and overfishing. The concise book, with a foreword by former president Bill Clinton, gives a general audience guidance on “eating responsibly,” along with 21 “sustainable” recipes from renowned chefs, and a fine selection of further readings.

Time, Flying

Senior English orator Félix de Rosen ’13 (who in a throat-clearing moment told the Tercentenary Theatre throng, “This feels a little bit different from speaking in section”) chose a graduation chestnut—the passage of time—as his theme, but refreshed it by tying in the story of the late Charles A. Ditmas Jr., long the keeper of the College’s antique clocks. On Wednesday,

some Eliot House members of the class of 1963—who as seniors had created one time capsule, exhumed at their twenty-fifth reunion, and buried a second during that event—gathered to examine their 1988 missives. Tony Rossmann, David Otto, Bruce Johnson, and Paul Bamberg opened the capsule at Eliot; missing was Boone Turchi, stuck in traffic. Not all the letters proved prescient, but one did. Also missing was Myles Alexander Walsh III, who died in 2008 (he was represented by his son Myles Alexander Walsh IV, and his son, Myles Alexander Walsh V); he had written, “There is a chance that I will not be able to attend our 50th reunion.” (For more on this story, see <http://harvardmag.com/capsule>.)



From left: David Otto, Bruce Johnson, Xandy Walsh, Alex Walsh, John Fryer '64, Tony Rossmann, and Paul Bamberg read letters buried in 1988.

SHARPLESS LOVES the challenge and sense of integrity in public-advocacy work. A birth-right Quaker, he was raised in Philadelphia and finds compelling “the idea that Quakers are radical and definitive about your responsibility for your own moral judgment. You are not to be a follower,” he says. “You

own your own life, conscience, and moral decisionmaking.”

He cannot tolerate ineffectiveness or waffling. “I am very nonmystical, very hardheaded,” he asserts—and a devoted player of competitive sports, even though he didn’t come close to varsity: “I think I got to play two minutes for Harvard’s freshman soccer team, all year.”

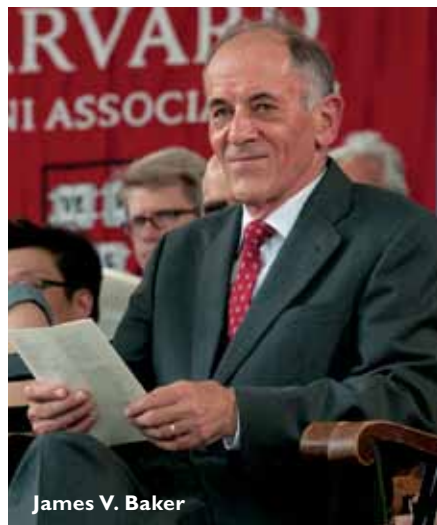
For the last 12 years, he has held an annual “Gameboy Weekend” at his summer house on Chesapeake Bay, to which about 30 male friends between 34 and 65 (includ-

ing Harvard buddies) eagerly flock. They play softball and tennis (with rules changed “to make them better, in my opinion,” he says), along with his own complex creations. In “blind replica,” for example, teams are challenged to “replicate a structure [using Tinkertoys® or Legos®] that you cannot see, based on advice from a teammate who can see the original, but not the replication.” The final products are put on display and critiqued. “There’s an elaborate point system,” he says, “and everyone gets ranked.”

Although his career path may seem nonlinear, evidence of his drive—and innovation—is everywhere. In a formative experience just after college, the economics concentrator worked as a consumer-rights organizer under Ralph Nader, LL.B. ’58, and led the state-level campaign that established the first citizens’ utility board, in 1979 in Wisconsin. “Amazingly—we won!” he says, just as happy about it now. He went on to the London School of Economics, law school, and then to McKinsey & Company for five years before pursuing a longstanding interest in mass media in a job at the Museum of Television and Radio. Along the way, he and Beth Inabinett married. She is a volunteer coordinator at another nonprofit, Ashoka, and the couple have two daughters, now in their twenties.

In 1994, Sharpless took a calculated risk and joined the leadership team of a fledgling, pre-“Internet boom” software firm, Progressive Networks, that ultimately became the first company to develop and commercialize streaming audio and video, and then encouraged the technology for use in online activism. By the time he left, in 1997, to become executive vice president of the Discovery Channel’s Internet division, the company had grown to 300 employees and was well on its way toward a public offering.

