

Life's Beginnings • Learning from the Liberal Arts

# HARVARD

MAGAZINE

SEPTEMBER-OCTOBER 2013 • \$4.95

*The Persistence  
of Print*

Helen Vendler & Arion Press

# The Radcliffe Campaign Invest in Ideas

LAUNCHING OCTOBER 28, 2013

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# HARVARD

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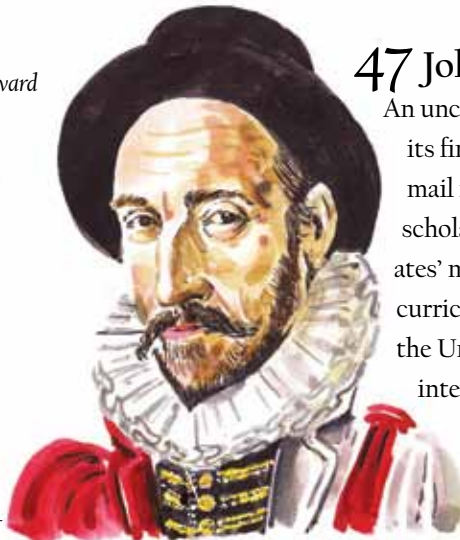
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peerless mentor



STU ROSNER

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# By the Books

**A**RE the humanities in crisis (a spiral of declining student interest and course enrollments) or simply in need of some intelligent redesign (along the lines of the introductory courses that invite Harvard undergraduates into the sciences)? After pondering these problems (see page 54), the arts and humanities faculty have determined to create courses that—as Romance languages scholar Diana Sorensen, dean of arts and humanities, put it—enable College students “to develop habits of mind, to develop a sense of how to reason rigorously, how to express ideas in a compelling way, and how to write well.”

Lest anyone forget, the rewards of study in the humanities and the arts are enormous and lifelong. By coincidence, two features in this issue make the point vividly. Porter University Professor Helen Vendler is widely known as the nation's preeminent interpreter of poetry. Less known is her decades-long collaboration with Andrew Hoyem, the nation's foremost producer of limited-edition letterpress art books. In a digital age full of lamentations over the death of print (*The Onion* recently ran an obituary notice), with libraries' role uncertain, the Vendler-Hoyem partnership (page 34) reaffirms brilliantly the art of critical interpretation and of careful artistic craftsmanship. Nannerl Keohane's essay on using the classics as an essential guide to the educated life (page 42) is a paean to the enterprise of deep reading and humanistic thought. (Note to the career-conscious: Keohane has done just fine, *without* a computer-sciences degree.)

\* \* \*

THIS MAGAZINE, of course, remains devoted to writing about Harvard for readers who really *read*. Our forthcoming mobile app, debuting in January, is premised on your interest in continuing to do so—when, where, and how you prefer.

~JOHN S. ROSENBERG, *Editor*

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*Harvard Magazine* (ISSN 0095-2427) is published bi-monthly by Harvard Magazine Inc., a nonprofit corporation, 7 Ware Street, Cambridge, Mass. 02138-4037, phone 617-495-5746; fax 617-495-0324. The magazine is supported by reader contributions and subscriptions, advertising revenue, and a subvention from Harvard University. Its editorial content is the responsibility of the editors. Periodicals postage paid at Boston, Mass., and additional mailing offices. Postmaster: Send address changes to Circulation Department, Harvard Magazine, 7 Ware Street, Cambridge, Mass. 02138-4037. Subscription rate \$30 a year in U.S. and possessions, \$55 Canada and Mexico, \$75 other foreign. (Allow up to 10 weeks for first delivery.) SUBSCRIPTION ORDERS AND CUSTOMER SERVICE INQUIRIES should be sent to the Circulation Department, *Harvard Magazine*, 7 Ware Street, Cambridge, Mass. 02138-4037, or call 617-495-5746 or 800-648-4499, or e-mail [addresschanges@harvard.edu](mailto:addresschanges@harvard.edu). Single copies \$4.95, plus \$2.50 for postage and handling. MANUSCRIPT SUBMISSIONS are welcome, but we cannot assume responsibility for safekeeping. Include stamped, self-addressed envelope for manuscript return. Persons wishing to reprint any portion of *Harvard Magazine's* contents are required to write in advance for permission. Address inquiries to Irina Kuksin, publisher, at the address given above. Copyright © 2013 Harvard Magazine Inc.





# Cambridge 02138

*Energy divestiture, drug discovery, worker in wood*

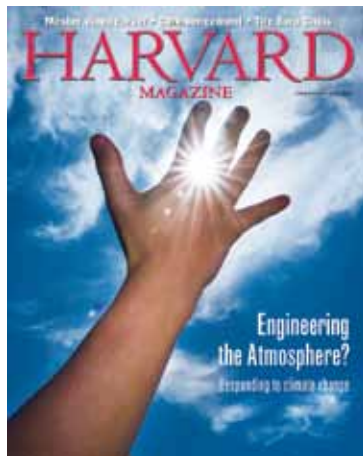
## GEOENGINEERING AND CLIMATE CHANGE

DAVID KEITH'S WORK on atmospheric engineering ("Buffering the Sun," July-August, page 36) is obviously both thoughtful and well-intentioned. However, several aspects are troubling, and though Professor Keith recognizes and responds to these concerns, they are still worth pondering. The broadest one has to do with the law of unforeseen consequences. If past human history is any indication, nature's secrets far exceed in complexity and depth our efforts to plumb them. We don't know what the consequences of geoengineering will be to the planet, but we can be sure that many of them will not have been anticipated.

Another concern, similarly born of caution, is more specific: if the greenhouse effect can be reduced, might that very fact allow us to relax our efforts to move toward a sustainable economy? Will we use that breathing space to soften our impact on the Earth, or to dig ourselves in deeper by maintaining our level of consumption? The model is clearly that of addiction. Any "success" in altering the climate would be comparable to finding an overlooked stash of heroin in the closet: the pressure to quit would be off. There is only one bottom line: humanity must learn to live in harmony with Nature's limits or die.

A third concern is the barely mentioned fact that climate change is only the most pressing of many ecological crises. Forceful attempts to solve this one could well make others more acute. As so often with technology, an abundance of enthusiasm combines with a dearth of perspective.

Finally, although one can argue that the need for decisive action trumps all, how easy it is to underestimate the messiness of human affairs. In movieland, the comet headed



for Earth is blown up by a united, purposeful humanity. I doubt real life works that way, especially when economic motives are present, and the tools of deliverance are so like the ones of depredation.

I wish I had a better answer. Yet suspicion remains that technology is by its nature myopic: closer to what got us into our predicament

than what will get us out.

DAN BRESLAW '59  
West Corinth, Vt.

I READ with great interest about David Keith's work in "climate engineering," a term covering various attempts to combat global warming. It reports Keith as being "hopeful

about technical innovation 'but deeply pessimistic about human behavior when it comes to protecting the natural world.'" From my perspective, that's often precisely the problem—human behavior. If it isn't the hubris that says "I know what I'm doing," it's the laziness or sloppiness that says, "That's good enough. What could go wrong?" Then we get the predictable "Oops!"

Examples of "oops" on a large scale are numerous. Gypsy moths introduced into New England in the late 1860s to develop a silkworm industry here. No silkworm industry today, but plenty of gypsy moths. The Indian mongoose was brought to Hawaii (from Jamaica) in the 1870s to control the Norway brown rat (which jumped ship, as rats do), but the diurnal mongoose hardly ever met the nocturnal rat, so today there are plenty of both animals but fewer native Hawaiian bird species. Kudzu, brought in by horticulturalists to control erosion, has been a great success, too, hasn't it? The Everglades are now home to breeding populations of Burmese pythons (maybe they can eat some of the imported South American nutria there), and I see from the Minnesota DNR's website that two large species of Asian carp, imported to control plankton in southern aquaculture ponds, escaped during floods (sur-

## Explore More

Visit [harvardmagazine.com/extras](http://harvardmagazine.com/extras) to find these and other Web Extras from the September-October 2013 issue.

**From Glitter to Goat Cheese**  
page 18 | Watch a video about Max and Trystan Sandvoss, the brothers behind First Light Farm and Creamery in upstate New York, who produce artisanal goat cheese. Plus, try their recipe for chocolate brownies with goat cheese.

**Assassin's Creed**  
page 22 | Watch a clip from video-game writer Corey May's popular *Assassin's Creed*—a historical action-adventure series that has sold more than 55 million copies.

**A Tenor's Tunes**  
page 20 | Hear songs from acclaimed jazz saxophonist Joshua Redman's newest album, *Walking Shadows*, including hits such as "Adagio," "Let It Be," and "Let Me Down Easy."

**Harvard in Allston**  
page 57 | See additional images of Harvard's planning for its campus center in Allston.

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FROM TOP: STEVE POTTER; COURTESY OF UBI SOFT ENTERTAINMENT; ELIZABETH ATTENBOROUGH; BOSTON RED DEVIL FOOTBALL AUTHORITY

# One Harvard

AS THE NATION'S teachers and students return to classrooms this fall, a small, well-prepared group of education leaders will be ready to shape their experiences in novel ways and boost achievement in schools and school systems from Boston to Philadelphia to Des Moines to DC. Who are these new leaders? They are our first class of graduates from Harvard's Doctor of Education Leadership, or EdLD, program—21 extraordinarily talented women and men who will be advancing curriculum reform, directing strategy, coaching principals, and recruiting teachers in schools, districts, agencies, and non-profits throughout the country.

These graduates are uniquely trained, since their degree program was uniquely constructed. During their time at the Graduate School of Education, they discussed and debated the latest thinking in educational theory and practice with such faculty as Elizabeth City, Monica Higgins, and Jal Mehta. But they also studied politics and American public policy with Elaine Kamarck of the Kennedy School, explored child welfare and social justice with Elizabeth Bartholet and Jessica Budnitz of the Law School, and learned how to build and sustain a successful enterprise with Clayton Christensen, Chet Huber, Derek van Bever, and Stephen Kaufman of the Business School. They experienced one Harvard, its distributed strengths within their reach as they gained insights across disciplines that all come to bear on the daunting task of reforming and improving education.

I have been struck, especially in recent years, by the appetite among faculty for opportunities to solve problems that exist in the spaces between Schools and departments. Guided by questions not easily answered through single disciplines, they seize on issues such as energy or global health or urbanism. They lead efforts that reveal the foundations of human behavior, unlock the potential of neuroscience, and address new challenges posed by life in the digital age. Their explorations take them from engineering to the humanities, from medicine to public health as they advance research in collaboration with colleagues who have complementary expertise and skills.

Students, too, are eager to learn from and work with faculty outside of their programs of study. Over the past four years, cross-school registration has increased by more than 30 percent. Courses on the art of communication, design thinking, the basics of computer science, and innovation and entrepreneurship attract individuals from diverse intellectual backgrounds, creating more occasions for students to consider issues from a variety of perspectives. Concentrations in architecture and theater, dance, and performance are being developed, and will connect undergraduates with experts in the Graduate School of Design and at the A.R.T. At the same time, faculty from eight—and counting—Schools have created modules



and courses for HarvardX, a growing online learning initiative that benefits students on campus and learners around the world.

If research and teaching are the heart of what we do at Harvard, the structure we have in place to support those priorities is our lifeblood. In the past few years, we have adopted a University-wide calendar, integrated information technology, and reorganized the Harvard Library. These significant changes make it easier for members of the campus community to take full advantage of all that Harvard has to offer them. We also have created common spaces, including the recently renovated Science Center Plaza, to encourage spontaneous engagement.

Being surrounded by excellence raises expectations and inspires aspirations. It is one of the greatest benefits of membership in the Harvard community. One month before the first EdLD students graduated, I joined Pusey Minister Jonathan Walton to dedicate the Porch at Memorial Church. Standing among the chairs and tables that now look out over Tercentenary Theatre, he captured beautifully the ideal of one Harvard, noting that the new common space belonged to every member of our community and that every member of the community belonged in the space. This reciprocity is, in my mind, the essence of being a part of Harvard. Celebrating all that the University is means having the courage to imagine all that it can be, all that it can do for the world when we work together and raise our sights.

Sincerely,



prise, surprise) and are now established in the Mississippi River system.

So after threescore years of watching the human tragicomedy unfold, I quite agree with Keith. After all, what could go wrong?

MARK McTAGUE  
Cockeysville, Md.

IN INDUSTRY, particularly manufacturing, when something goes wrong, they turn to a formal process known as Corrective Action. Probably its most important component is Root Cause Analysis, because it leads to ultimate rather than proximal solutions to the problem. In the case of climate change, the root cause is population growth. If we halve auto emissions per car in the next five years, but by then there are three times as many drivers on the road, we have not gained much.

Unfortunately, I do not foresee any significant cuts ahead in population growth other than war, disease, and famine. No CEO wants fewer customers, no religious leader fewer adherents, and no politician fewer voters. Too bad.

PETER HAAS, A.M. '79  
Actworth, N.H.

THE ARTICLE offers a fascinating glimpse into modern geoengineering technology. But as a physicist whose research is into complex systems, the "illusion of control" that routinely plagues efforts to direct such systems comes immediately to mind. The climate is a prototypical such system: of massive complexity, with innumerable known and unknown feedback loops and a very large number of excruciatingly sensitive control parameters. We have not come close even to consistently modeling climate, as the next Intergovernmental Panel on Climate Change report will make painfully clear (hastily awarded Nobel Prize notwithstanding).

Caution: Let's make certain it's geoengineering we're having at, not egoengineering.

JEFFREY SATINOVER, ED.M. '73, M.D.,  
PH.D.

Department of Management, Technology &  
Economics, ETH, Zurich  
New York City

#### ENERGY DIVESTITURE

AT COMMENCEMENT, President Faust addressed the immense climate change that is

upon us, rightly embracing the University's commitment "to ask and address the larger questions" through teaching and research (see "They Said...", July-August, page 44).

This sounds only realistic. But realism requires a keen appraisal of the political and social forces in play, including a recognition that the nation's chief institutions of power, investment, and legitimacy have largely defaulted. Our political, economic, administrative, journalistic, and religious authorities have failed by purpose, misdirection, corruption, and inadvertence. They appear to succeed only when judged by conveniently narrow criteria.

Central investment decisions are made by corporate boards so committed to maximizing shareholder value as to be deceptive or indifferent to "negative externalities" that make life less sustainable. The political system is crippled by a political party that junks the overwhelming scientific consensus. Cynical denial, ruthless myopia, regulatory capture, political timidity, and stupidity prevail.

It is in this context of flat-out unrealism—or what C. Wright Mills memorably



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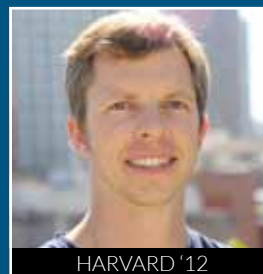
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### LETTERS

called “crackpot realism”—that the campaign to divest Harvard from fossil-fuel investment arises. Harvard is not only an illustrious center of research and education but a symbolic and moral center. Harvard’s actions—and inactions—speak volumes. Whether or not the institution chose this calling all by itself is irrelevant. Harvard’s decisions—and refusals to decide—carry substantial symbolic weight. To recognize this is realism. To refuse to recognize it is to be blinkered.

Actual realism requires recognition that the fossil-fuel industry not only endangers the earth, but fuels the destructive, fabulist cause of climate change denial. Therefore the Harvard Corporation, by investing in the industry, undercuts the University’s research and teaching commitment.

A sharp-eyed appraisal of the political and social forces in play requires Harvard to respond to the climate emergency by putting its investments where its teaching and research are.

TODD GITLIN ’63  
New York City

PRESIDENT FAUST believes Harvard is doing its part to fight climate change by educating future heads of the EPA. This is disingenuous at best and seriously deluded at worst. Having Harvard-educated alumni in positions of power is great, but for a real impact, Harvard needs to align itself with those arguing for divestment and an *Energiewende* (energy transformation) for the U.S. It is also in Harvard’s narrow financial interests to get out of the fossil-fuel business as soon as possible. Let’s keep working to achieve that goal.

Fighting fiercely and not relinquishing the ball,

MARC STRASSMAN ’69  
Valley Village, Calif.

### DRUG DISCOVERY

VEMURAFENIB, a promising new drug for melanoma that was described in “Systematic

Drug Discovery” (July-August, page 54), is a useful case study for efforts to improve the drug-development process. It must be noted that this drug was developed at a near-record pace. The first clinical trials were initiated in 2006 and five years later an application was submitted to the Food and Drug Administration (FDA)—much faster than the seven to eight years the development process typically consumes. Similarly, the FDA quickly recognized the promise of vemurafenib and approved the drug in less than four months; the typical length of a review is 10 months. Although the emergence of resistance to this drug is disappointing, we should remember that vemurafenib represents an example of our drug-development process working well and delivering a promising new drug at a breakneck speed.

Additionally, the article laments the decline in the number of drugs approved by the FDA in recent years, asserting that the number of approvals “has declined from approximately 100 to about 30 per year in recent decades.” This is inaccurate. In 2011, the FDA approved over 100 so-called new drug applications. Of these, 28 were totally new medicines, which represent the greatest promise to patients. The number of these new medicines approved by the FDA has risen sharply in recent years, and 2011’s tally falls in the 90th percentile of drug approvals in the postwar era. At present, we are not doing badly, but there is no doubt that much more can be done to accelerate the transition of new science from bench to bedside. The new Therapeutic Science program at Harvard Medical School will certainly contribute!


NICHOLAS S. DOWNING ’07  
School of Medicine, Yale University  
New Haven

*Krayer professor of systems pharmacology Peter Sorger replies:* We thank Mr. Downing for emphasizing that the approval of vemurafenib should be regarded as a triumph of genomic medicine and expeditious regulatory review. The question is whether the rapid emergence of resistance to the drug (which can easily be detected in preclinical settings) might have been recognized earlier and mitigated through development of alternative agents or combination therapy. In pointing out our systematic failure to study new drugs thoroughly, understand their precise mechanisms of action, and anticipate the emergence of

### SPEAK UP, PLEASE

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The background of the advertisement is a detailed oil painting. It depicts a professional meeting in a high-rise office. A man in a dark pinstripe suit stands on the left, gesturing with his hands as he speaks to a man and a woman seated at a table. The woman, on the left, is wearing a tan blazer and holding a notepad. The man, on the right, is wearing a green blazer and blue trousers, gesturing with his hands. The table is covered with a white cloth and has a vase of yellow flowers on it. Large floor-to-ceiling windows in the background offer a panoramic view of a city at sunset or sunrise, with mountains visible in the distance. The lighting is warm and golden, creating a sophisticated and professional atmosphere.