In 2003, Sharpless was hired to lead Oceana, then barely a year old. The organization was begun by five ocean-conservation philanthropies, including the Pew Charitable Trusts and the Oak Foundation of Geneva and is still primarily funded by such groups. At the time, he knew little about oceans, but he liked the immense environmental challenge—and potentially world-changing rewards. “In college, I had



James V. Baker



William Thaddeus Coleman Jr.

active roles in the College, including Registrar, Dean of Administration, and co-master of Currier House, you have served with excellence and selfless devotion, helping to improve the education and life experiences of students, faculty, and staff.

a long list of ways in which I thought the world could be improved,” he says, smiling. And he still does. But he wouldn’t take the job without assurances of clear, business-like goals. “We have specific campaigns with measurable outcomes: we win or we lose,” he says. “And we are very effective, if we don’t spread ourselves too thin.”

Much of its conservation effort entails protracted litigation. Five years of work in Chile (seventh on the list of top fish-catchers), for example, led to national laws being “rewritten in 2012 to mandate that fishing quotas be based on scientifically set limits and that habitats be protected, including 118 seamounts [submerged mountains that are important oceanic ecosystems] that are now off-limits to bottom-trawling,” Sharpless explains. Also

Harvard Medalists

ON COMMENCEMENT DAY, three people received the HAA’s Harvard Medal, awarded for outstanding service to the University.

James V. Baker ’68, M.B.A. ’71. *President of the Harvard Alumni Association and President of the Harvard Club of the United Kingdom, First Marshal of the Class of 1968 and student athlete extraordinaire, you have served Harvard as a loyal leader and outstanding organizer, strengthening Harvard’s relationship with its international alumni.*

William Thaddeus Coleman Jr., J.D. ’43, LL.D. ’96. *Harvard Overseer, distinguished American, and devoted alumnus of the Harvard Law School, you have always upheld the highest standards for law and public service in our community and country, leading by exhortation and example as a visionary advocate for civility and civil rights.*

(Although illness prevented Coleman from attending the event, his daughter was present; President Drew Faust announced that the award would be given to him at a later date, before reading his citation aloud, along with the others).

Georgene Botyos Herschbach, Ph.D. ’69. *Exemplary Harvard citizen holding countless administrative*



Georgene Botyos Herschbach

required is that bycatch (fish caught unintentionally and in many cases discarded) be limited and managed by independent observers on all large commercial vessels.

This spring, Oceana forestalled offshore oil drilling in Belize by challenging the legality of the government’s awarding of leases “on 100 percent of its ocean to oil companies without seriously managing the risk of that activity,” Sharpless reports. (Among those working pro bono on the case is Rebekah Lacey, J.D. ’08.) “We won at the trial-court level, validating what we’ve been saying for two and a half years,” he adds. “The Belize government plans to appeal that decision, however. And so the battle continues.”

Resistance to fishing restrictions also looms on Easter Island. Oceana wants to

triple the size of an already established 150,000-square-kilometer “no-take” fish reserve (the fourth-largest of its kind in the world) around a neighboring island, Salas y Gomez. Especially critical to restoring the region’s fish population is conserving the chain of seamounts between the two islands. Separately, Oceana is in discussions with the indigenous people, the Rapa Nui, about prohibiting industrial fishing (vessels more than 18 meters long) within a 200-mile zone around Easter Island “in a way,” Sharpless says, “that does not offend their ancestral fishing rights.” The rapid decline of tuna, sharks, and other big fish is primarily due to industrial fishing, particularly from illegal foreign fleets, according to Oceana. As a result, in an ironic scenario, the majority of island businesses are importing tuna from Tahiti to feed tourists, whose money, in turn, sustains the local economy. The proposed restrictions would “help regenerate fish populations over time,” Sharpless says, “and spur an artisanal fishing fleet of the Rapa Nui.”

The Rapa Nui are conflicted about ac-

cepting any limits, a situation complicated by the economic gains and the wish for more autonomy at the provincial level. “We are in a pre-existing, complicated political environment,” Sharpless concedes. “I don’t know whether we’re going to win there. But I think we have a good chance.” Oceana hopes that Chilean president Sebastián Piñera acts within a typically nonpoliticized time frame: after this November’s presidential election and before March 2014, when he leaves office.

THIS MAY, Sharpless’s Gameboy Weekend also featured a Saturday night discussion, over drinks, of life’s lessons. The question posed was: What do you know to be true now that you didn’t believe when you were younger? At 20, Sharpless believed good intentions led to good outcomes. Environmental work has shown him otherwise: “Pure-of-heart incompetence is a very dangerous thing,” he asserts. “You are going to create problems for yourself and the world if you don’t know what you are doing.”

The history of Easter Island’s ecological demise is well known. Even before

Europeans arrived, the rats that came with the original Polynesian settlers “were devouring the seeds of the future forests, and the forests were being cut down to plant sweet potato fields,” he explains. By the time Dutch explorer Jacob Roggeveen got there, on Easter morning in 1722, “the place was already in rapid decline, with anarchy, disorder, starvation, and signs of cannibalism.” The risks and results of environmental ruin were probably as clear to Roggeveen then as they should be to modern observers, he adds. “This is what you get when you have shortsighted overuse of natural resources: a collapse that is ugly and disadvantageous for civilization.”

Still, there is hope, he insists. The oceans are surprisingly resilient and, with help, can regenerate. Oceana predicts that the changes in Chile, and those proposed for Easter Island, mean that within five to 10 years, “people will be hiking and seeing more fish. More people will be fishing off the island,” he adds, “and bringing a healthy dinner home for their families.”

—NELL PORTER BROWN



Clockwise from top left: Everett Mendelsohn, Arnold Rampersad, Louise Richardson, and Sherry Turkle

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 notable contributions to society that emerged from their graduate study at Harvard. It is the highest honor that the Graduate School bestows, and awardees include some of Harvard’s most accomplished alumni. The 2013 recipients, announced at a ceremony on May 29, are: Everett Mendelsohn, Ph.D. ’60, professor of the history of science emeritus; biographer and scholar of American literature Arnold Rampersad, Ph.D. ’73, Stanford’s Kimball professor in the humanities emeritus; Louise Richardson, Ph.D. ’89, formerly professor of government and executive dean of the Radcliffe Institute for Advanced Study at Harvard, now principal and vice-chancellor of the University of St Andrews; and Sherry Turkle ’69, Ph.D. ’76, professor of the social studies of science and technology at MIT. For more about the honorands, see <http://harvardmag.com/medalists-13>.

Oldest Graduates

THE SENIOR MEMBERS of Harvard and Radcliffe present on Commencement day, and recognized in the afternoon ceremony, were Lillian (Sher) Sugarman '37, 97, of Swampscott, Massachusetts; and 104-year-old Donald F. Brown '30 of Stow, Massachusetts. The oldest class representative to attend was 104-year-old George Barner '29 of Kennebunk, Maine. Sugarman said she has always

enjoyed the excitement of Commencement, and used to come with her Radcliffe friends. This year, "I came to see Oprah," she added, "and to enjoy the day with my grandson," Peter S. Cahn '96, RI '09 (whose father is Arthur S. Cahn '60). "It was a wave of unexpected attention for her; she was really overjoyed," Cahn reported. "I was going to walk with my class—but it was much more fun to walk with her."

According to Harvard records, the oldest alumni also include: Edith M. Van Saun '29, 106, of Sykesville, Maryland; Frances Pass Adelson '30, 104, of Coral Springs, Florida; Evelyn Sigel Baer '30, 103, of Montpelier, Vermont; Mary Anglemeyer '31, 103, of Medford, New Jersey; Erhart R. Muller '32, 103, of Harvard, Massachusetts; Louise J. Wells '32, 103, of Harwich, Massachusetts; Alice E. Rockett '32, 101, of Gulfport, Florida; Edward Lane '33, 101, of Canton, Massachusetts; George F. Bennett '33, 101, of Hingham, Massachusetts; and Helena W. Phillips '33, 101, of West Palm Beach.

**Lillian
(Sher)
Sugarman**



From left: Donald F. Brown and George Barner

Voting Results

THE NAMES of the new members of the Board of Overseers and new 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 term) are:

Susan L. Carney '73, J.D. '77, Hamden, Connecticut. Circuit Judge, U.S. Court of Appeals for the Second Circuit.

Christopher B. Field '75, Stanford, California. Director, department of global ecology, Carnegie Institution for Science; Melvin and Joan Lane chair in interdisciplinary environmental studies, Stanford University.