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## LETTERS

resistance, we are faulting neither the companies who developed drugs such as vemurafenib nor physicians who prescribe them. We are simply pointing out the opportunity for development of a new (or revitalized) branch of biomedicine with potentially significant societal impact.

Mr. Downing is also correct in pointing out that 2011 was a banner year for FDA approvals. We certainly hope this trend continues, although our multiyear average seems a safer metric.

### WORKER IN WOOD

KUDOS FOR Craig Lambert's lovely article about David Esterly, "The Art of Subtraction," July-August, page 30). As one who practices a craft, is a devotee of Yeats, and delights in prose that is both excellent and idiosyncratic, he really speaks to my condition.

JUDITH S. STIX  
St. Louis

### SOCIAL IMPACT BONDS

ASHLEY PETTUS's article on "Social Impact Bonds" (July-August, page 11) maintains the convenient fiction that tweaking the non-profit system—adding one more level of bureaucracy, another way for private investors to profit from the provision of public services—is the best we can do for this country's "toughest problems," i.e. the underclass.

There is no way that the nonprofit sector can make up for the deep cuts to government programs under sequestration, after decades of cuts to services for the poor and middle classes. Only the federal government can summon the resources to subsidize housing, food, childcare, and education, as well as services for the elderly, sick, and disabled, at the necessary levels.

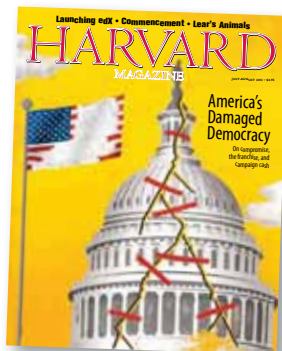
Nonprofits burn out countless good people trying to meet ever-increasing needs locally instead of organizing to demand adequate federal resources. They can offer rich donors ego-gratification and tax benefits. But they can't solve the problems created by laissez-faire capitalism, which continues to make the rich richer at the expense of all the rest of us. To pretend otherwise is to accept the federal government's abdication of responsibility to the American people, and to follow Grover Norquist's [78, M.B.A. '81] prescription: shrink the government until it's small enough to drown in a bathtub.

JANE COLLINS '71  
Medford, Mass.

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## URBAN JOBLESSNESS

I QUESTION the basic premises of the article “The Urban Job Crisis” (May-June, page 42): that the crisis would in part be alleviated by finding “paths toward employment for low-income blacks and Latinos” and that that path is to be found in educational opportunities “that will enable them to find stable jobs in the modern labor force and work their way into the middle class.”

In my view, I question the implication that the modern workforce could exclude jobs that are now categorized as “low paying,” jobs such as those in the service industries. If it can be given that such jobs will always be with us, then our focus could and should be on how to reward those people holding those jobs sufficiently so that they can support themselves and their immediate families in livable conditions. The low pay from today’s minimum wage is totally inadequate to meet these conditions. Raising the minimum wage to an appropriate level would accomplish more than meeting basic human needs. It would result in multiplying the numbers of consumers. This, in turn, would redound

to the bottom lines of producers and, as a consequence, to their stockholders.

But raising the minimum wage would not alone solve today’s job crisis. We should look to our government and our major corporations to contribute to the solution. Our government can create millions of jobs and now, belatedly, is the time to do it. No mystery as to how it can be done. The WPA and CCC did it in the 1930s and ’40s, as does the Job Corps. Furthermore there are billions, if not trillions, of revenue dollars to be obtained by enforcing the tax code as it is and, additionally by reforming the code to mandate offshore income to return back home to be taxed.

What could be done with those corporations, who are now sitting on huge surpluses waiting to renew their faith in our country before investing? My fantasy is that they could be encouraged to spend their lobbying funds on promoting the common good and that the very act of bipartisan collaboration would stimulate renewal of faith and release of funds for investment.

In summary: resolving the urban job cri-

sis can be accomplished if a) government raises the minimum wage to a living wage, enforces and reforms its tax code, and launches programs to create jobs while b) corporations are encouraged to invest their excess surpluses.

ROBERT E. SIMON JR. ’35  
Reston, Va.

## SUPREME COURT “DIVERSITY”

THE REPORTAGE on Commencement 2013 (“Lows and Highs,” July-August, page 40) included a curious “high-minded and serious” observation by Jeffrey Toobin ’82, J.D. ’86, during his Law School class day speech. The “distinguished Supreme Court reporter” noted that the current court “now has five Republicans and four Democrats—and that tells you most of what you need to know.”

Really?

I believe that a more interesting and insightful observation would have been that the current court “now has six Harvard Law School matriculants, and three Yale Law School matriculants—and that tells you most of what you need to know.” (Jus-

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PHOTO: ROSE LINCOLN/HARVARD UNIVERSITY

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INSIDE LOWELL LECTURE HALL, WILL BURKE '13 BUILDS A PROTOTYPE FOR A BALLOON-SUPPORTED STRUCTURE THAT COULD BE USED FOR LIFTING AND FOR SHELTER IN THE WAKE OF DISASTERS.

tice Ginsburg later transferred from HLS, and graduated Columbia Law School.)

TOM REARDON '68  
Plymouth, Mass.

### SCIENCE LEARNING

IN "Science at Harvard: Collaborations and Transformations" (The View from Mass Hall, July-August, page 6), President Drew Faust asserts that "getting students involved in research early on is key to their engagement and sustained interest in scientific careers." This view is influencing science education at Harvard and across the U.S. In my experience it often leads to "research opportunities" that either have little value, or are more traditional learning opportunities rebranded as "research." If President Faust's assertion is true this may be worth it. I am curious what the evidence for her assertion is?

RICHARD TAYLOR  
Princeton, N.J.

### VAULTING WITH VERVE

BEING a lifelong, certifiable Track and Field Nut, I read with pleasure the article ("Up, Up, and Over!" May-June, page 55) about champion pole-vaulter Nico Weiler '12 ('13). It reminded me of watching a track meet during undergrad days in the early '60s at Briggs Cage, where indoor track meets were held at Harvard. West Point was one of the teams competing, and their stellar vaulter, Dick Plymale, was jumping. The Cage was a bare-bones structure with a thin warm-up running track as a kind of balcony. Plymale was far "above" any Ivy vaulters of the day, so he didn't need to do his best. The landing pit in those days was made of a bag of soft neoprene extrusions, which did not provide very good cushioning. When Plymale took his turn, the bar was set much lower than his normal height. As he sailed way above the bar, he just missed smashing into the upper running track. Then his momentum carried him to the back edge of the meager pit. He hit hard and rolled onto the floor, but was not injured. That single vault was enough to win, but it could have ended his career. It was a vivid indication of the lowly prowess of Ivy vaulters of the day and was a good reason to build a better facility.

DAVID WILSON '65  
Placitas, N.M.

### COACH PARKER

WHEN I WAS teaching Harvard undergrads I had a member of the varsity crew team

in my course. He asked for an extension on a paper on the grounds that he needed to practice for the Harvard-Yale Regatta. Of course I said to myself that we undergrads at U. Chicago would have never asked for an extension from a professor unless we were near death, in a hospital, and had a letter from a doctor to prove it. But this was Harvard, not Chicago. Crew was a Big Deal at Harvard. And the Harvard-Yale Regatta was the *pièce de résistance*. So I gave him the extension. The only extension I ever gave to a Harvard undergrad without a doctor's letter. A tribute to Coach Parker.

RIP.

FRANCIS A. BOYLE, J.D.  
'76, Ph.D. '83  
Champaign, Ill.

*For coverage of Harry Parker, the legendary crew coach who died on June 25, see page 63 and <http://harvardmag.com/parker-13>; to read our 1996 cover article about him, visit <http://harvardmagazine.com/1996/05/upstream-warrior>.*

### MORE ON MONRO

HERE'S another story about the late John U. Monro (Vita, May-June, page 30, and letters, July-August, page 74).

In the fall of my junior year, I was invited to compete for an executive job on the *Crimson*, and I was chosen to become editorial page editor. But neglect of my course work that fall caught up with me during the winter exam period. I experienced an acute emotional breakdown and was hospitalized for six weeks at the Massachusetts Mental Health Center in Boston.

My return to the college involved an interview with Dean Monro. During our lengthy conversation, perhaps recalling his own turbulent college career, he remarked, "All of us are skating on thin ice." I've never forgotten that comforting comment.

I did return to Harvard, reclaimed my job on the *Crimson*, and graduated magna cum laude. Not a bad outcome, all things considered.

STEPHEN CLAPP '60  
Jeffersonton, Va.

AS THE FIRST Harvard Regional Scholar in 1952, I was blessed with the opportunity to attend the College. Late summer of 1954, a re-

newal notice for my junior year at the same stipend was received from the financial-aid office, John Monro, director.

A good summer job and a new bride (an employable teacher) reminded me of my Depression-era father's advice: "Never ask for more than you need."

After advising the financial-aid office I could manage with less, a curt reply from Monro instructed me to report to his of-

fice as soon as I hit the Yard that fall. With great trepidation, fearing complete loss of stipend, I did as instructed. After I entered the director's office and identified myself, John Monro jumped from his desk, grasped my hand with a firmness that matched his crew cut, and said he wanted to shake the hand of the first person to turn down money from Harvard.

Honor my financial judgment he did, but he assured me of future aid should the need arise. It did not, but I will never forget that handshake and the value validation it implied, an integral part of Monro's character, the "Monro Doctrine," and his life after Harvard.

RALPH W. STEPHENS '56  
Reno

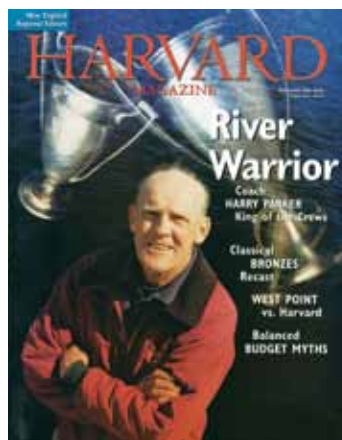
### AMPLIFICATIONS AND CORRECTIONS

OUR ARTICLE "Time Flying" (July-August, page 64) incorrectly identified fiftieth-reunioner John Fryer '63, Ph.D. '74, as a member of the class of 1964. We regret the error.

Robert C. Davenport '44 wishes to correct the military rank mistakenly assigned him in a caption for last issue's College Pump ("Philosophic Fun," page 68). The retired major general in the Massachusetts Army National Guard, not in the U.S. Army, writes, "It may seem a minor matter to most people, but to soldiers it matters significantly. The qualification for promotion in the senior ranks is demanding in the federal system and tends to be more relaxed in some State Guard systems. While I will defend my qualifications mightily, only those who would have to work with me can make the final judgment." We regret the error.



Visit [harvardmagazine.com](http://harvardmagazine.com) to read additional letters to the editor.





# I Choose Harvard...



**Robert Beal '63,  
MBA '65**

As an undergraduate, Robert Beal '63, MBA '65 studied history and government affairs, but the most enduring lesson of his Harvard College experience was about giving back. Now a real estate developer and investor in Boston, Beal has shared his time, expertise, and generosity with the Faculty of

Arts and Sciences (FAS) and across the University. To mark his 50th reunion this past May, Beal plans to augment an endowment fund he established five years ago to promote exemplary teaching in the FAS—especially to recognize and reward junior faculty. He'll also support House Renewal, the bold program to breathe new physical and programmatic life into the cherished undergraduate residences. Says Beal, who lived in Mather and Quincy Houses and was active in politics, "Harvard taught me to become civically and philanthropically involved with my community, and to become friends with many people."

TO READ MORE, PLEASE VISIT [WWW.ALUMNI.HARVARD.EDU/BEAL](http://WWW.ALUMNI.HARVARD.EDU/BEAL)



**David Golden '80,  
JD '83**

As an investor in emerging companies, David Golden '80, JD '83 is always on the lookout for technology-driven innovation. That's why he took notice of Harvard's foray into cutting-edge online education. Golden is making a significant gift to support HarvardX, which is helping faculty create digital

content for courses offered through edX, the University's new nonprofit partnership with MIT. "This is about taking the most interesting, vibrant intellectual property in the world and making it accessible," says Golden, a managing partner at Revolution Ventures in San Francisco. HarvardX will benefit Harvard College students by shedding light on how people learn and by providing campus classrooms with engaging multimedia materials, notes Golden, who lived in Lowell House and concentrated in government. "I think HarvardX makes clear that the University cares passionately about quality teaching."

TO READ MORE, PLEASE VISIT [WWW.ALUMNI.HARVARD.EDU/GOLDEN](http://WWW.ALUMNI.HARVARD.EDU/GOLDEN)

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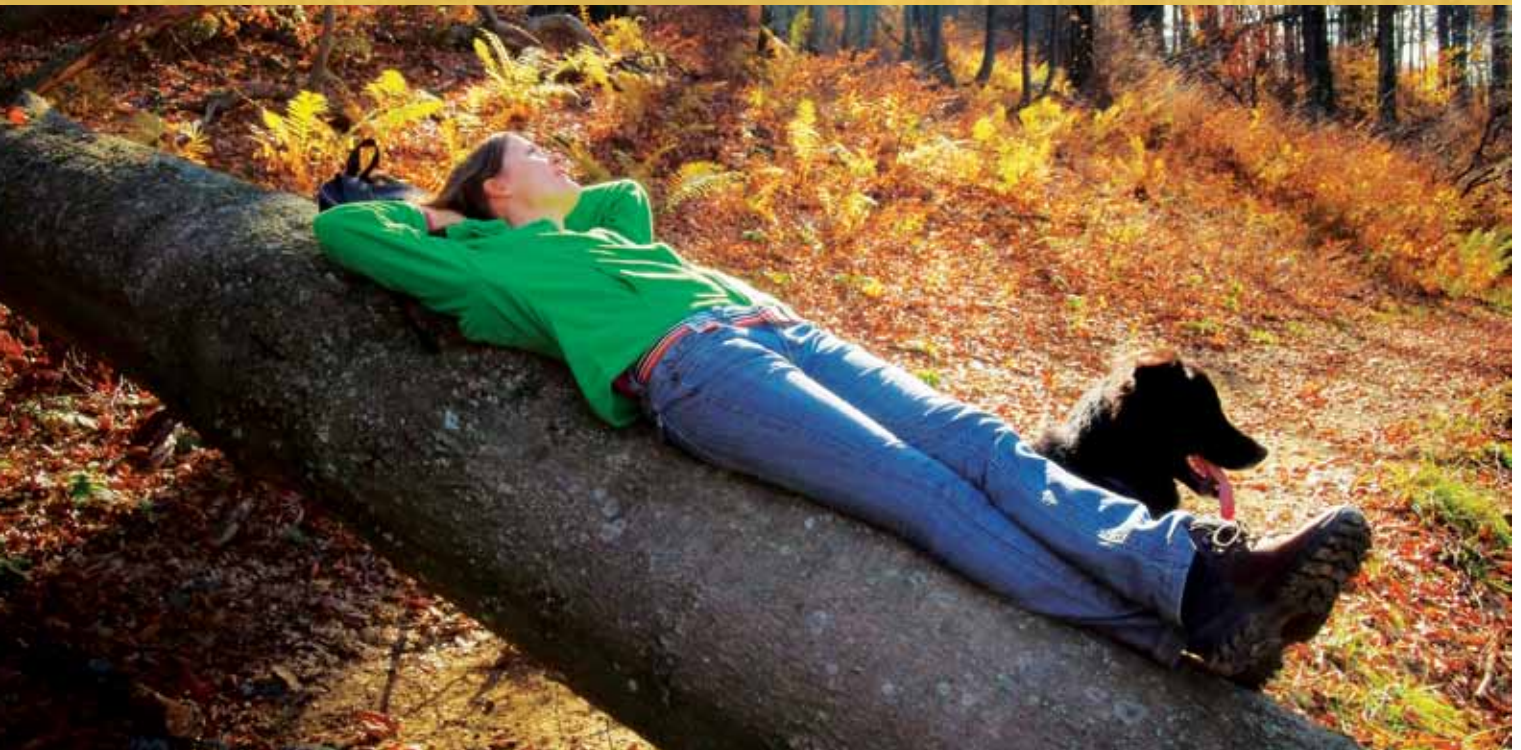
LEFT: AN UNDERGRADUATE ENGLISH SEMINAR ON BOSTON AND EMANCIPATION VISITS THE BLACK HERITAGE TRAIL ON BEACON HILL WITH PARK RANGER AND CO-TEACHER RYAN MCNABB.

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DAVID ASCENDANT

## Rise of the Little Guy

IN TWENTIETH-CENTURY Western society, “big” became synonymous with “powerful.” To connect with a wide audience, for example, a musician needed a contract with a big record company; an author needed the promotional help of a commercial publisher. But no longer, points out Nicco Mele, a Harvard Kennedy School (HKS) adjunct lecturer in public policy. In a new book, Mele explores how technological advances have combined with cultural and economic factors to tilt the balance of power in favor of the little guy, undermining and destabilizing big players who once seemed invincible.