Deanna Lee '84, New York City. Chief communications and digital strategies officer, Carnegie Corporation of New York.

Sanjay H. Patel '83, A.M. '83, London. Managing partner and head of international private equity, Apollo Management International LLP.

Gwill York '79, M.B.A. '84, Cambridge. Managing director and co-founder, Light-house Capital Partners.

The new HAA elected directors (three-year term) are:

Richard R. Buery Jr. '92, New York City. President and CEO, The Children's Aid Society.

Patrick S. Chung '96, J.D.-M.B.A. '04, Menlo Park, California. Partner, New Enterprise Associates.

Shilla Kim-Parker '04, M.B.A. '09, New York City. Senior director, strategy and business development, Lincoln Center for the Performing Arts

Barbara Natterson-Horowitz '83, A.M. '83, Los Angeles. Professor and cardiologist, David Geffen School of Medicine at UCLA; author.

Julie Gage Palmer '84, Chicago. Lecturer in law, University of Chicago Law School.

Argelia M. Rodriguez, M.B.A. '84, Washington, D.C. President and CEO, District of Columbia College Access Program.

Cambridge Scholars

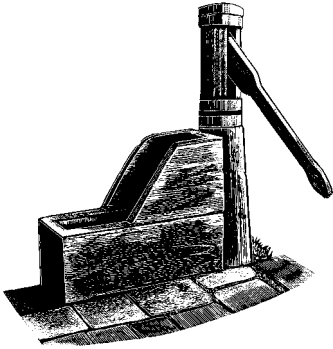
FOUR SENIORS have won Harvard Cambridge Scholarships to study at Cambridge University during the 2013-2014 academic year. **Rediet Abebe**, of Leverett House and Ethiopia, a mathematics concentrator, will be the Governor William Shirley Scholar at Pembroke College; **Charles Gertler**, of Mather House and Connecticut, a joint

concentrator in environmental science and public policy and earth and planetary sciences, will be the John Eliot Scholar at Jesus College; **William Rafey**, of Pforzheimer House and California, a social studies concentrator, will be the Charles Henry Fiske III Scholar at Trinity College; and **Aziza Suleymanzade**, of Eliot House and Azerbaijan, a physics and astrophysics concentrator, will be the Lionel De Jersey Harvard Scholar at Emmanuel College.

Campaign Warm-Up

THE TWENTY-FIFTH reunion class of 1988 raised an eye-popping, all-time-record Harvard-reunion gift: \$115 million, according to University treasurer James F. Rothenberg, who publicly thanked the class during the HAA's annual meeting on the afternoon of Commencement day. He also thanked all the other alumni who'd contributed to the University this year by, for example, interviewing 35,000 applicants, leading more than 230 Harvard clubs and Shared Interest Groups, and drawing 6,700 to reunions. He acknowledged in particular the help of the youngest members of the alumni community, noting that 80 percent of the class of 2013 had contributed to the class gift and, for the first time, participation exceeded 70 percent in every House.

Philosophic Fun



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

THE MAGNUM OPUS of the late John Rawls, Conant University Professor, was *A Theory of Justice* (Harvard University Press, 1971), now regarded, according to the *Cambridge Dictionary of Philosophy*, as "one of the primary texts in political philosophy." It advanced the idea of justice as fairness. Rawls himself is taken to be the most important political philosopher of the twentieth century.

Undaunted, a company of merry Oxford undergraduates wrote, composed, produced, performed to great acclaim, and is taking on the road a musical comedy (yes, comedy) entitled *A Theory of Justice: The Musical!* Amaryllis Barton reviewed it in *The Tab Oxford* (as the production was wowing Oxonians from January 30 through February 2 this winter) as "an all-singing, all-dancing romp through Western thought."

"Whilst I may not be convinced of John Rawls' theory of justice," wrote reviewer Robert Holtom, "I am more than convinced that the musical version was utterly brilliant—the energy, ingenuity, and intelli-

gence was there from the start, accompanied by a catchy score, some exceptional singing, and even some philosophical jokes."

"Opening in 1970s Harvard," wrote critic Gavin Elias, "the play centers on Rawls'... quixotic quest to revitalise political philosophy with an encompassing 'theory of justice.' Inspired (and aroused) by a beautiful student...with a penchant for eminent philosophers, he sets out to establish that 'justice is fairness,' only to see his newly found muse/love-interest sucked into a time vortex that bursts into being in the college quad. Cue a madcap voyage through philosophical history as Rawls encounters, questions, and debates intellectual giants such as Plato, Rousseau, and Kant on his search for both the student Fairness and the inspiration for his magnum opus. He is not alone, however, as his ideological nemesis Robert Nozick...sets off in hot pursuit to sabotage

his theory, egged on by his malevolent lover, Ayn Rand....Never before has philosophy been as flat-out fun."

One of the show's writers, Eylon Aslan-Levy, tells Primus the show will be part of this year's Edinburgh Festival Fringe, the world's largest arts festival, and will run from July 31 through

August 26 at C venues, Chambers Street. Now how about a Harvard production, somebody?



ANY CHALLENGERS? Shortly before his death in March, George M. Burditt '44, LL.B. '48, of La Grange Park, Illinois, sent



Smarmy cad Rousseau sweeps Fairness off her feet with talk of the "general will."



Major General Robert C. Davenport (U.S. Army, retired) hoists his class's placard on Commencement afternoon. Secretary Fenn is at right. (See also page 46.)

Primus this dispatch extolling his College class, of which he was first marshal. "The class of 1944, with due humility, claims to be Harvard's most outstanding class since 1636. Of course, the members of our class are all in the Greatest Generation, but we have several other more specific claims to fame—and challenge other classes who may dispute our temerity. Here is the tip of the iceberg:

- We have four Nobel Prize winners. We haven't checked it out, but we doubt that any college class in the world has four Nobelists. We have one in physics, two in economics, and one in medicine.

- We have the longest-serving class secretary in history, Dan H. Fenn Jr., A.M. '72, of Lexington, Massachusetts. [Full disclosure: Primus is a third cousin of Fenn's.]

- I believe we have two state Supreme Court justices and other successful movers and shakers in government.

- We had one of the very top spies for Russia in World War II.

"Since we are now 90 years old, I didn't want these facts to go relatively unknown to present and future generations." ~PRIMUS V

LETTERS

(continued from page 8)

and *Nature* before being published in the *Proceedings in the National Academy of Sciences*.” Perhaps the article was declined because only Harvard laboratory researchers would confuse mice with men (or women).

GEORGE L. SPAETH, G ’57, M.D. ’58
Philadelphia

E-MAIL INVESTIGATIONS

THE ACCOUNT of the “E-mail Imbroglio” (May-June, page 46) illustrates incompetence at a high level of the College’s administration. And the adjacent photo of Harvard’s remarkable basketball team, minus its co-captains, reminds us of the heavy price paid by so many undergraduates. But neither this report nor prior ones address the role of inept instruction.

No Harvard graduate familiar with higher education and cheating can accept the unethical, mass collaboration of exam-takers at face value. There simply had to have been a widespread, profound miscommunication of the rules to test-takers or a unilateral reinterpretation of these parameters pursuant to the exam. Having failed so many of its students, Harvard has failed the smell test.

ERNST R. HABICHT JR. ’60
Port Jefferson, N.Y.

SEQUESTER AS FIRST STEP

IT IS INTERESTING (and revealing) to note that President Drew Faust feels it necessary in her View from Mass Hall (May-June, page 4) to refer to America’s sequester as a “self-inflicted wound.” A 3 percent reduction in our nation’s expenditures, amounting to less than 10 percent of our outrageous annual deficit, is hardly a “wound.” Perhaps it could more correctly be called a first small step to financial sanity made in a decade.

F. GREGG BEMIS JR., M.B.A. ’54
Santa Fe

THE HABIT OF TYRANNY

RANDALL KENNEDY’S comment (“Black, White, and Many Shades of Gray,” by Craig Lambert, May-June, page 25) that tyranny can take the form of custom or habit reminds me of Dean Roscoe Pound’s course in jurisprudence (the last he ever gave at Harvard Law School).

He told us that we were mistaken if we believed that the statute and case books contain the laws that govern a society’s

behavior. When it comes to human behavior, the family, culture, religion, custom, and peer pressure were far more influential than the dictates of the courts and legislators. I am pleased to see the verity of that comment being carried forward at the law school in 2013.