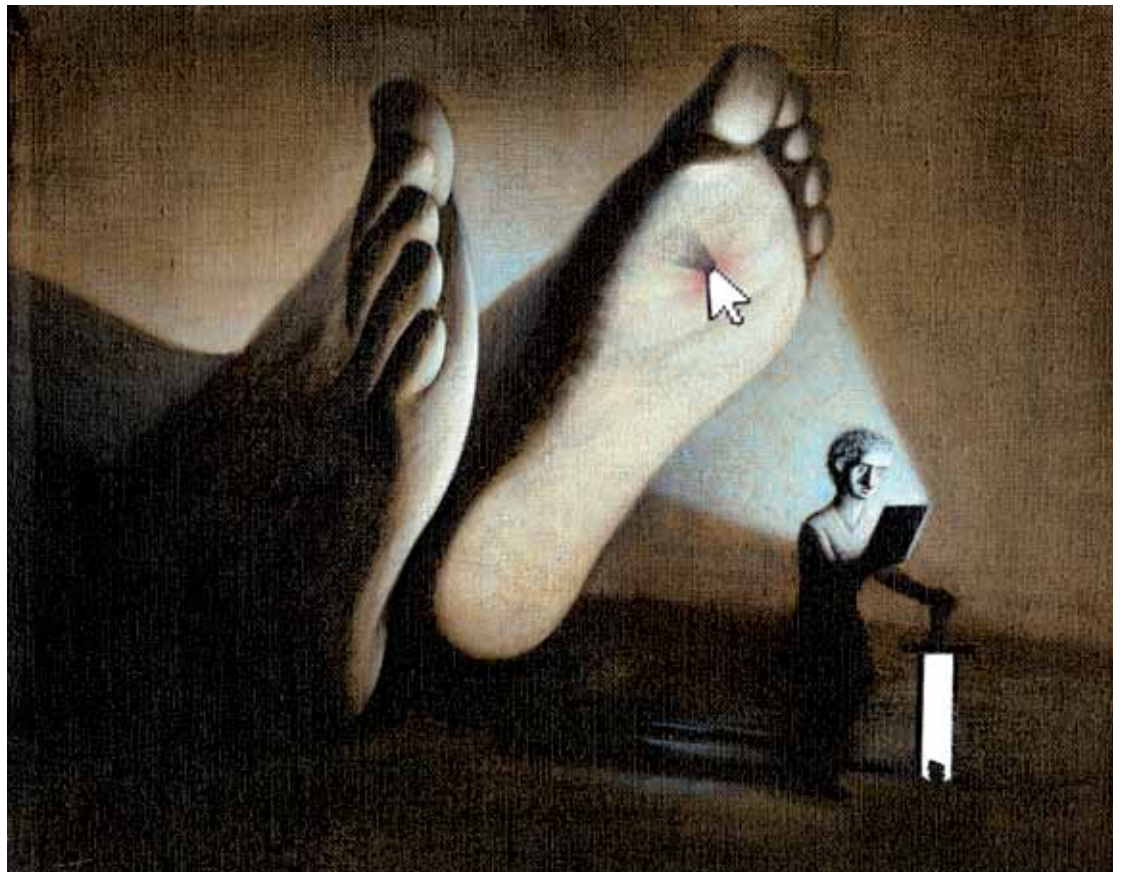
The new power of grassroots movements has its pluses, for sure. In the case of entertainment, the rise of the Internet has made it easier for the public to discover new music without the big recording companies. In politics, the Internet enables candidates to raise funds and publicize their platforms without backing from a major party. The local-food movement and proliferation of farmers’ markets give consumers

an alternative to big agriculture and food conglomerates.

But Mele makes clear that there are downsides as well in his new book, *The End of Big: How the Internet Makes David the New Goliath* (St. Martin’s Press), intended as a wide-ranging wake-up call. He points out, for example, that the Internet gives writers a platform to reach millions of readers, but

asks who will produce reliable journalism if all the big newspapers die. In politics, the Internet can fast-track a little-known candidate to fame, but that could lead to the election of demagogues. And in the commercial sphere, as small-scale manufacturing becomes increasingly viable, who will guarantee the safety of products such as aircraft and pharmaceuticals?

Mele (pronounced ME-lee), who led Web efforts for Howard Dean’s 2004 presidential bid and now consults on Internet strategy, teaches courses at HKS on digital strategy for political campaigns and on media, politics, and power in the digital age. He





## RIGHT NOW

also serves on the advisory board of Harvard's Nieman Foundation for Journalism. Although opportunities now abound for authors to self-publish, reflecting precisely the trend his book describes, he purposely chose a major publisher because he aims to reach leaders ensconced in large institutions who complacently assume those institutions aren't going away.

He reserves his harshest criticism, and sternest warnings, for government officials who fail to recognize the threat that new technologies and grassroots forces pose. For example, he writes about one community near Atlanta that, dissatisfied with the local government's lack of responsiveness, privatized all of its public services, effectively replacing city hall. This might appear an efficient way to maneuver around red tape to get results, but if enough communities do this, Mele warns, government will lose its authority altogether.

He describes some truly chilling phenomena such as Silk Road, an online black market where literally anything can be bought or sold—weapons, drugs, pornography, human-trafficking victims, contract

killing jobs—with complete anonymity. He warns that Bitcoin, a Web-based currency system, could undermine national currencies. He describes the Internet's dark side in dystopian tones: “Ten years from now, we might well find ourselves living in constant fear of extremist groups and lone individuals who, thanks to technology, can disrupt society at will, shutting off power, threatening food supplies, creating mayhem in the streets, and impeding commercial activity.”

It is time, he writes, to stop assuming that technology is solely a force for good. Instead, he declares, it “empowers both sides of the equation—pro-democracy human-rights activists and loose networks of terrorists.” But if citizens make a concerted effort to reinvent institutions in line with the values they hold dear—rule of law, due process, free markets, the protection of civil liberties—the present holds tremendous potential.

Mele sees this moment in history as an opportunity to reimagine our institutions so they can harness the best of technology and pick up where technology leaves off. He identifies some promising efforts, including

those of the Pirate Party, active in several European countries: its primary concerns include protecting individual privacy and using technology to facilitate direct democracy. He notes that Iceland rewrote its constitution using a process in which citizens participated via social media, and that, along similar lines, Furman professor of law Lawrence Lessig has joined forces with the Tea Party in calling for ordinary citizens to organize a constitutional convention.

Reimagining large, complex institutions is no easy task, but in the age of the newly empowered individual, Mele believes it is possible, with some creativity and effort from each of us. For all his warnings, he is also optimistic: “The average American spends 22 to 24 hours a week watching television,” he writes. “You only need to devote a few of those hours” to civic engagement to have an “enormous impact.”

—ELIZABETH GUDRAIS

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## SAUSAGE-MAKING AND SKYSCRAPERS

# Sixteen-Acre Battlefield

**I**N THE first month after 9/11, Larry Silverstein, the real-estate developer who owned the leases to the Twin Towers, received nearly 3,000 letters telling him how and what he should rebuild. The public's desires reflected various irreconcilable wishes: "revenge, rebirth, peace, the latest in green design, a park, commercial space, affordable housing," writes Elizabeth Greenspan, preceptor in expository writing, in her new book, *Battle for Ground Zero*.

In 2001, Greenspan was a University of Pennsylvania graduate student in urban anthropology; she went to Ground Zero to investigate, and has returned many times in the last 12 years, interviewing virtually all the significant players in the resurrection of the area and writing dispatches about it for *The Atlantic's* website. The Ground Zero process "is a microcosm of how things work today, and how com-

plicated decisions are made in the public arena," she says. "It's really ugly—there's a lot of dysfunction. But this is it."

The terrorist attacks transformed a purely commercial space into, for many, a sacred burial ground. Those who saw the 16-acre site as sacred and those with a commercial interest in the land clashed politically, and as a cultural anthropologist, Greenspan studied the meanings people found in the site. "It wasn't only *because* people were killed, but the *way* they were killed," she explains. "A thousand people were never

**A former resident of the neighborhood and his son revisit the World Trade Center site for the first time.**



ELIZABETH GREENSPAN



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and 1970s: “They’d take six blocks, bulldoze all the streets and sidewalks to create this giant undifferentiated space, then fill it with huge skyscrapers with huge footprints—massive buildings and no street life,” she says. “Architects felt that the tragic events of 9/11 might have a silver lining: rectifying the mistakes of the past and creating a new neighborhood, a place where people actually lived.”

Eventually, in “one of the slipperiest, most disingenuous moments” of the process, the Lower Manhattan Development Corporation (LMDC) ran a design competition to create a “master plan” for the site—even though Silverstein, the Port Authority, and the governor’s office had already decided on all the elements the site would contain: skyscrapers, a memorial, a train station. The competition was simply a contest to *map* the site, to assemble these pieces into an organized space. Architect Daniel Libeskind was declared the winner, though only after Governor George Pataki and Mayor Michael Bloomberg, M.B.A. ’66, overruled the LMDC’s panel of judges, architects who had chosen a plan by an ar-



chitectural consortium called THINK.

Even so, Silverstein, the Port Authority, and the governor always intended to hire *other* individual architects to design the actual buildings. “Hardly any of the public understood this,” Greenspan explains. “They looked at Daniel Libeskind’s drawing and said, ‘OK, this is what will be built, and we’re excited about this.’ But Libeskind’s tower, which everyone had fallen in love with, was *never* going to be built. Larry Silverstein had hired his architect, David Childs, three weeks after 9/11.” (Childs is the architect of One World Trade Center, the primary building of the new complex.) “The only thing remaining from Libeskind’s design,” Greenspan adds, “is the height of the building—1,776 feet.”



**Left: The Port Authority cleared the site of homemade memorials in 2002 and barred future ones. Above: Floridians protest a proposed Islamic Center and mosque two blocks from Ground Zero in 2010.**

ELIZABETH GREENSPAN

Ultimately, the sacred-versus-commercial issue was resolved “very literally,” Greenspan says, by dividing the land evenly: half for a memorial plaza, half for office space. “It took more than 10 years to come up with that!” she says, wryly. “It doesn’t seem like the most creative, imaginative solution, but it’s good enough. What I’ve learned about the democratic process is: if you end up with something that is good enough, in our system, that’s actually not so bad.”

—CRAIG LAMBERT

ELIZABETH GREENSPAN WEBSITE:

<http://elizabethgreenspan.com/>

## THE LIVING PLANET

# Geology Intersects Biology

**P**ACKING the Earth’s 4.6-billion-year history into a two-foot-by-three poster—roughly three-quarters of a billion years per square foot—is no easy task. Yet scientists from Harvard and the Howard Hughes Medical Institute (HHMI) in Chevy Chase, Maryland, have teamed up to do just that with “Earth Evolution: The Intersection of Geology and Biology”—a graphic display (opposite) of how geological and biological processes have dynamically shaped and molded the world we inhabit.

Classic visualizations of life on Earth typically pick up the tale 540 million years ago, when oxygen, land plants, and certain marine invertebrates became abundant. “Earth Evolution” tells a much longer and

more complex story, stretching back to the earliest evidence of life. “For the first several billion years of Earth’s history, it was a world of bacteria and archaea—only somewhat later in the game did we have eukaryotes,” says Fisher professor of natural history Andrew Knoll, referring to single-celled microorganisms and organisms whose cells contain a membrane-bound nucleus, respectively. “The most ancient history most students have thought about—like trilobites or dinosaurs—is really only the last 10 or 15 percent of the history of the planet and the history of life,” continues Knoll, who worked closely with HHMI on the poster. (For more on Knoll’s research into the origins of life, see “Life’s Beginnings,” page 29.)

Using explanatory illustrations, the poster draws connections between biological and geological processes in Earth’s history, including discussions of plate tectonics, chemical cycles, the greenhouse effect, early photosynthesis, and, significantly, the oxygenation of the planet. The story of oxygen, in fact, is really the story of Earth. Knoll and his colleagues at HHMI have therefore divided the planet’s history into three broad chapters based on this all-important gas: a long first chapter without oxygen, which lasted until about 2.4 billion years ago; an almost equally long second chapter when the planet had some oxygen, which lasted until roughly 550 million years ago; and finally, the most recent era, characterized by large amounts of the gas.



The poster also addresses climate change—there is a “key events” section on the left-hand side depicting the greenhouse effect as well as the geologic carbon cycle and mass extinctions. “In the Phanerozoic Eon—the ‘age of visible animals’ that began 541 million years ago—mass extinctions have punctuated evolutionary history,” Knoll reports. Although some are thought to have been caused by large meteorites, he explains, “several are tied to massive volcanism, which caused a rapid increase in atmospheric carbon-dioxide levels. The one process we know that increases CO<sub>2</sub> at rates comparable to those of massive volcanism is human industrial activity, thus linking our biological past and future.”

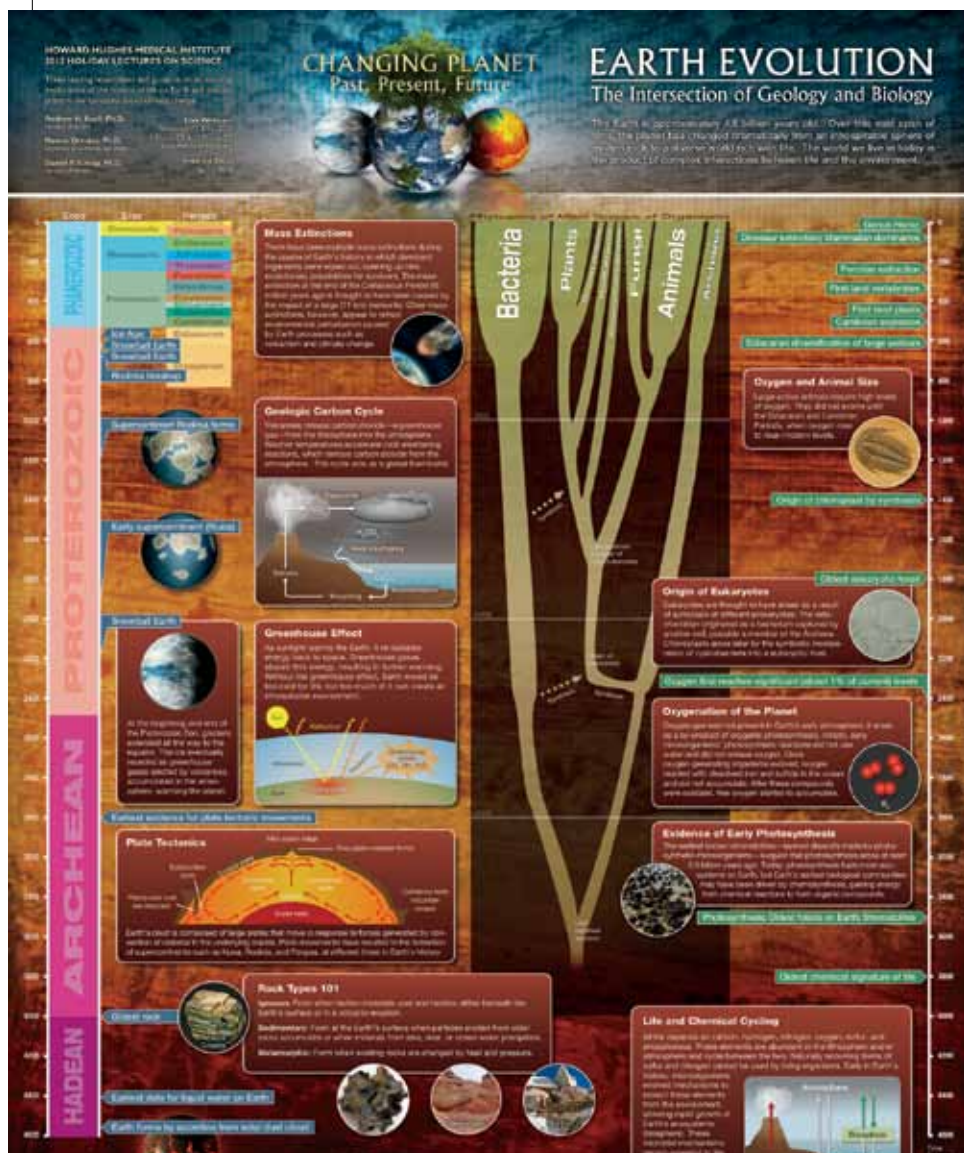
Given their target audience of high-school students, Knoll said he and the

HHMI team were careful to avoid jargon and too much detail even as they tried hard not to “dumb down” concepts. “Earth has been a biological planet through most of its history,” he says, and “every kid has heard about dinosaurs,” yet they seem “much less likely to have heard how we can reconstruct [Earth’s] environmental as well as biological history. This interesting picture of interactions over time is not so common.”

—LAURA LEVIS

The “Earth Evolution” poster, which won honorable mention in the 2012 International Science & Engineering Visualization Challenge, may be downloaded for free at [www.hhmi.org/biointeractive/poster-earth-evolution-intersection-geology-and-biology](http://www.hhmi.org/biointeractive/poster-earth-evolution-intersection-geology-and-biology).

ANDREW KNOLL E-MAIL ADDRESS:  
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COURTESY OF ANDREW KNOLL

# Montage

Art, books, diverse creations



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**Max Sandvoss with some of his goats at the First Light Farm and Creamery in East Bethany, New York** until we retire to do the work we really want to do?" (To underline his new identity as a farmer, he changed his first name to Max.)

Now they look after a herd of more than 100 Nubian and Alpine goats. The goats' milk, along with organic milk from a neighbor's Jersey cows, underlies a variety of cheeses and other products the brothers sell in area farmers' markets and upmarket grocery stores. Their wares, including three varieties of chèvre, cheddar, jack, feta, and cheddar curds, plus cream-top Jersey yogurt and bottled cream-top Jersey milk, are prized by local consumers and have recently become available through a weekly

"dairy share" program. "I'm so much more fulfilled now," Max says. "I think to myself, this is what job satisfaction is supposed to feel like."

Producing their gourmet foods involves the relentless rhythm of farm work. Max and Trystan milk their goats twice daily, with occasional help from local students. (They aspire to afford full-time help someday.) They handle all the other tasks associated with their modern, artisanal version of the earliest type of food processing

## A Fever for Chèvre

*The brothers Sandvoss moved from glitter to goat cheese.*

by STEVE POTTER

**F**OR MAX SANDVOSS '02 and his brother, Trystan, the chores associated with making small-batch artisanal cheese typically begin before dawn and, during western New York's cold, snowy winters, end well after dark.

Their First Light Farm and Creamery in East Bethany, New York, a rural town midway between Rochester and Buffalo, is a long way from Hollywood, where Trystan was a producer and Max a film and television actor. The seed for their career change

grew out of long conversations during an extended vacation in the Pacific Northwest. They fantasized about having a farm and living an agrarian lifestyle. Max began acting in college and found work (as Steve Sandvoss, his birth name) soon after arriving in Hollywood; he starred in *Latter Days* (2003) and appeared opposite Jennifer Aniston in *Rumor Has It* (2005). He says, "Some people work for years as bankers so they can afford to be painters. I'd made a little money and I thought, why should we wait



themselves, augmented with the latest technology: in the pasture or the creamery, they conduct business with tablets, smartphones, and Bluetooth headsets. Yet the goats must be milked on schedule, and the milk, by law, must be processed within 72 hours.

Although the brothers grew up in Westchester County, their New York State roots didn't draw them to this fertile upstate farmland. The impetus came from their mother, Joyce, whose second husband (she was widowed when her sons were in high school) is a western New York dairy farmer. Max and Trystan apprenticed as cheesemakers in Washington State and originally intended to start a creamery there. But she persuaded them to buy an abandoned 20-acre horse farm near her husband's 3,000-acre dairy operation. A year of arduous work transformed the equine facility into a small dairy farm.

The artisanal cheese that "foodies" treasure takes its particular qualities not only from the ruminants that produce the milk. "Making really fine cheese starts with the land," Max says, gesturing to the pasture where the herd is nibbling. "The minerals and nutrients in the earth and the water that falls on it all affect the richness of the grass, which influences the milk and ultimately the quality of what we make from the milk." Seasonal changes also affect the flavor of the cheese—their *chèvre* is milder in the spring and more full-bodied in the fall. Turning great milk into great cheese is "not hard, but it requires the right equipment, attention to detail, and intense focus on the process," Max adds. "My brother likes to say that you can't make good cheese with bad milk, but you *can* make bad cheese with good milk. We keep our goats healthy and make sure they have good grass, and they produce this amazing stuff. What we do after that honors the miraculous nature of the milk."

"What's the shelf life of milk?" asks Trystan, during a cheese-making workshop they offer at the farm. Trick question. "The shelf life is zero," he says. "Nature intends milk to be consumed immediately." He notes that milk goes directly from the mother to her offspring without even being exposed to air.

Bacteria turn milk into cheese, with specific bacterial cultures required for each type. The cheesemaker, Max says, provides the ideal set of conditions for

O P E N B O O K

## A Bloodbath, Averted

**Christa Kuljian '84** traveled just a few miles from home, in Lexington, Massachusetts, to Harvard. Her next step was longer: to South Africa, where she worked in a school, and, after more studies and a few other stops, where she ran a [social-service] foundation's office for more than a decade, as the country became a democracy—and her permanent home. She is now a writer. Her first book, *Sanctuary: How an Inner-City Church Spilled onto a Sidewalk* (Jacana, and via <http://www.sanctuary-book.co.za>), details what happened when refugees from oppression in Zimbabwe were given shelter in a prominent church. From the prologue, set in May 2008, as xenophobic violence swept South Africa:

**A chance remark** by a police officer—"Zulus are attacking all the foreigners"—overheard by one man, was all it took. By 9 P.M. over a thousand men had assembled on Pritchard Street outside the Central Methodist Church in downtown Johannesburg....The men wore jackets and jerseys and stamped their feet against the cold. In their hands they grasped their weapons tightly. The weapons were unconventional, hastily gathered. Mostly they consisted of wooden planks that had been forcefully pulled off the pews of the chapel inside the church, and metal bars that had been wrenched from stairway railings. Desperation and fear, and the memory of another terrifying time just a few months before, had prompted these men to act, and they had pulled the church apart...to defend themselves. Some held the odd brick in their hands, or the leg of a stool, but they stood ready and waiting, shoulder to shoulder....

Word spread on the street that the Bishop [Paul Verryn, who had led the church since 1997] was calling for everyone to move inside. Gradually, reluctantly, the men followed him into the building and into the sanctuary, the large main room of worship in the church. Verryn stood in the pulpit and looked out across the restless crowd. He saw their anger. He saw their fear. Then, slowly and calmly, he spoke.

"Do you think that you would have any



Refugees from Zimbabwe take shelter in the Central Methodist Church on Pritchard Street, in downtown Johannesburg, March 22, 2009.

chance, with your sticks? Do you think that your sticks would defend you against guns? We don't want to start a war. You must bring all of your weapons up to the front and drop them here."

Silence. Verryn waited. No one moved.

Then two men came forward and dropped their metal poles in front of the pulpit. The gathering shifted uneasily and a low murmuring went around the room. Verryn saw their hesitation, but he continued to stand in front of them, waiting, not speaking. Then another man walked forward and dropped his wooden stick. Slowly, a motley pile of weaponry began to form....The battle never happened. The bloodbath was averted. Central Methodist settled back into an uneasy sleep.





**Trystan (left) and Max Sandvoss at milking time. By law, fresh goat milk must be processed within 72 hours.**

the bacteria to do their work, including proper temperature, pH, salinity, and processing time. The entire process can be thrown off disastrously if the wrong bacteria or other microorganisms enter the mix. That sort of contamination is the bane of a cheesemaker's life, and thus the Sandvosses are fanatics about cleanliness and accuracy. In some ways, their creamery resembles the clean rooms used to assemble satellites or electronic equipment, including a positive-pressure ventilation system designed to thwart airborne contaminants. The brothers change their boots when they enter the processing area, and change yet again when visiting

nearby farms, all to minimize the chance of contamination.

Each of the First Light cheeses—based on goats' milk, Jerseys' milk, or blends of the two—has a recipe. Their chèvre is particularly admired; creamy in texture, its subtle combination of flavors stands apart from the almost astringent quality of mass-produced supermarket chèvre, which has turned off many potential customers. "First Light's artisanal cheeses, including their chèvre, are very high quality," says Andrew Galarneau, food writer for *The Buffalo News*. "They are well regarded by owners of specialty food stores, restaurant chefs, and consumers."

At First Light (<https://first->

[light-farm.com](https://first-light-farm.com)), making chèvre begins with a slow pasteurization that avoids the flavor damage caused by the high-temperature flash-pasteurization large dairies typically use. The brothers heat their milk to 140 degrees for 30 minutes, then cool it quickly to 70 degrees. Next they inoculate it with the appropriate bacterial culture, gently stirred through the vat.

After six hours they add rennet, which curdles the milk. Twenty-four hours later, the vat's contents have become a gelatinous mass, to be ladled into gallon-sized muslin bags hung to drain for another 24 hours before being hand-packed into eight-ounce retail containers. (First Light trades the whey that drains off to a nearby farmer, to feed his pigs, swapping it for a share of his organic pork products. The Sandvosses work hard and eat well.)

They normally give their one-day cheesemaking workshops twice a month, except during early-spring kidding season. The workshops focus on fresh cheeses that require little or no aging, such as mozzarella. (In contrast, First Light's cheddar takes

two years to mature.) Between the morning and afternoon sessions, attendees enjoy a lunch prepared by Joyce that features the farm's products as ingredients in each course. Homemade brownies with a chèvre filling are far more delicious than one might imagine. ~STEVE POTTER



## Saxophonically Speaking

*Joshua Redman's sonorous voice on tenor*

**E**PIPHANY ARRIVED for jazz saxophonist Joshua Redman '91 on one of the first nights he ever shared a stage with his father—Dewey Redman, a tenor sax player who had led bands and played free jazz with Ornette Coleman, Keith Jarrett, and many others.

For the first 18 years of his life, Joshua rarely saw his dad. (His mother raised him in Berkeley, California, while his father settled in the jazz hub of New York City.) He did see him play on occasion,

but "he was an influence from afar," the son says, "like other great saxophonists I had heard."

But by his early twenties, when he first played regularly with his father, the younger Redman had become an accomplished jazzman in his own right. "It was one of the most inspiring and intimidating things, to play with my dad," he recalls. "At that point I perhaps had certain talents and skills as a saxophonist. I had some interesting improvisational ideas and could

get a flow going. I could create a narrative line in my solos, and bring surprise and playfulness in, too. But playing next to my dad, I realized how worthless these things were in relationship to his *sound*. He had such a deep, warm, tenor-saxophone sound—it was really a voice for him. He'd start playing a solo, and it made what I was playing sound like video-game music. I was just overwhelmed by his sound."

So the younger musician, who had always hated to practice, began applying advice his father had bestowed when he learned his son was playing the sax: "You've got to practice your *long tones*." Long tones help develop the full, rounded saxophone sound that is so pleasing to listeners. The woodshedding

Art by renowned illustrator Isabelle Arsenault.



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Joshua Redman

ELIZABETH ATTENBOROUGH

career that began in 1993. The new disc includes his longtime associates Brad Mehldau (piano), Larry Grenadier (bass), and Brian Blade (drums)—plus, on six songs, a chamber string orchestra, with flute and French horn. “The strings add a richness and a lushness, a romanticism and even a touch of nostalgia to the music,” Redman explains on his website ([www.joshuaeredman.com](http://www.joshuaeredman.com)). Along with jazz standards like “Stardust” and “Lush Life,” as well as originals by Redman and Mehldau, *Walking Shadows* includes novel choices: the Adagio from Bach’s Toccata in C major for organ never sounded so lyrical as here, and the Beatles’ “Let It Be,” after an opening homage to its gospel roots, takes flight as an energized, playful saxophone improv.

paid off: *New York Times* reviewer Nate Chinen has described Joshua Redman’s sonorous tone as having an “inner glow,” adding that Redman “has stood for a notion of jazz that’s rigorous and porous, edifying and approachable, dying to prove nothing beyond its own quality of expression.”

Redman’s sound enriches his newest album, a collection of ballads titled *Walking Shadows*, the sixteenth CD in a recording

Redman took up the tenor at age 10; he is essentially self-taught. He didn’t make the Harvard Jazz Band on his first try-out, but eventually played with them for two and a half years while finding time to graduate summa cum laude in social studies. He also had a period when he “really got into jazz as a listener—it was the only music I’d listen to,” he recalls. “Every jazz musician goes through a ‘jazz geek’ phase,

when they can tell you who played what on every recording.”

After college he deferred matriculation at Yale Law School and moved to Brooklyn to live in Park Slope with friends from the Berklee College of Music. “I guess I wanted a breather before starting up” at Yale, he says. “I was hoping to relax, hang, party, get a relatively low-stress job, maybe volunteer some, hopefully play a bit of music on the side. I was on a year’s deferment. Turned out to be a never-ending year!” He won the Thelonious Monk International Jazz Saxophone Competition in the fall of 1991 and “great musicians started to call.” Within six months, he could pay his rent and “eat at least one square meal a day” on his jazz earnings. “The more I had the chance to play jazz with some of the very best musicians alive,” he says, “the more I sensed its beauty, its profundity, and how essential it was to my life.”

The saxophone “is an extension of yourself—not your body, but your *self*,” he explains. “In some rare moments, you are so connected with your axe [instrument] that the saxophone itself fades away, and it’s just pure self-expression. That’s the ideal we’re all striving for.”

—CRAIG LAMBERT

## Side Missions, Engines, Joysticks

*The video game Assassin’s Creed’s head writer*

WHILE a feature film occupies its viewers for about two hours, a video game more likely offers a 10- to 40-hour ride—roughly comparable to a book. Furthermore, unlike other entertainment media, video games are *interactive*. “Interactivity changes everything,” says video-game developer Corey May ’99, head writer for the *Assassin’s Creed* games, one of the world’s best-selling franchises. “We are not designing a passive experience. Entertainment usually means spectatorship—those who create it may have the *audience* in mind, but not *audience input* in mind. It’s more immersive and personalized when you have that participating audience.”

Ordinarily, players work a video-game console that includes several buttons and joysticks. Other games use a computer keyboard and mouse. The player controls the movements and, above, all, the decisions of the main character or avatar, the player’s alter ego. For example, in the *Assassin’s Creed* series, which includes several related games sold by Ubisoft Entertainment (where May works), the main character, Desmond Miles, pursues an adventurous quest to find several artifacts (“Pieces of Eden”) that embody extraordinary powers and may even save humanity from eradication by a solar flare. The player determines how Desmond moves through the game’s landscapes—run-

ning, climbing trees or buildings, hiding in rooms, or leaping across roofs.

*Assassin’s Creed* is an historical action-adventure series. Using a device that allows him to experience “ancestral memories,” Desmond travels to the time of the Third Crusade (circa A.D. 1191) and, in later games, to the Italian Renaissance and the American Revolution. Thus players get to experience virtually the medieval Holy Land, Florence, Venice, Rome, and Tuscany in the fifteenth and sixteenth centuries, and the New England countryside of Revolutionary times. Such settings make research into historical milieus a major part of game development. One advantage of choosing Italy, says May, is that “80 per-



cent of the architecture is still the same!”—allowing the creators to use modern photographs. The Revolution, he says, opened up “a fresh take on environments. You could build in tree-climbing or bow-and-arrow action.”

Production on a video game resembles that for a computer-graphics film. But interactivity demands far more content than a movie. Screenwriting provides an instructive comparison: screenplays average 120 pages and may take years to craft, but a video-game script can be 1,000 pages long, with the writing team cranking it out in three to six months. *Assassin's Creed III* had seven credited writers. May wrote the game's “main path,” which means, he says, “the things you [the player] *have* to do,” while colleagues knocked out “side missions,” onscreen text, and artificial intelligence



Corey May

(AI) lines, which enable reactions to the player's choices.

“AI is what drives all the moving pieces inside the game,” May explains. “If you're in combat with something, AI instructs your enemies on how to react to you, how to acknowledge your presence. It's the brain inside the other stuff on the screen, and even inside the main character, so that when you push a button, the game knows what you

want to do.”

Games are built with “engines,” collections of tools that include foundational code and systems to determine things like how to render graphics and manage AI. For example, an engine might enable building a “first-person shooter,” a game in which the player tries to shoot enemies while seeing the landscape through the eyes of the avatar. (*Call of Duty*, now the

top-selling video game for several years, is a “military shooter.”) A different engine might support a sports game, like football. Some engines are versatile: Ubisoft has deployed the *Assassin's Creed* engine to make other games as well.

Building a video game is a collaborative process done by teams that can include hundreds of artists, writers, computer programmers, and designers who are united “in pursuit of making cool stuff,” says May. (There are even translators: as the market is global, the text and dialogue appear in eight to 14 languages.) “There's a tension in the industry. We are ostensibly creating entertainment. But there is an older mindset that's more of, ‘We are creating software,’ as if we were building the next release of Microsoft Word. But we're not making a word processor; we are building things that, if they are not telling stories, are creating experiences and evoking emotions.”

As a head writer, May supervises teams of writers for various games, and writes a lot himself. He has played video games since he was three or four years old and still does, for



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## MONTAGE

at least two hours a day. “I will be playing video games until the day I die,” he says. “I can’t imagine ever getting tired of it. I’m all right as a player. I don’t think there is any special advantage in being a game creator.”

In college, he worked part-time for a video-game company, telecommuting to write stories for an online multiplayer game, but concentrated in economics and took no computer-science courses

(“I regret not trying”). Though he knows little about writing code, he now works closely with the “geeks” daily. He earned an M.F.A. in film producing at the University of Southern California, where he met his future business partner, Dooma Wendschuh; together they launched sekretagent Productions. Focusing on film production, they sold one movie to Disney that “was in development hell for 11 years until it died.”

About nine years ago, sekretagent found itself well positioned when videogame companies began scouring Los Angeles for Hollywood talent. “No one wanted to write scripts for games then,” May recalls. “It wasn’t movies or TV, it wasn’t sexy, and there wasn’t enough money.” But May loved games, had a body of work, and knew some things about creating drama and emotion on a screen. Before long he had connected with Ubisoft and moved to its largest studio, in Montreal. He works long hours and sometimes weekends, but only because he wants to. “You have a lot of freedom to dream and experiment here, to play with narrative structure and elements,” he explains. “It’s like a playground, a laboratory, or a workshop. And there are 2,000 other dreamers in this space with you creating these incredible, ambitious experiences.”



Visit [www.harvardmag.com/extras](http://www.harvardmag.com/extras) to see a clip from *Assassin’s Creed*.

—CRAIG LAMBERT

**A rooftop chase from the *Assassin’s Creed III* video game**

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# “Global Whitemanism”

*The capitalist economy and dark dreams of the slaveholding South*

by MICHAEL T. BERNATH

**T**HIS IS A DARK BOOK about a dark subject. Walter Johnson burst onto the historical scene with the 1999 publication of his influential *Soul by Soul*, which positioned the slave market as the central institution of the antebellum South, shaping not only the southern economy, but also white self-conceptions and black lives. With chilling efficiency, the book unpacked the practical and psychological difficulties in commodifying what should not be commodified. Johnson sought to reduce slavery to its basic equation—“a person with a price”—and to show how this omnipresent calculation permeated and undergirded every aspect of southern life.

In *River of Dark Dreams*, Johnson deals with some of the same themes, but the Winthrop professor of history and professor of African

and African American studies expands them outward in every direction. The new book, too, is rooted in an equation, or rather a conversion—“lashes into labor into bales into dollars into pounds sterling”—one that governed the lives of planters and slaves, shaped the land, development, and society of the Cotton Kingdom, and drove a global economy extending to banks in London and mills in Lancashire. The book is not simply the history of a region (the antebellum Mississippi Valley) or a work of political economy (what Johnson terms “slave racial capitalism”), though it is certainly both of these things. In a larger sense, it is the history of a mentality out of which would emerge a vision of global empire premised upon the commodification of cotton and the human beings forced to tend it.

Johnson’s is a story of land, slaves, cot-

ton, steamboats, dizzying economic growth, and the nearly unlimited capital that made it possible. As with any work of political economy, it relies on abstractions, aggregations, and synthesis to cover ground quickly and to analyze the big picture. Commodification and capitalization, his subjects, are themselves, of course, methods of abstraction, and this could easily be a book without individual people. But it is not.

To his credit, Johnson alternates between the macro and micro view, interspersing richly detailed anecdotes and even chapters within his larger analysis, and he populates the Cotton Kingdom with captivating and repulsive characters. For instance, he provides an illuminating examination of steamboat technology as well as lurid accounts of horrifying accidents and their increasing frequency as boat owners and operators pushed their machines and people well beyond the limits of safety and common sense in a never-ending quest to best

Walter Johnson, *River of Dark Dreams: Slavery and Empire in the Cotton Kingdom* (Harvard University Press, \$35)



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by Raymond J. Cormier (Ph.D., 1967)



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This monograph examines the medieval French translation/adaptation of Virgil's *Aeneid*. In its analyses, the work employs Relevance Theory, second language pedagogy and hermeneutics. Second edition, revised and corrected. E-Book available.