PAUL MISHKIN, J.D. ’48
New York City

PEERLESS DEAN MONRO

THE MANILA FOLDER John U. Monroe holds in the May-June issue (Vita, by Toni-Lee Capossela, page 30) could be mine. He got me admitted for the February semester in 1946—but it was a struggle.

After World War II, millions of veterans counted on the GI Bill to finance their college educations. Me too. Why not Harvard, I thought. As a product of Iron Mountain, in Michigan’s Upper Peninsula, and a graduate of Neenah (Wisconsin) High School, I thought I was well prepared. Shortly before my army discharge, I wrote Harvard requesting admission forms. John responded with a polite note suggesting I apply elsewhere. No forms. I wrote again. And again. And again. Six times. Each time, John gave me a lesson in stylish turndowns. I was confused. At least let me apply, I thought, before you reject me. Finally, John relented a little. All right, he wrote, send me four essays describing your background, your education, your reasons for selecting Harvard, and your aims in life.

I did as told. Finally, he sent me a thick packet with admission forms. After discharge, I took my SATs and waited. In two weeks or so, a telegram notified me that I was accepted. The first week, at a mixer for new students, John saw me and came across the room to shake my hand. What he said I have never forgotten. “Welcome,” he said. “You are the young man who would not take no for an answer.” John and his lesson in perseverance helped me the rest of my life. Of all my great teachers at Harvard and elsewhere, John U. Monroe ranks first.

E. AARON COHODES ’50
West Palm Beach, Fla.

THE ARTICLE on John Monroe took me back to the spring of 1960. I was a senior at Cambridge High and Latin, recently accepted for admission to Harvard, and working after school as a stock boy at Phillips Bookstore in the Square. One afternoon as I maneuvered a pile of dirt across the floor with my push broom, I was approached by a tall, distinguished gentleman with very prominent cheekbones and a bristling crewcut. “Are you Jim McGovern?” he asked, and when I said yes he responded, “I’m John Monroe, dean of Harvard College.” I don’t remember what I mumbled in reply, but I do remember being embarrassed about that broom and that pile of dirt. I also remember thinking, “Uh oh, they changed their minds about letting me in.”

Monroe said that he had seen my application and noted that I worked at Phillips. He also noted my stated intention to concentrate in engineering, and suggested that economics might be a better choice. (Presumably he had also checked my SAT scores and decided that while the quantitative aspects of economics might appeal to me, it was less likely to overtax my math ability.) He smiled, wished me luck, and left me in something of a state of shock.

I did take his suggestion about economics, although it took less than a year for me to realize that I had no more real interest in the “dismal science” than I had in engineering. But even then I knew how amazing it was that the dean of the College had paid that much attention to my application, and

had then gone out of his way to offer some advice and counsel. I never spoke to Monroe again, but based on my one brief encounter with him, I for one was not at all surprised when he opted to leave Harvard for Miles.

JAMES M. MCGOVERN ’64, M.A.T. ’65,
Ed ’72, CAS ’80
Cambridge

Editor’s note: The portrait of John Monroe was incorrectly credited, reflecting an error in the material provided to the magazine. The correct credit is: Copyright © Stephen Coit. Used with permission of the artist.



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BUFFERING THE SUN

(continued from page 39)

critics say field tests should be banned because they are the first step down a slippery slope toward full-scale solar geoengineering. Keith emphasizes that he and Anderson will not move forward without public assent: “We will not do [our study] unless we have some formal governmental approval and public funding.”

Indeed, he hopes that the study, beyond its scientific aims, will also help establish a structure to govern similar small-scale research in the future. This spring, he and Edward Parson of the UCLA School of Law called for government oversight of geoengineering research; they say that self-regulation isn’t sufficient to manage the risks. But in place of a treaty, they suggest a nonbinding set of norms issued jointly by scientific bodies in the United States, Europe, and China: “sensible principles about how to manage risk, and about transparency and openness,” Keith says (see “Governing Geoengineering Research,” page 26). He would also like

to see an international moratorium on large-scale deployment. Without broadly accepted governance, Keith says, field research will remain deadlocked. Funding agencies won’t support experiments that lack a system of oversight, but such systems won’t be created unless scientists are ready to conduct experiments.

Climate-Change Costs

KEITH ADMIRES a quote on the Albert Einstein Memorial at the National Academy of Sciences in Washington, D.C.: “The right to search for truth implies also a duty; one must not conceal any part of what one has recognized to be true.”