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their competitors and extract further profit. In these pages, one meets Charles Deslondes, the Creole slave who led an unsuccessful 1811 revolt in Louisiana only to be gruesomely executed; the mysterious and murderous slave-stealer John Murrell; the ill-fated, misguided, and almost pitiable Cuban “liberator,” General Narciso López; and the “shape-shifter” William Walker, that “grey-eyed man of destiny,” who rose from obscurity to briefly conquer Nicaragua in the name of advancing southern interests and the progress of the white race. Throughout, Johnson seeks to stress the human and environmental resistance that always conditioned white ambitions, and to remind us that on the ground, “The Cotton Kingdom was built out of sun, water, and soil; animal energy, human labor, and mother wit; grain, flesh, and cotton; pain, hunger, and fatigue; blood, milk, semen, and shit.”

In the longstanding historical debate over whether southern planters should best be viewed as premodern, paternalistic anticolonialists or as modern, market-driven capi-

talists whose factories happened to be in fields, Johnson has always come down on the capitalist side, but here he drives the point to the hilt. Mississippi Valley planters were not merely capitalists, he argues, they were global free-trade capitalists, whose obsession with efficiency and productivity drove them to wring every last dollar out of their fields and their enslaved people. Measuring distance in dollars, not miles, planters always kept one eye on the cotton prices and shipping rates in Liverpool, New York, and New Orleans even as they kept the other carefully trained on their slaves for any sign of slackening, resistance, or rebellion.

Yet it was capitalism with a twist. Whereas in most capitalist societies, capital and labor are separate, usually oppositional, forces, here they were blended together in the persons of slaves. Johnson pulls no punches in presenting slavery in all its dehumanizing ugliness while also emphasizing the many ways slaves found to resist their masters, shape their environments, and, within the constraints of oppression, make lives of

their own. Still, slaves remained the most valuable and liquid form of capital in the South, one that could be moved easily and sold anywhere, and it was the territorially bounded (i.e., domestic) slave market, Johnson argues, that made the South the South by knitting together the upper southern states and Deep South into a single slave economy. For white slaveowners, the slave market always remained “the factory of slavery’s future” and the “prime engine of spatial and temporal transformation.”

The last quarter of the book deals with southern visions of empire as Mississippi Valley-booster sought to reinvigorate their regional economy by seizing new lands and gaining new slaves in order to advance “global whitemanism.” Johnson takes the imperialist aspirations of southern proslavery advocates seriously, and he provides an in-depth examination of American filibustering expeditions in Cuba and Nicaragua as well as the efforts (mostly talk) to reopen the Atlantic slave trade. For whites in the Mississippi Valley, he reminds us, the map

## Off the Shelf

Recent books with Harvard connections

**Wonder Women: Sex, Power, and the Quest for Perfection**, by Debra L. Spar, Ph.D. '90 (Farrar, Straus and Giroux, \$27). The author, now president of Barnard College, formerly of the Harvard Business School faculty, begins by remembering “the moment I knew I was having it all”—and explores the burdens that have resulted for “women of my so-called postfeminist generation.”

**Mapping Manhattan**, by Becky Cooper '10 (Abrams, \$19.95). The author walked through Manhattan, handing out blank maps and soliciting recipients’ drawings of their

Two New Yorkers’ self-made maps of their Manhattan: a plot of places visited (or not), and a narrative of gloves misplaced (and other, more consequential losses).

city. The result, subtitled “A Love (and Sometimes Hate) Story in Maps by 75 New Yorkers,” is clever, engaging, and emotionally resonant in all the ways that famous island is itself.

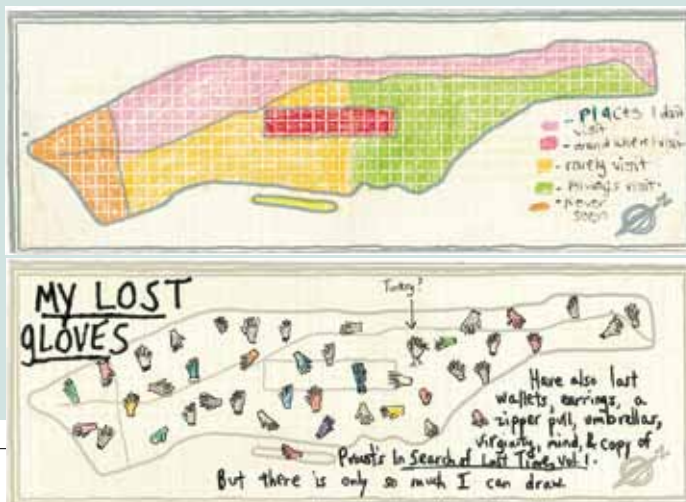
**The Federal Reserve: What Everyone Needs to Know**, by Stephen H. Axilrod '48 (Oxford, \$16.95 paper). As if years monitoring the economy and fighting inflation weren’t challenge enough, this Fed veteran, with long subsequent financial-services experience, has written a reader-friendly, slender book, in question-and-answer format, to demystify the central bank.

**The Numbers Game: Why Everything You Know about Soccer Is Wrong**, by Chris Anderson and David Sally '82 (Penguin, \$16 paper). Anderson, of Cornell, and Sally, visiting associate professor of business administration at Dartmouth, put aside their academics for their passion, and bring quantification and data analysis to “the beautiful game.”

**The Founding Conservatives**, by David Lefer '93 (Sentinel, \$29.95). The author, a former Ledecky Undergraduate Fellow at this magazine, now industry professor at New York University’s Polytechnic Institute, examines how John Dickinson, James Wilson, Roger Morris, Silas Dean, and others helped

shape America’s original principles and in so doing, the subtitle says, “saved the American Revolution” and planted the seeds for contemporary conservatism.

**Every Love Story Is a Ghost Story: A Life of David Foster Wallace**, by D.T. Max '83 (Viking \$27.95, Penguin \$17 paper). A New Yorker





of the United States and the South remained very much unfinished. As the steamboat economy reached its physical limit and railroads began to reorient western trade eastward, instead of southward, southern spokesmen in the 1850s sought to expand their slave economy and establish the direct trade connections necessary to sustain it. In their view, Cuba was the natural and inevitable gateway to the slave South, and Nicaragua offered a path west to connect the Mississippi Valley to the emerging Pacific economy. Although unsuccessful, these efforts to bring new lands under southern white control and reopen the Atlantic slave trade, Johnson argues, shared a common vision, one “that outlines what the world and the future looked like to slaveholders and other white men in the Mississippi Valley on the eve of the Civil War.”

To be clear, this book is emphatically not about the coming of the Civil War. Johnson's interest lies in the antebellum South as a region of global economy, one that sought economic revitalization through global integra-

staff writer's biography of the author of *Infinite Jest*, a suicide in 2008, explores Wallace's graduate studies in philosophy at Harvard, from which he withdrew in crisis.

**Reflections on Judging**, by the Honorable Richard A. Posner, LL.B. '62 (Harvard, \$29.95). Drawing on 31 years of experience on the U.S. Court of Appeals for the Seventh Circuit, the author—a remarkably prolific writer—weighs in on the practical details of advocacy, opinion-writing, and legal training, and on the virtues of legal realism as opposed to formalist doctrine. He's a fan of Holmes, Brandeis, Cardozo, Friendly, et al.

**Presidential Leadership and the Creation of the American Era**, by Joseph S. Nye Jr., University Distinguished Professor (Princeton, \$27.95). With the Arab world in transition, a newly powerful China, and other rising nations on the horizon, what is the role of the U.S. president in forging a new world order—or managing what is on the agenda, transactionally? Nye compares Wilson and Reagan to Eisenhower and Bush 41, and finds the latter sometimes more successful.



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**The First Cotton-gin, by William L. Sheppard, published in *Harper's*, December 18, 1869, shows slaves at work—and masters who profited from their labor.**

certainly would resist, steamboats that might (and often did) explode, cotton prices that might drop, shipping costs that might rise, credit that might evaporate, paper money that might be valueless, distant parties who might be fraudulent, not to mention the uncertain compliance of an envious nonslaveholding southern white majority, Mississippi Valley planters built their society and economy on a powder keg, and they knew it. In a place where nothing was fixed, identities were uncertain, and wealth or ruin could come in a blink of an eye, a deep-seated and very much justified anxiety weighed on every planter's mind and governed his actions. As Johnson puts it, "the Cotton Kingdom was less an accomplished fact than an ongoing project, less a fixed bastion of slaveholding power than an excruciating becoming." Far from taking their ease on their verandas, dark dreams haunted the minds of the lords of the Cotton Kingdom, and their power and profits came at a terrible price. ▢

Historian Michael T. Bernath, Ph.D. '05, is Tebeau associate professor at the University of Miami and the author of *Confederate Minds: The Struggle for Intellectual Independence in the Civil War South* (2010).

tion and international free trade. In fact, he finds the traditional narrative of sectional tensions leading to armed conflict to be anachronistic and too "resolutely nationalist in its spatial framing" when it comes to understanding the Mississippi Valley. Historians, he charges, have projected the geographic Confederacy backwards, defining the South by what it would later become rather than what it might have been. The imagined proslavery empire that he explores represented an alternative vision of the future, the direction in which white southerners thought they were headed before Confederate defeat forever crushed their hopes.

That said, one must wonder about the representativeness of some these views, even among Mississippi planters. Johnson tells us that "a very large proportion of Valley slaveholders" supported the invasion of Nicaragua and the reopening of the Atlantic slave trade, but he provides little concrete evidence to demonstrate this widespread support. Instead, he relies on the writings of well-known proslavery spokesmen without much discussion of their larger resonance. More to the point, if reopening the slave trade was so popular and believed to be so vital to the future of the South, then why did delegates from the seceded states of the Deep South go out of their way to forever prohibit it when they had their chance to draft their own national Confederate constitution in February 1861? Why let it go without much more than a whimper? Johnson

passes over this fact quickly, and there are several possible explanations, but a more thorough examination would seem to be required, given the thrust of his argument.

Still, this is a monumental book, and perhaps Johnson's greatest achievement is how effectively he conveys the uncertainty and fear that pervaded the daily lives of slaveholders. Dependent on weather and crops that might fail, slaves who might rebel and

## Chapter & Verse

Correspondence on not-so-famous lost words

**Taylor Chiu seeks** a citation for words attributed to Jane Austen: "Teach us that we may feel the importance of every hour, every minute, as it passes."

**Eliot Kieval, intrigued by** the famous assertion "I disapprove of [sometimes, *disagree with*] what you say, but I will defend to the death your right to say it," frequently attributed to Voltaire, is eager to learn of any similar declarations, in any language, that predate the 1906 publication of *The Friends of Voltaire*, by "Stephen G. Tallentyre" (the pen name of English writer Evelyn Beatrice Hall). The quotation is reported to be Hall's paraphrase of Voltaire's attitude; Fred R. Shapiro, edi-

tor of *The Yale Book of Quotations*, writes in that volume that the quotation "does not appear...in Voltaire's writings."

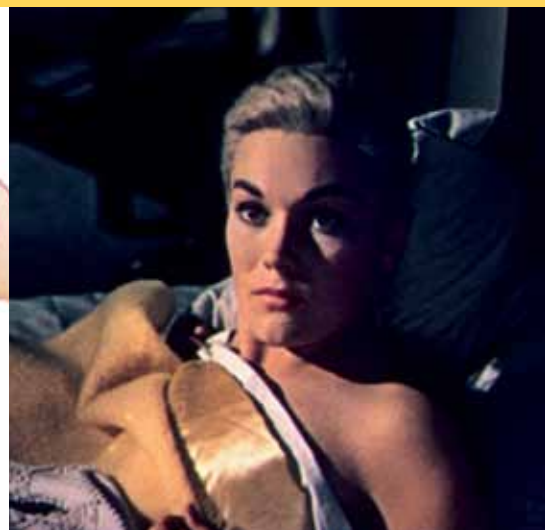
**"Together"** (July-August). Carmen Munnely recognized Ludwig Lewisohn's poem "Together," which begins, "You and I by this lamp with these/few books shut out the world..." and ends, "And this is marriage, this is love." Jo Salas cited Grace Paley's "Hand-Me-Downs," from *Begin Again: Collected Poems*, for its similar theme.

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



# New England

## REGIONAL SECTION



## Extracurriculars

### SEASONAL

#### An Evening with Champions

- October 5 at 8 P.M.
- October 6 at 3 P.M.

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

[www.boxoffice.harvard.edu](http://www.boxoffice.harvard.edu); 617-496-2222

The forty-third annual ice-skating exhibition raises money for the Jimmy Fund of the Dana-Farber Cancer Institute.

Bright Hockey Center.

#### The Farmers' Market at Harvard

[www.dining.harvard.edu/flp/ag\\_market.html](http://www.dining.harvard.edu/flp/ag_market.html). Runs through October.

In Cambridge, Science Center plaza  
Tuesdays, noon-6 P.M.

In Allston, 168 Western Avenue  
Fridays, 3-7 P.M.

### NATURE AND SCIENCE

#### The Harvard-Smithsonian Center for Astrophysics

[www.cfa.harvard.edu/events](http://www.cfa.harvard.edu/events)

617-495-7461; 60 Garden Street

- September 19 and October 17 at 7:30 P.M. Observatory lectures and night-sky viewing, weather permitting.

#### The Arnold Arboretum

[www.arboretum.harvard.edu](http://www.arboretum.harvard.edu); 617-384-5209

Registration is required.

- September 28, 1-3:30 P.M.

Senior research scientist Peter Del Tredici explores the history and care of the Larz Anderson Bonsai Collection, which includes large specimens of hinoki cypress that are between 150 and 275 years old.

- October 3 at 6:30 P.M.

*An Eden of Sorts: The Natural History of My Feral Garden.* John Mitchell Hanson shares what he's learned from three decades of experience, and experiments, increasing the biodiversity of suburban and other developed lands.

- Opening October 26

*Dispersal* showcases the delicate seedpod images (both fine art and specimen portraits) of flora-focused writer, photographer, and producer Anna Laurent '00.

### LECTURES

#### Radcliffe Institute for Advanced Study

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

All events are free and open to the public,

although some require registration.

- September 10 at 5 P.M.

*Jane Franklin's Spectacles: Or, The Education of Benjamin Franklin's Sister.*

Kemper professor of American history Jill Lepore reveals what she learned while researching and writing *Book of Ages: The Life and Opinions of Jane Franklin*.

- October 22 at 4 P.M.

*When Everything Changed.* New York Times columnist Gail Collins talks about how and why the national view of American women has shifted since 1960.

#### Mahindra Humanities Center

<http://mahindrahumanities.fas.harvard.edu/upcoming-events>

- September 25 at 6 P.M.

Astrophysicist Mario Livio reflects on the ideas detailed in his recent book, *Brilliant Blunders: From Darwin to Einstein, Colossal Mistakes by Great Scientists That Changed Our Understanding of Life and the Universe*.

### FILM

#### The Harvard Film Archive

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

617-495-4700

Check the website for updates and details on screenings, lectures, and special events.

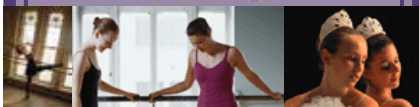
- Through September 8

*Burt Lancaster* highlights the career of the

Left to right: A detail of the extensive scale model of the renewed galleries, from *In-Sight Evening: Preparing for the New Harvard Art Museums*; "Fleshy flowered spindletree," by Anna Laurent, at the Arnold Arboretum; and a still from *Vertigo*, at the Harvard Film Archive

FROM LEFT TO RIGHT: HARVARD ART MUSEUMS; ANNA LAURENT/THE ARNOLD ARBORETUM; THE HARVARD FILM ARCHIVE

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## NEW ENGLAND REGIONAL SECTION

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

• Through September 28

*The Complete Alfred Hitchcock* is a retrospective of the British master's works, including nine fully restored silent films.

## EXHIBITIONS & EVENTS

### Harvard Art Museums

[www.harvardartmuseums.org](http://www.harvardartmuseums.org); 617-495-9400/9422. The museum buildings and galleries are closed for renovation until the fall of 2014. Nevertheless, some special events will be held at other University locations. For details and to register for events, call 617-495-4544.

• September 18 at 6-8:30 P.M.

*In-Sight Evening: Preparing for the New Harvard Art Museums.* An illustrated talk explains the guiding design principles for the new art galleries.

• September 27, noon-1 P.M.

*Harvard Treasures Tour: Rare Books and Special Collections at the Francis A. Countway Library of Medicine.*

### Carpenter Center for the Visual Arts

[www.ves.fas.harvard.edu](http://www.ves.fas.harvard.edu); 617-495-3251

• Through September 29, opening reception on September 12, 5:30-6:30 P.M.

*Exhibition: New Faculty 2013-2014* highlights the work of Kalup Linzy, Catherine Lord, Luisa Rabbia, Halsey Rodman, Heather Rowe, and Roger White, among others.

### Harvard Museums of Science and Culture

<http://hmsc.harvard.edu>

The HMSC is a consortium of the Collection of Historical Scientific Instruments, the Harvard Semitic Museum, the Peabody Mu-



COURTESY OF YIN LIAN EVENING WITH CHAMPIONS

*An Evening with Champions* features renowned skaters such as Marissa Castelli and Simon Shnapir.

seum of Archaeology and Ethnology, and the Harvard Museum of Natural History.

### Collection of Historical Scientific Instruments

[www.fas.harvard.edu/~hsdept/chsi-exhibitions.html](http://www.fas.harvard.edu/~hsdept/chsi-exhibitions.html); 617-495-2779

Science Center 251

1 Oxford Street

• Continuing: *Time and Time Again: How Science and Culture Shape the Past, Present, and Future* explores how humans find, keep, make, measure, carve out, waste, and kill time—and the instruments used to do all the above.

### Peabody Museum of Archaeology and Ethnology

[www.peabody.harvard.edu](http://www.peabody.harvard.edu);

617-496-1027

• October 5, noon-4 P.M.

*Family Cruise #1....One Life to Heal*, by Kalup Linzy, Carpenter Center for the Visual Arts



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## NEW ENGLAND REGIONAL SECTION

HARVARD-SMITHSONIAN CENTER FOR ASTROPHYSICS



**Amazing Archaeology at Harvard.** The Peabody and Semitic museums jointly offer an afternoon of hands-on activities, meetings with archaeologists, and gallery tours that explore everything from Maya glyphs and Giza pyramids to Egyptian coffins and animal bones, to recent

**Discover new "alien worlds" (depicted at left) through lectures at the Harvard-Smithsonian Center for Astrophysics.**

findings from the "Digging Veritas" excavation on campus.

**Harvard Museum of Natural History**  
www.hmn.harvard.edu; 617-495-3045

• September 26 at 6 P.M.

Professor of human evolutionary biology Daniel Lieberman discusses his new book, *The Story of the Human Body: Evolution, Health, and Disease*. Reception to follow.

• October 26, 4-8 P.M.

**Alfred Russel Wallace Day** celebrates the work and life of this British scientist, who co-discovered the theory of evolution by natural selection. Visit the museum's website for further details and for information on how to get tickets.

• Through October 6

**The Language of Color** explores the many purposes of hues and shades in a wide variety of creatures.

## MUSIC

### Sanders Theatre

www.boxoffice.harvard.edu; 617-496-2222

• October 4 at 8 P.M.

The **Harvard-Radcliffe Orchestra** performs Stravinsky's *Rite of Spring*.

• October 25 at 8:30 P.M.

The Harvard and Princeton glee clubs celebrate their centennial concert.

• November 1 at 8 P.M.

The annual "Montage Concert" features the **Harvard Monday Jazz Band**, **Harvard Wind Ensemble**, and the **Harvard University Band**.

## THEATER

### American Repertory Theater

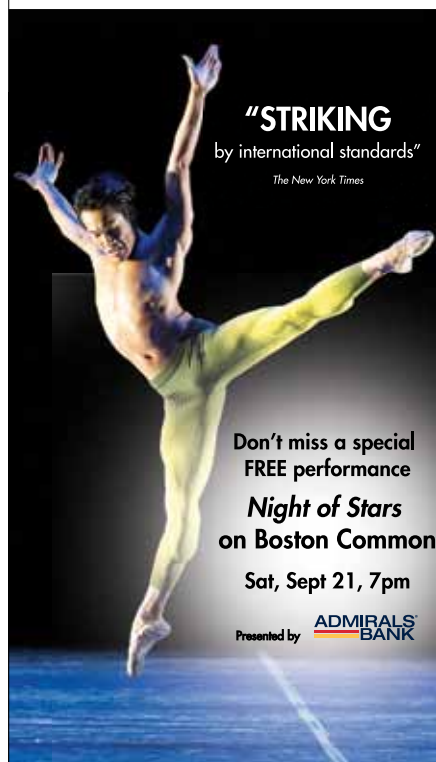
www.americanrepertorytheater.org  
617-547-8300 (box office)

• September 13 through October 12

The East Coast premiere of **All The Way**, by Pulitzer Prize-winning playwright Robert Schenkkan. This dramatization of Lyndon Baines Johnson's first year in office is directed by Bill Rauch '84 (artistic director of the Oregon Shakespeare Festival), and stars Emmy Award-winner Bryan Cranston (who leads the cast of the critically acclaimed cable series *Breaking Bad*).

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

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# Art Across the Region

*From colonial furniture to colorful abstractions*

FALL AND WINTER are the ideal time to visit New England's many museums. What follows is a selection of what's on offer from the major institutions to the smaller, more specialized collections.

## Bruce Museum

Greenwich, Conn.

[brucemuseum.org](http://brucemuseum.org); 203-869-0376

**Closer:** *The Graphic Art of Chuck Close*, September 28-January 26. Prints reflect the artist's long-standing interest in portraiture and in the mechanics of vision.

## Currier Museum of Art

Manchester, N.H.

[www.currier.org](http://www.currier.org); 603-669-6144

**Visual Dispatches from the Vietnam War**, through November 11. The exhibit explores the courage of frontline artists and how images deeply influence public opinion.

## Farnsworth Museum

Rockland, Me.

[www.farnsworthmuseum.org](http://www.farnsworthmuseum.org); 207-596-6457

**The Wonderful World of Oz—Selections from the Willard Carroll/Tom Wilhite Collection**, opening October 12. Memorabilia,



**At left:** Jere Osgood teak desk (1978), Fuller Craft Museum; and Amy Stillman's painting *Ocean I* (1997), Institute of Contemporary Art

costumes, movie posters—and more—celebrate the classic film's seventy-fifth anniversary year.

## Fuller Craft Museum

Brockton, Mass.

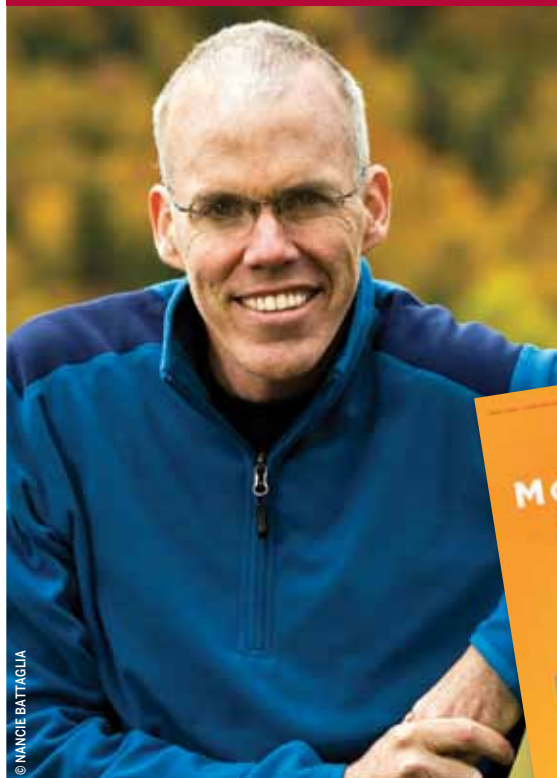
[fullercraft.org](http://fullercraft.org); 508-588-6000

**Made in Massachusetts: Studio Furniture**

FROM LEFT: ALEX HOCHSTRASSER/FULLER CRAFT MUSEUM; JOHN BEHN/INSTITUTE OF CONTEMPORARY ART

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## BILL MCKIBBEN

Educator, Environmentalist

Author of *Eaarth* and *The End of Nature*

## OIL AND HONEY

**Notes from a Rapidly Changing Climate**

4 pm, Tuesday, September 17, 2013

Sanders Theatre, Memorial Hall

1785 Cambridge Street, Cambridge

*In tribute to Robert C. Cobb, Jr. (1926–2013)*

Free and open to the public.

Tickets available at the Harvard Box Office.



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## NEW ENGLAND REGIONAL SECTION

of the Bay State, October 12-February 9. This display of stylistically innovative works by local artists is part of the collaborative "Four Centuries of Massachusetts Furniture" project ([www.fourcenturies.org/](http://www.fourcenturies.org/)), which includes seven exhibits on furniture from the 1600s to the present.

### **Institute of Contemporary Art (ICA)** Boston

[www.icaboston.org](http://www.icaboston.org); 617-478-3100

**Amy Sillman: one lump or two**, October 3-January 5. This survey of the New York-based artist (a 2010-2011 Radcliffe Institute fellow), offers more than 90 diverse works, from drawings and paintings to her later-era 'zines and forays into short animated films.

### **Isabella Stewart Gardner Museum** Boston

[www.gardnermuseum.org](http://www.gardnermuseum.org); 617-566-1401

**Sophie Calle: Last Seen**, opening October 24. On display are two distinct series of photographs, created by the French artist in 1991 and 2012, respectively, that meditate on absence, memory, and loss.

### **Museum of Fine Arts** Boston

[www.mfa.org](http://www.mfa.org); 617-267-9300

**Audubon's Birds, Audubon's Words**, through May 11. Prints from *Birds of America*, writings, and other illustrations elucidate the ornithologist's life and work.

### **John Singer Sargent**

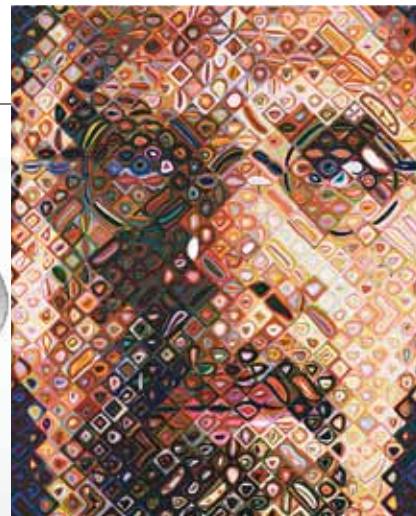
**Watercolors**, October 13-January 20. More than 90 works from the early 1900s by the American artist look at how he transformed watercolors into a freer, more expressive medium.

**She Who Tells a Story: Women Photographers from Iran and the Arab World**, through January 12. The images explore war and peace, national and personal identity, and gender stereotypes.

### **New Britain Museum of American Art**



**Above, left: Koji Tatsuno (1993 collection), Peabody Essex Museum; Chuck Close's Self-Portrait Woodcut (2009), Bruce Museum**



New Britain, Conn.  
[www.nbmaa.org](http://www.nbmaa.org);  
860-229-0257

### **NEW/NOW: Fern**

**Berman**, September 21-January 5. Abstract imagery and brilliant colors depict scenes of decay that encourage a closer look at our world.

**Maurice Sendak**, November 9 through February 9. Original illustrations, lithographs, posters, documentary films, and personal items celebrate the fiftieth anniversary of the late artist's *Where the Wild Things Are*.

{Where Two Worlds Meet}



PHOTO: © lizlinder.com

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## NEW ENGLAND REGIONAL SECTION

### Peabody Essex Museum

Salem, Mass.

[www.pem.org](http://www.pem.org); 978-745-9500

**Future Beauty: Avant-Garde Japanese Fashion**, November 16-January 26. Simple colors and flowing forms characterize major design shifts in the 1980s and '90s.

**Impressionists on the Water**, November 9-February 17. More than 50 works by Monet, Renoir, Pissarro, Signac, and Caillebotte honor this beautiful, fluid medium.

### Portland Museum of Art

Portland, Me.

[www.portlandmuseum.org](http://www.portlandmuseum.org); 207-775-6148

**Ahmed Alsoudani: Redacted**, September 7-December 8. Beauty emerges from chaos and distortion in recent paintings and drawings by the New York-based Iraqi artist.

**Winslow Homer's Civil War**, September 7-December 8. Woodprints depict soldiers' daily lives and the war's social impact.

### RISD Museum

Providence, R.I.

[www.risdmuseum.org](http://www.risdmuseum.org); 401-454-6500

**Making It in America**, October 11-February 9. Paintings, sculptures, and decorative arts from Colonial times to the early twentieth century explore the link between national art and identity.

### Shelburne Museum

Shelburne, Vt.

[shelburnemuseum.org](http://shelburnemuseum.org); 802-985-3346

**Color, Pattern, Whimsy, Scale: The Best of Shelburne Museum**, through December 31. More than 100 works from the permanent collection: folk art, furniture, paintings, wallpapers, textiles, and costumes. (Of note is one of six so-called "Harvard chests" painted with red-brick buildings akin to those on campus—although none is thought to reflect actual structures.)

### The Wadsworth Atheneum

Hartford, Conn.

[www.thewadsworth.org](http://www.thewadsworth.org); 860-278-2670

**Virgil Marti/MATRIX 167: Ode to a Hippie**, through January 5. Inspired by a nineteenth-century "Keats Death Mask" (found in the museum's collection) and the work



Above, left: Virgil Marti's *To Engender Pleasant Dreams* (2013), Wadsworth Atheneum; John Singleton Copley's *Portrait of Rebecca Boylston Gill* (ca. 1773), RISD Museum

of American antiestablishment artist Paul Thek, Marti examines sources of life and death through objects and materials, such as "hippie-craft" (e.g., stained glass, velvet fabrics, and macramé).

### Worcester Art Museum

Worcester, Mass.

[www.worcesterart.org](http://www.worcesterart.org); 508-799-4406

**Looking West and Looking East: Landscape Prints by Yoshida Toshi** (1911-1995), through November. These colorful, carefully rendered images reflect the artist's significant contributions to his family's artistic legacy, his extensive travels, and a love of animals.

FROM LEFT: GREENHOUSE MEDIA/WADSWORTH ATHENEUM; ERIK GOULD/RODIE ISLAND SCHOOL OF DESIGN



# HARVARD

2013-2014 HOME SCHEDULES

## BASKETBALL

### MEN'S SCHEDULE

Nov. 10	vs. Holy Cross	at TD Garden
Nov. 12	vs. MIT	7 PM
Nov. 15	vs. Howard	7 PM
Nov. 20	vs. Bryant	7 PM
Dec. 22	vs. Vermont	TBA
Jan. 1	vs. BC	TBA
Jan. 11	vs. Dartmouth	2 PM
Jan. 31	vs. Princeton	7 PM
Feb. 1	vs. Penn	7 PM
Feb. 7	vs. Brown	7 PM
Feb. 8	vs. Yale	7 PM
Feb. 28	vs. Cornell	7 PM
Mar. 1	vs. Columbia	7 PM

### WOMEN'S SCHEDULE

Nov. 13	vs. BU	7 PM
Nov. 16	vs. N. Dakota St.	2 PM
Nov. 19	vs. Florida Intl.	7 PM
Dec. 21	vs. Hofstra	6 PM
Jan. 25	vs. Dartmouth	2 PM
Feb. 14	vs. Columbia	7 PM
Feb. 15	vs. Cornell	6 PM
Feb. 21	vs. Penn	7 PM
Feb. 22	vs. Princeton	6 PM
Mar. 7	vs. Yale	7 PM
Mar. 8	vs. Brown	6 PM

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

## ICE HOCKEY

### MEN'S SCHEDULE

Oct. 26	vs. Bentley	7 PM
Nov. 1	vs. RPI	7 PM
Nov. 2	vs. Union	7 PM
Nov. 8	vs. St. Lawrence	7 PM
Nov. 9	vs. Clarkson	7 PM
Nov. 20	vs. BC	7 PM
Jan. 4	vs. BU	7 PM
Jan. 6	vs. Quinnipiac	7 PM
Jan. 17	vs. Cornell	7 PM
Jan. 18	vs. Colgate	7 PM
Jan. 31	vs. Princeton	7 PM
Feb. 7	vs. Dartmouth	7 PM
Feb. 21	vs. Yale	7 PM
Feb. 22	vs. Brown	7 PM

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

### WOMEN'S SCHEDULE

Oct. 25	vs. Quinnipiac	7 PM
Oct. 26	vs. Princeton	4 PM
Nov. 15	vs. Cornell	7 PM
Nov. 16	vs. Colgate	4 PM
Nov. 22	vs. BU	7 PM
Dec. 1	vs. Dartmouth	3 PM
Dec. 6	vs. UNH	7 PM
Dec. 7	vs. BC	4 PM
Jan. 4	vs. Northeastern	4 PM
Jan. 10	vs. Brown	7 PM
Jan. 11	vs. Yale	4 PM
Jan. 24	vs. Union	7 PM
Jan. 25	vs. RPI	4 PM
Feb. 14	vs. Clarkson	7 PM
Feb. 15	vs. St. Lawrence	4 PM

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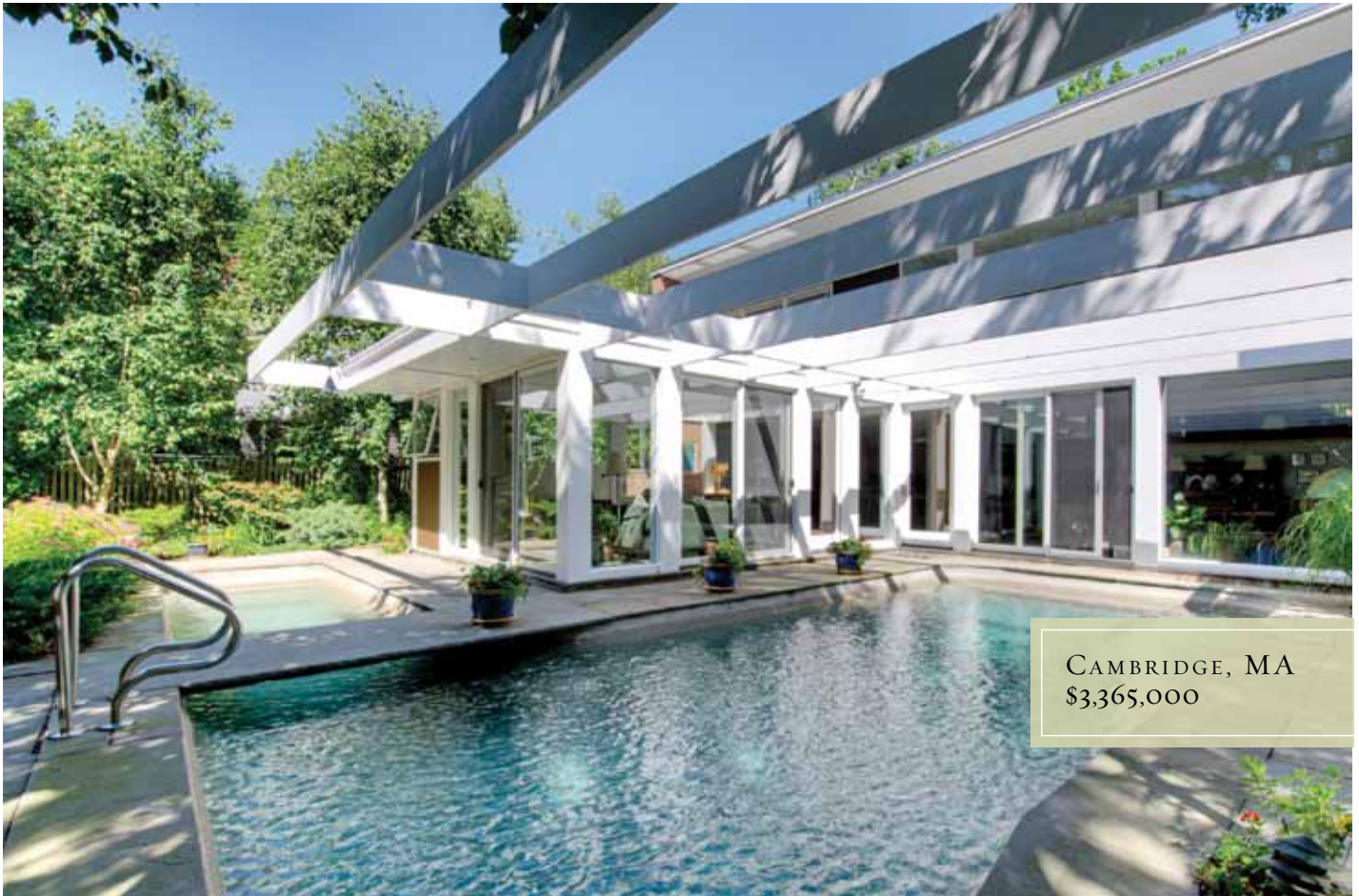
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# Coping with Alzheimer's

*Families must weigh housing options, costs—and therapies • by Nell Porter Brown*



**I**N THE SUMMER of 2006 Harvard professor emerita Barbara Gutmann Rosenkrantz '44, RI '69—long revered for her work on the history of public health and for promoting women at Harvard (she was among the earliest full female professors and the first female House master)—called her daughter, baffled. “She was having trouble making a salad,” recalls Debby Rosenkrantz. Was it a case of low blood sugar, or maybe related to a recent arm rash? “I came over with some orange juice and helped her finish making the dinner.”