As a leader in his field, Keith’s conclusions have at times run counter to accepted wisdom. For example, many scientists who investigate and think about solar geoengineering stress that the emphasis on cutting global greenhouse gas emissions must not change, even if research reveals that geoengineering strategies are worth pursuing.

Keith disagrees. He points out that many policymakers and scholars weigh

climate-change solutions in terms of risks and costs, comparing, for example, the cost of climate damages to the cost of cutting emissions. “The money we spend cutting emissions will save money in climate damages,” Keith says, and he believes we should spend much more on current emissions-slashing efforts. But he points out, “If you reduce the risk even a little bit with solar geoengineering, then in a perfect world you should be able to put a little less money into cutting emissions,” thereby alleviating some of the daunting trillions in costs anticipated for future greenhouse-gas mitigation efforts.

Some researchers say they hope solar geoengineering technologies are never deployed, but Keith objects to this automatic discomfort about manipulating the planet. He hopes to foster a more nuanced debate. “I think there are lots of things that are scary about this prospect, but I just don’t see how finding a potentially life-saving technology that helps to reduce climate risk a lot is awful,” he says. “I just don’t see that.” ▢

Erin O'Donnell is a freelance writer in Milwaukee.



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Seen at the Beach

A personification of time

THIS big boy is Colossus monarchicus statua Danielis, published by Matthaeus Seutter in Augsburg, Germany, in 1730. Sara Schechner describes it as “a timeline of monarchies drawn on a colossal statue of Daniel made of different materials to represent the golden age, silver age, copper age, and so forth down to his feet of clay.”

Schechner, who is Wheatland curator of the Collection of Historical Scientific Instruments, was lead architect of *Time & Time Again*, an interdisciplinary exploration of what time is, or what answers have been given to that question in various ages by different world cultures and disciplines. The exhibition, in several venues, offers a wide array of time-related objects.

The starting point is the second-floor exhibition gallery of Schechner’s own bailiwick, in the Science Center. The punching sound of a time clock marks each visitor’s entrance into the gallery. Straight ahead is a chicken, to remind explorers of the old conundrum about time, chickens, and eggs: Which came first...?

Gathered here are things from the four



parts of Harvard’s Museums of Science and Culture (the Museum of Natural History, the Peabody Museum of Archaeology and Ethnology, the Semitic Museum, and the Historical Scientific Instruments), as well as from other treasure troves, such as the Map Collection (this colossus) and the Schlesinger Library on the History of Women in America (Julia Child’s stopwatch). One may download a free smartphone app that will lead from this gallery, using geo-

location, along “time trails” to 40 other objects elsewhere in the Museums of Science and Culture. Themes include determining time from nature (with trilobites) and timekeeping by human artifice (Schechner’s own museum’s extensive holdings of pocket sundials and pocket-size clocks). Time travelers can examine cultural beliefs about the creation and end of time, the flow of time, and personal time as marked by rites of passage. Here, for instance, is a Bayaka initiation mask, dated 1948, from Africa, that was worn in dances through neighboring villages by a boy of 10 to 14 years celebrating his completion of a year-long “bush school,”

which began with his circumcision. And a beaded, turtle-shaped amulet containing a dried umbilical cord, worn by a young Lakota (western Sioux) girl of the late nineteenth to early twentieth century. “Lakota youngsters were called ‘carry your navel’ kids,” says Schechner, “because they wore such umbilical amulets until about age six.”

The exhibition opened in March and runs until December 6. There’s plenty of time left to see it.

—C.R.

Art by renowned illustrator Alex Nabaum.



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2013 FALL SCHEDULE

HARVARD FOOTBALL

Sept. 21	at San Diego	3 PM EST
Sept. 28	Brown	7 PM
Oct. 5	at Holy Cross	TBA
Oct. 12	at Cornell	12:30 PM
Oct. 19	Lafayette	1 PM
Oct. 26	Princeton	1 PM
Nov. 2	Dartmouth	5 PM
Nov. 9	at Columbia	12:30 PM
Nov. 16	Penn	1 PM
Nov. 23	at Yale	Noon

Home games (in **color**) held at Harvard Stadium

Game time subject to change

For tickets and event information call (617) 495-2211
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