Yet other worrisome signs followed: garbled e-mails, irrational arguments, insomnia. “And she had notes to herself and friends posted all over the house,” adds

Rosenkrantz, a social worker in Cambridge. “My stepfather was very busy trying to keep things from unraveling. They were very much in love and had gotten married late in life: when she was in her 60s and he was 71. They would have liked to have more years together.” That fall, however, Barbara Rosenkrantz was admitted to the Harvard-affiliated McLean Hospital, where she was diagnosed with vascular dementia and Alzheimer's disease.

SOME 5.2 million Americans have the disease, according to the Alzheimer's Association, and that number is likely to nearly triple, to 13.8 million, in 2050.

“Alzheimer's is not just an individual

disease, it wraps its tendrils around an entire family,” says psychologist Paul Raia, vice president of clinical professional services at the Massachusetts/New Hampshire chapter of the Alzheimer's Association. Often families know long before a diagnosis “that mother or father is not acting the way they used to, or should,” says psychiatrist James M. Ellison, M.P.H. '93, director of the geriatric psychiatry program at McLean Hospital. Naming the cause of disturbing personality changes, disconnectedness, depression, or irritability, is obviously distressing, but it can also bring relief. “A diagnosis opens doors to resources,” Ellison explains. “And it becomes clear where the family can turn for help.”

The local chapters of the Alzheimer's Association, for example, offer early-onset and later-stage support groups, some run by Raia and Debby Rosenkrantz, who know each other. The organization also has a 24-hour-help hotline, educational workshops, updates on disease research, and even social activities that help address rampant isolation for both patients and caregivers. Rosenkrantz finds their care consultations, an expanding service, especially helpful. Staff meet with families and friends to help figure out what to anticipate, how to prepare for it, what the options are, and even to offer some financial counseling.

Resources are aimed at keeping people with Alzheimer's engaged in social, physical, and cognitive activities throughout the course of the disease—and providing outlets and respite for exhausted caregivers. “One thing we know is that if those with Alzheimer's spend significant time doing nothing,” Raia explains, “they will have more challenging symptoms and the ill-



## NEW ENGLAND REGIONAL SECTION

ness will most likely progress more quickly. A major issue for families is giving their loved one purposeful engagement—for example, having them help with cooking and gardening—because the loss of meaning in life is so fundamental to this disease.”

The first tier of care comes from adult day programs, which Raia calls “the biggest bang for the buck.” Five days a week, from 8 A.M. to 3 P.M., people can come and make friends, share meals, do activities, and get physical and cognitive exercise. The costs range from \$60 to \$100 a day; some also provide transportation for an extra fee. Medicaid pays if the individual qualifies for “community-base Medicaid,” he says, which requires a lower income level. Families with more resources typically pay out of pocket.

Debby Rosenkrantz (along with her sisters, Louise and Judith ’74, and their stepsister, Molly Marshall), worked together as Barbara Rosenkrantz’s condition worsened and it became clear that her

husband (who moved to an assisted-living community a year later) could not meet her increasing needs. They tried home-based care, but found there were too few substantive activities and their parents felt uncomfortable having strangers around. Even a well-regarded day-care program did not work out: “My mother spent the whole time in the front room waiting for Nat to pick her up: it made her very anxious to be separated from him,” says Debby. “She wouldn’t engage with the activities or other people.”

Ultimately, they settled their mother at Rogerson House, a progressive assisted-living community. Her Harvard pension covers most of the cost, and the family sometimes pays for extra activities, such as personal exercise sessions and physical therapy. “It was not a financial crisis for us, fortunately,” Debby Rosenkrantz notes. “The hardest thing is when the decision about what you can do for your parents is influenced by what you can afford.”

IF THE SPREAD of Alzheimer’s continues as predicted, the disease could cost private and public payers combined more than \$1 trillion a year. Currently, regional assisted-living facilities cost between \$7,000 and \$9,000 a month, and rely primarily on private payments that only a small fraction of Americans can afford. The vast majority of elders will ultimately go to nursing homes that are typically covered by Medicare. On average, these still cost at least \$30,000 a year, reports Harvard Kennedy School professor of public policy Amitabh Chandra, who is on the advisory panel for the Congressional Budget Office. Overall, he adds, there will be a growing need (and therefore increasing public costs) for additional elder care, such as skilled nursing, home healthcare, and rehabilitation services. “Most people have not saved for retirement, let alone long-term care,” he says. “It’s a challenge that our country has never really grappled with. If we vote to cover this care, then we have to decide: whose taxes are we going to raise, or



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which programs and benefits are we going to cut? We don't have a sensible mechanism in the United States to confront these long-term trade-offs."

Chandra does note that these projections for Alzheimer's do not take into account the potential impact of scientific breakthroughs that may offer hope of slowing the disease. "Research on new medical innovation and technology, of the type that is conducted at Harvard and at the Broad Institute," he adds, "may save us from the fiscal train wreck that awaits us."

As scientists attack the disease itself, others have been working to improve conditions for those already afflicted. The cultural movement to reform and humanize American elder care, especially at nursing homes, began in the late 1970s. Spearheaded by The Pioneer Network, the movement's basic principles are also now widely promoted by others, including the Alzheimer's Association and geriatrician William Thomas, M.D. '86, whose Eden Al-

ternative approach and Green Houses are slowly growing (see "At Home with Old Age," November-December, 2008, page 80).

The focus is on creating more homey environments, with natural light and gardens, and integrating features, such as color-coded floors and walls, circular walkways, and fewer locked doors, that foster calmness and independence, especially among those with memory loss. An intangible goal, which requires building human relationships, is to meet elders' emotional, cognitive, and even spiritual needs.

To that end, Paul Raia in 1989 developed "habilitation therapy"—a communication technique based on the neuropathology of Alzheimer's. "The ability to feel, perceive, respond to, and evoke emotion is there in the brain until very near the end," he explains. The therapy aims at creating positive emotion and sustaining it "in whoever people become as they move through the stages of the disease." If a patient wants to visit her deceased mother, the caregiver does not "re-

orient reality" by asserting the truth but responds to the underlying feeling of sadness and loss by saying: "I hear your mother was a wonderful lady, let's talk about her," and taking out a photo of, say, a day at the beach mother and child shared, and talking about it. This seemingly common-sense or compassionate approach nevertheless has had to be widely taught and integrated by care organizations throughout New England, including the 27 Massachusetts-run home-care agencies.

And such principles still don't constitute the care norm. Massachusetts' nursing homes ranked twelfth in the nation in terms of using antipsychotic medications, says Raia, citing data collected from the federal Centers for Medicaid and Medicare Services for a 2010 *Boston Globe* analysis. "The highest users of antipsychotic medications are the nursing homes with the lowest number of nursing minutes and least number of activities for patients," he adds. "The medications are being used to

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## Personal Excerpts: Alumni Write about Alzheimer's

### **Strange Relation: A Memoir of Marriage, Dementia, and Poetry**

(Paul Dry Books, 2011)

by Rachel Hadas '69

*Rutgers University English professor Rachel Hadas recounts the medical interview during which her husband of more than 25 years, George Edwards, cannot correctly recall the year they got married.*

The feeling was "a little too melodramatic to call panic. It was, rather, a sharply etched loneliness...that stepped out from the shadows to which I had so far consigned it right onto center stage. There was also a queasy sense of shifting: shifting of power, of paradigms, of alliances, of allegiances. The center wasn't holding, and I was in the process, as I hung on to my clammy water bottle for dear life, of casting about for a new center. In all this

there was alarm and fear, but really, as I now recall it, no surprise."

### **Making An Exit: A Mother-Daughter Drama with Machine Tools, Alzheimer's, and Laughter**

(Metropolitan Books / Henry Holt and Company, 2005)

by Elinor Fuchs '55

*Yale School of Drama adjunct professor Elinor Fuchs grappled with her mother's larger-than-life persona and how to love a difficult person. Here she has just spent some time on her mother's new special-care unit.*

"I take Mother out for a stroll around the block, just to clear my head. We walk inside a cloud of confusion. The distinction between sidewalks and parking lots, flowers and grass, people and objects, has vanished....Whether people who pass us on the street are with us, or the ones we're waiting for, or perhaps against us—all is confusion. Mother flags pass-

ing cars as if they should pick us up. As puzzled drivers hesitate between the brake and the accelerator, I try to turn this gesture into merry waving."

### **The Last of His Mind: A Year in the Shadow of Alzheimer's**

(Swallow Press / Ohio University Press, 2009)

by John Thorndike '64

*The author took care of his ailing father, Joe Thorndike, also a writer, a publisher, and one-time managing editor of Life.*

"Sundowning is the depressed state that often overwhelms the memory-impaired around dusk, and most days my father sinks into it around four or five in the afternoon. He lies on his bed with a vacant stare, unhappy and distant, never a glance my way. This afternoon, when I suggested we go down to Red River Beach, he said, 'Not now,' even his politeness drained out of him."

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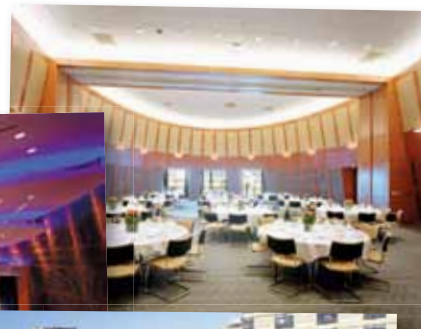


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## NEW ENGLAND REGIONAL SECTION

compensate for that and control behavior.”

Despite the region's medical and health-care brain power, physician and Harvard Medical School professor of population medicine Muriel Gillick says that “safety concerns and medical interventions take precedence over mental comfort and quality of life” at most care facilities. Gillick is the author of *Tangled Minds: Understanding Alzheimer's Disease and Other Dementias*; *The Denial of Aging: Perpetual Youth, Eternal Life, and Other Dangerous Fantasies*; and *Lifelines: Living Longer, Growing Frail, Taking Heart*. Regulations and costs are always going to be factors in health care, she acknowledges, but adds, “It's not clear that some of these more philosophical or psychological approaches actually cost so much more than the traditional ones. It's more about retooling and rethinking what it is you are trying to do”—and encouraging families to assert their rights and priorities regarding which (or whether) medical procedures are worthwhile at the end of life. Gillick says many elderly people with dementia have to come into the hospital for “painful or uncomfortable procedures and testing in a strange place, and they are frightened.”

Even the patient-centered nursing homes—such as the one that houses Gillick's father, who has moderate dementia and Parkinson's—can be lacking. (She explored this topic in “Culture Change in the Nursing Home: Boon or Boondoggle,” a June post to her blog “Life in the End Zone.”) The old-model nursing home, she says, lined up residents in their wheelchairs in the hallways, where staff could keep an eye on them. Her father has a private room, but he didn't call for help when he needed it, “so they put him in the dining hall, where they can see him, and he sits there now and does nothing, staring ahead at whatever the day's program is,” she reports. “It is the same as being lined up in the hallway.”

Because the “continuum of care” has expanded, she says, with more people than ever before using home-care help, “nursing homes have come to serve a very impaired population, and assisted living in many respects occupies the position that nursing homes did” 20 years ago. Gillick and Raia agree that between 50 and 65 percent of those in assisted-living communities have



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moderate or later-stage dementia, and that the number has risen within the last few decades. She questions whether those facilities can truly care for them. "These are patients with what neurologists call poor executive functioning: they can't plan, can't organize, can't figure out what's going on around them," she explains. "They need to be constantly reminded of what they are doing and engaged with throughout the day. So the idea of maintaining someone's independence and privacy is nice, but I would be skeptical about how often the staff in assisted living are keeping up with someone, or whether they are just leaving them in their rooms."

**IDEALLY THEY DON'T.** The Alzheimer's Association offers a detailed consumer's guide to evaluating any facility. Questions include: Is the unit quiet and are the rooms homey? Is the staffing ratio one-to-five during the day? Are families active members of the care plan? What percentage of patients is on psy-

choactive medications? What is the staff's philosophical/psychological approach to dementia? How are they trained?

Rogerson House, where Barbara Rosenkrantz now lives, practices habilitation therapy and also provides programs in music and art, excursions, and a beautiful backyard. Even though Rosenkrantz is now in mid-stage dementia, she goes to concerts, which she loves, paints watercolors, and still enjoys simplified crossword puzzles. Research shows that arts therapy/education offers immediate, "in the moment" emotional and cognitive experiences that are especially beneficial to those with memory loss, Debby Rosenkrantz reports. Barbara Rosenkrantz also picks up on many current events, such as the Trayvon Martin case. "She is totally engaged and can have discussions and opinions, which is bizarre to me," her daughter adds, "because there are other things she doesn't remember for 30 seconds. The parts of the brain that are func-

tioning and those that aren't are baffling."

Perhaps most important: the Rogerson staff "are incredibly loving toward her, which can't always be easy," and know who emotionally connects best when Barbara Rosenkrantz gets anxious. A low dose of medication for anxiety, Debby Rosenkrantz also reports, "has been a lifesaver." Her mother cannot be rationalized out of those feelings, but she can be distracted by other topics and activities that override it. "My mother will sometimes say, 'I don't want to spend the rest of my life here,'" she adds. "And I say, 'OK. I hear you. I know. We will keep that in mind and find out what else is out there. But for now this is the best place.' And that reassures her, because she knows that I will keep looking."

**SOCIOLOGIST** John Zeisel, a 1971 Loeb Fellow and a former assistant professor of environmental behavior studies at the Graduate School of Design (see "Life by Design,"



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January-February 1998, page 40), is the founder and president of Hearthstone Alzheimer Care. He is a pioneer in targeting the emotional and neurological strengths of those with dementia through academic and Montessori-style classes as well as music, visual art, and theater. "The more people are treated like patients, the less they are treated like persons," he says. "It's a human-rights issue. We don't consider older people or those with dementia as having the same rights as long as we see them on a downward spiral."

Hearthstone, with three residences in Massachusetts and three in New York, focuses on two key concepts. First, by engaging people in meaningful ways, "they avoid the four As of Alzheimer's: anxiety, agitation, aggression, and apathy," Zeisel says. "You can't be screaming at someone if you are improvising a part in an absorbing play. You cannot be agitated if you are listening to *Peter and the Wolf* and trying to focus on which instruments represent which characters. This engagement—not just 'stimulation'—is the antidote to behavioral symptoms in dementia. And what's more meaningful than culture and the arts?"

Second, says Zeisel, neurologically, the arts draw on a distributive system in the brain, as opposed to tasks like word-finding, which are more localized. The arts can involve repetitive actions—practicing drawing shapes and figures, painting layers of colors, reciting a script, hearing or playing rhythms, musical motifs, and choruses. Through repetition, people with dementia not only find joy in the moment of purposeful creativity, as anyone does, he explains, but they learn and remember more as well: "The arts draw on procedural learning and emotional memory, which last until the end of one's life."

Both are nonpharmacological approaches "that reduce depression and increase engagement and, in the end, provide people with Alzheimer's with a sense of personhood," according to Zeisel. Two federally funded clinical studies currently run by the Hearthstone research division explore whether other aspects of the arts can do the same: an improvisational theater project that ultimately yields a script and a production, and a project that looks



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## NEW ENGLAND REGIONAL SECTION

at the role of books in terms of both their narrative content and their form (e.g. page count, size of the print, weight). The results could also enhance the cultural events, tours, and teachings specifically designed for persons with dementia and their families through ARTZ: Artists for Alzheimer's, co-founded by Zeisel and Sean Caulfield, Ed.M. '13.

CONCERTS AND DANCING also take place at the White Oak Cottages. Part of the Fox Hill Village retirement community in Westwood, Massachusetts, these two 12-bedroom residences are based on the Green House model envisioned by the geriatrician William Thomas (whose work can be explored at [ChangingAging.org](http://ChangingAging.org)). Round-edged walls and color-coded carpeting make it easier for people to walk freely, while glass doors open, without a staff member's key, onto a garden with a pathway and secure fencing. White Oaks is a soothing environment: classical music plays lightly and TVs, an intrusive presence in most facilities, are found only in patients' rooms.

In each house, a large open-plan common space with a cathedral ceiling offers living and dining areas along with a large kitchen—just like home. “When people wake up, they can come out of their rooms and smell coffee brewing and bacon cooking” and watch and even help nurses make breakfast, says Christopher Warner, a psychiatric nurse, who is the cottages’ “guide.”

The term is specific to the Green House model, which emphasizes communal life that is determined not from above, but by residents’ needs. “It’s the opposite of a nursing home where there’s a schedule that everyone has to fit into. Here, it’s imperative that we are flexible and even improvisational,” he says. “We bring ourselves personally to the job.” During one evening of dancing Warner and his son, the only males present, never sat down. Warner’s father, a retired minister, also comes in weekly to “discuss whatever is on peoples’ minds.” Every Wednesday, however, is hair-styling day: other women come over from Fox Hill and everyone joins in the buzzing beauty salon.

The nurses do not wear uniforms and also do chores—such as vacuuming, dust-

ing, and folding laundry: these familiar sounds and sights can comfort persons with dementia. During a reporter’s visit, the staff seemed freer to be more responsive, doing things like making meatballs with a resident who claims her recipe “is the best,” playing catch with a ball, and writing down the name and address of the cottage for someone else who asks, “Don’t I need something to tell me where I am?”

This Green House approach lessens the need for psychopharmacological intervention, Warner asserts. “We have intimate knowledge of who people are and what they are experiencing: we try to meet their needs preemptively,” he explains. “That minimizes manifestations of undesirable behavior.” Nevertheless, he is not opposed to the use of an anti-anxiety drug, for example, “if it will help them have a bet-

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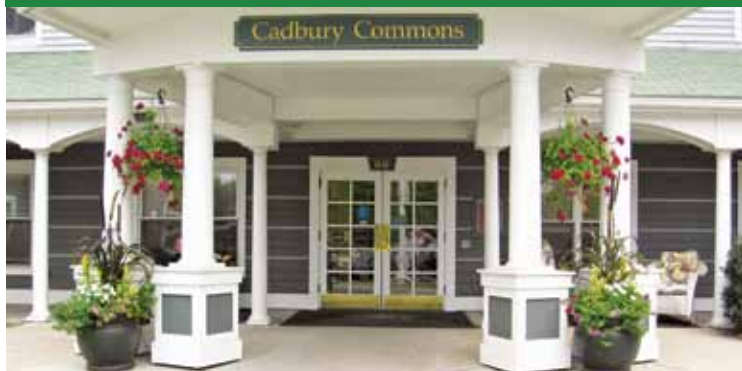
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### NEW ENGLAND REGIONAL SECTION

ter quality of life and they really cannot shake their anxiety. It's one tool. But by no means do we want a bunch of zombies walking around here."

WARNER FINDS that referencing whatever residents do retain about their identities, and giving credence to the truth of their concerns, goes a long way toward soothing agitation. "Many people here think they are at their summer homes," he says. "You don't want to force your 'reality' on them. It can be detrimental." Why cause unnecessary anxiety and anger—especially in those whose short-term memories are broken and are near the end of lives? "Ultimately, if you have caring people around you and you're relaxed and trusting and having fun," Warner adds, "who cares where you think you are?"

Unfortunately, most people do not understand how dementia works or cannot cope with patients' redundant questions, seemingly nonsensical perceptions, and constantly expressed need to find a foothold in an external world that is bewildering. "Often patients' social skills are still present; they are polite and even charming," Debby Rosenkrantz explains. "They say things like 'Isn't it nice you came for a visit at Christmas?' when it isn't Christmas. Or 'This is a fine day' when there's a snowstorm outside." These interactions can be experienced as awkward or disturbing by old friends, thus visits tend to dwindle over time.

Barbara Rosenkrantz still has strong relationships to her daughters and their families. She visits their homes, eats out at restaurants, and is taken to her summer house on Cape Cod, a comforting place to be, every few months. Concrete, short activities often work best for her, Debby Rosenkrantz says. Wash or cut vegetables. Eat a meal. Take a walk outside. Look at the newspaper. Work in the garden. Listen to music. Make a collage or paint a picture. These may seem like childish things, "but they bring positive feelings to every moment," she maintains. "You have to direct the capacity the person has—and be willing to improvise and leave your ego at the door. Good luck if you try to force it to be some other way. For me, it is about accepting my mother—for whoever she is when I see her." ♡



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# Burgers, Fries, and Kohlrabi Remoulade

*A Watertown luncheonette morphs into a stellar restaurant.*

**S**TRIP T'S, which sits next to a convenience store on a busy street, not far from the Arsenal Mall, is a welcome antidote to the market-research-driven restaurants that often pass as “fine dining”—even in Boston.

Thank goodness for the outliers. Paul Maslow ran this very popular local haunt for more than 20 years. He served typical American fare: burgers, fries, soups, chicken wings, and Caesar salad, along with a sirloin-strip sandwich (for which the restaurant was named). His son, Tim, grew up there, of course, then moved on to train at the French Culinary Institute. Rising through the ranks of professional kitchens, he became chef de cuisine at David Chang's famous Momofuku Ssām Bar in New York—before returning in 2011 to cook in Watertown.

Since then, Strip T's has been reincarnated. Theoretically, the father runs the lunches while the son takes on dinners, although overlap occurs. Thankfully, they kept the unassuming décor: a counter and stools, linoleum floors, red laminate-topped tables, and tin ceilings. (Visitors *must* experience the bathroom, a.k.a. “throne room,” in the basement.) Instead, they innovated where it counts: in the food. Vibrant and complex, the often Asian-infused cuisine is based on the old luncheonette menu, at least in name.

Try the soup of the day. We had the chilled summer-squash soup (\$9): chunks of smoky roasted zucchini and yellow squash in a refreshing lemony yellow purée tasting of fruity olive oil, mint, and parsley. A dollop of harissa, a North African pepper paste, lent zing. The kohlrabi

**Strip T's nuanced fare, such as these sea scallops with yellow curry and chateaufortelles, is served in simple environs.**



remoulade (\$8), comprised strips of raw vegetable, sliced green onion, and diced gravlax slickened with buttermilk dressing, was a cooling complement.

The salad also teamed well with Tim Maslow's version of chicken wings with “Moxie® sauce” (\$9). This poultry is not dumped in a fryer, then doused with Tabasco®. Rather, it's first cured overnight in sugar and salt, simmered, then seared on the grill. The sauce, which should be bottled and sold at the register, is made of an Indonesian chili paste and Moxie, the gentian root-based official soft drink of Maine. When eaten, the lean, crisp wings have a unique burnt-sugar BBQ flavor.

Maslow also spins the mussels (\$19) his way. Steamed, then sautéed in an umami-flavored broth, they are thickly layered with crisp onions that lend texture and contrast to the sweet meat. Underneath all is a mellow

potato purée. Also of note is the *banh mi* (Vietnamese-style) sandwich (\$10): slabs of fried tofu and blackened Japanese eggplant (a sweeter variety) are layered on a toasted baguette among cilantro, pickles, shredded carrots, and a hoisin-like spicy sauce.

Desserts are just as novel. The sugar-glazed brioche donut filled with rhubarb-infused cream (\$8) is topped with fresh herbs, like yarrow and ox-eyed daisy, that add bitter, dry notes. The coconut *suman* (\$8), a Filipino dish made of sticky white rice, came in squares with ripe mango slices and shards of salty, tortilla-like crunchies. Shavings of dehydrated black vinegar were sprinkled around the plate.

Any change is difficult, especially for a popular restaurant that is also a family business. Yet it appears that the Maslows are working it all out—much to our benefit. ~N.P.B.

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# LIFE'S BEGINNINGS

STUDYING HOW LIFE BLOOMED  
ON EARTH—AND MIGHT EMERGE ELSEWHERE

BY COURTNEY HUMPHRIES

**A**RE THE INHABITANTS OF EARTH the only life forms in the universe, or could life exist elsewhere? As astronomers rapidly identify exoplanets—those beyond our solar system—the question has been transformed from a science-fiction trope to one discussed in scientific journals and conferences.

And it quickly leads to another question: How did life start here on Earth? That question, says Dimitar Sasselov, professor of astronomy and director of the Origins of Life Initiative at Harvard, “is one of the big unsolved questions humanity has always asked.” And yet for various reasons it has been difficult to answer. Biology has been very good at describing how living

organisms work; it has been far less successful at answering what life is and how it could emerge from a non-living world.

“If you think of the two deepest and most challenging questions we could ask about life, I think they’re ‘How did it begin, and are we alone in the universe?’” says Andrew Knoll, Fisher professor of natural history. “And what I find remarkable when I think about it is that we are really the first generation in human history to ask those as scientific rather than philosophical questions.”

The initiative (<http://origins.harvard.edu>), launched with seed money from the University in 2005, has brought together scientists from largely disconnected fields—astronomy, physics, chemistry, biology, earth and planetary sciences—to tackle these issues. Sasselov says such breadth of expertise is necessary because so many conditions influence life’s emergence. How did the Earth aggregate from cosmic elements in such a way that it could support life? What environmental conditions does life require? How do inorganic molecules begin to behave like living organisms: replicating, organizing into cells, growing, evolving?

“In a certain sense our main question is really: what is the nature of life?” Sasselov explains. “That’s why we call it the *Origins of Life Initiative*. The plural here is very intentional.” If the only goal

is to understand life on Earth, he says, it’s a historical question. But if the goal is to understand how life emerges from particular environmental and chemical conditions, then the answer is much more fundamental. It raises the possibility that life could form in different ways on different planets. And ultimately, Sasselov believes, it could help us move beyond simply describing life to uncovering universal principles that govern it, akin to principles of planetary motion.

## DISCOVERING OTHER WORLDS

THE FIRST EXOPLANETS discovered were hulking, puffy, Jupiter-like planets that would not be able to support life as we know it. While all exoplanets are interesting in their own right, to anyone looking for life outside Earth, the true prize is small planets that are dense and rocky like our own, and that exist in the so-called “habitable zone,” where surface temperatures are consistent with liquid water, a requirement for familiar life forms. Scientists are making rapid progress in hunting this smaller prey; in fact, they now estimate that small planets far outnumber large ones.

The challenge, of course, is not just to identify planets but to know something about them and whether they could support life.



One of the initiative's most significant accomplishments to date is the development of a new resource, the HARPS (High Accuracy Radial velocity Planet Searcher) North instrument, which is designed to detect and characterize exoplanets similar to Earth in mass and structure. NASA's Kepler space telescope has detected thousands of potential candidate planets, but determining their mass, mean density, and composition requires a more precise instrument. HARPS is a spectrograph that can measure subtle wobbles in the stars the planets orbit, caused by the gravitational tugs the planets exert. The first HARPS instrument is located at the European Southern Observatory telescope at La Silla, Chile. The newer HARPS-N—created through an international partnership that included the Origins of Life Initiative, the Smithsonian Astrophysical Observatory and Harvard College Observatory, the University of Geneva, and other institutions—has been installed on the TNG (Telescopio Nazionale Galileo), a 3.6-meter telescope at the Roque de Los Muchachos observatory in the Canary Islands. This telescope is trained on the same skies as Kepler, which makes HARPS North a powerful partner in characterizing planets.

David Charbonneau, professor of astronomy, says that after making first observations with the instrument last spring, the

**Dimitar Sasselov, director of the Origins of Life Initiative, searches for planets around red dwarf stars. Because they are dimmer and smaller than our sun, red dwarfs make ideal targets for taking images of the extrasolar planets that orbit them.**


research team is now in the process of gathering and analyzing data, which takes time because of the slow cycles of planets around their stars. He says the instrument's precision makes it possible to begin studying the planets' atmospheric content. "The light from the star passes through the planet's atmosphere on the way to telescope," he explains, and the atmosphere's signature on that spectrum of light can be measured. Charbonneau's next task is to design experiments that can do just that: find

signatures of molecules like oxygen within these spectra.

In the longer term, the Giant Magellan Telescope (GMT), now under development in Chile's Atacama Desert, will also be paired with a sensitive spectrograph, dubbed G-CLEF (GMT Consortium Large Earth Finder), to enable more direct observations of distant stars and their planets (see "Seeing Stars," May-June, page 32). "I can guarantee you that, 10 years from now, we will have spectra that will be extremely exciting and interesting," says Sas-

BACKGROUND IMAGE: NASA/JPL-CALTECH





sellov. Astronomers will join with colleagues in chemistry and biology to interpret those data, enabling scientists to know, for instance, if a planet has lots of oxygen or methane or carbon dioxide, or whether it has other molecules not abundant on the Earth. “That’s the moment to which we are building,” he says.

The first characterizations, he adds, will almost certainly be of planets that are not inhabited, “but they will teach us about some of the basics of geochemistry, and what the variety of different environmental conditions are beyond what’s available in the solar system.” That in itself might stimulate new ways of thinking about how life arises.

### THE CONDITIONS FOR LIFE, ON EARTH AND ELSEWHERE

WITH TECHNOLOGIES AVAILABLE soon that may enable scientists to identify the conditions conducive to life on other planets, the question of which planets to study becomes critical. Despite their best speculations, scientists have only one model to work from: Earth.

But Earth’s surface is constantly turning over and weathering down, so any signs of sedimentary deposits from the planet *prior* to the appearance of life have been subsumed through plate tectonics or eroded. As Knoll says, “When the curtain goes up on the geologic record, life is already there. Every time you go by a road cut or a cliff, you are looking at a chapter in the history of life.”

Earth’s biological and physical history are intimately linked. The planetary conditions on Earth shaped the life that evolved, and life

in turn dramatically altered the planet. The early Earth provided elements like carbon and nitrogen needed to create organic molecules, but as life evolved, photosynthetic bacteria filled the atmosphere with oxygen. Long before the fossil record of plants and animals begins, scientists see evidence of microbial activity throughout the planet: single-celled creatures that left behind physical structures like giant reefs as well as chemical byproducts of their metabolic activities. In recent years, Knoll and other scientists have enhanced their ability to “read” this history, finding chemical signatures of life buried deep within ancient rocks. They can use this information to understand better how the chemical environment of the planet drove evolution, and vice versa.

This knowledge can be applied to understanding the histories of other planets. “Our experience of the Earth, it doesn’t exhaust the possibilities for life in environments elsewhere, but frankly it gives us our only mooring point,” says Knoll. Just as the Earth has changed throughout its history, other planets are also dynamic systems. Knoll has been on the scientific team analyzing data from the Mars rover missions, which have provided the first chance to decipher in detail another planet’s geologic history (and because Mars has no plate tectonics, its ancient history is better preserved than Earth’s). Though Mars is devoid of water

and hostile to life now, scientists have found evidence of a watery past and hope to encounter signs of microbial life. But Knoll says that it now appears that any narrow window of habitability on Mars had closed just as Earth’s was opening, around four billion years ago.

With so many planets to choose from, scientists are discussing the best ways to winnow down candidates for life. In an article in *Science* this past May, Sara Seager, a planetary scientist at MIT, argues that scientists should adopt a broader understanding of which planets are habitable, given the diversity of characteristics of planets and their solar systems. In environments with different pressures, temperatures, and chemical compositions, habitability might look quite different from what we expect. Sasselov wants scientists to abandon the term “habitable zone” altogether, as it focuses on a particular region rather than specific planetary conditions conducive to life. He says the debate can be re-

### EMERGENCE OF A FIELD

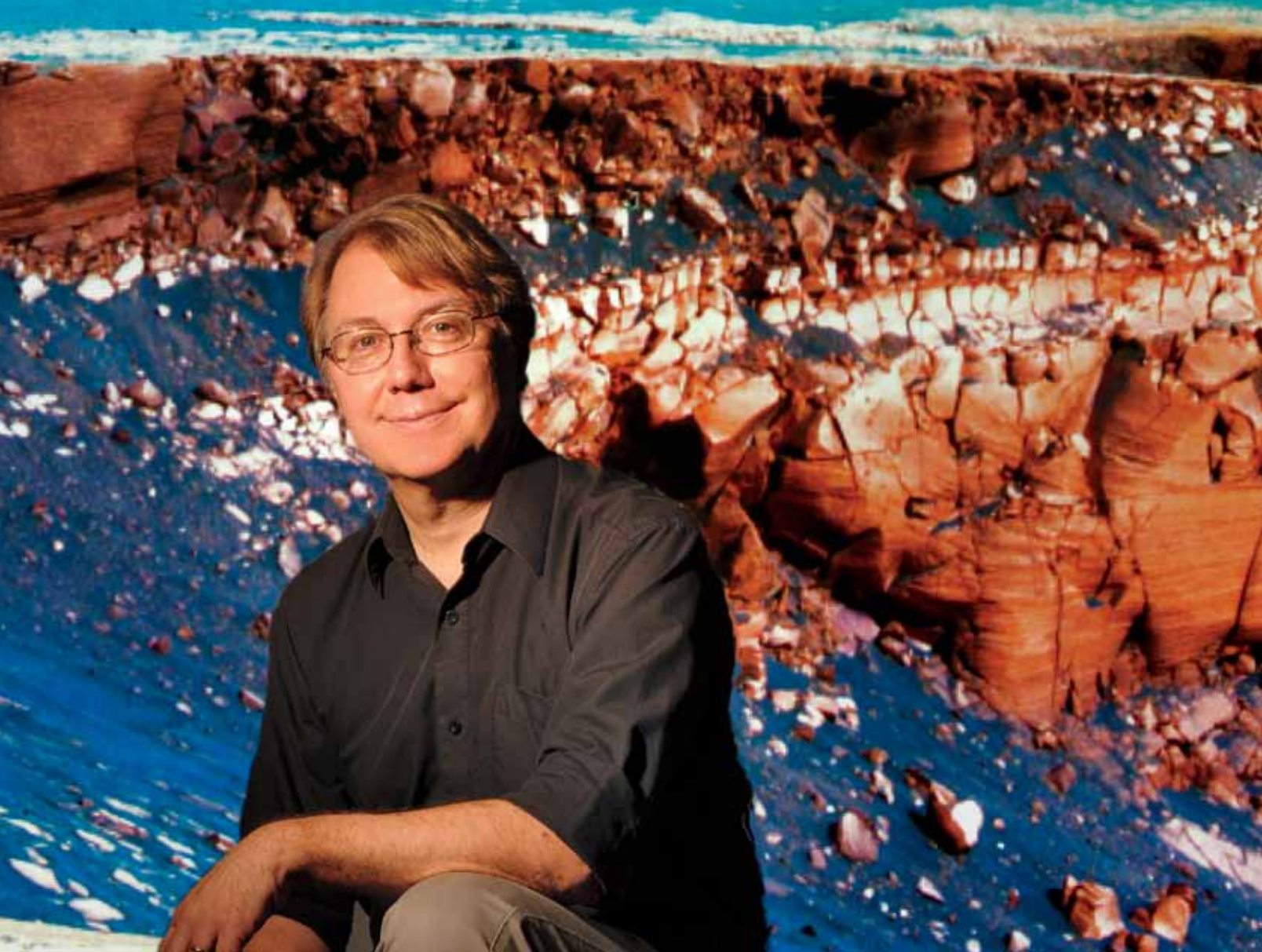
IN ITS FIRST FEW YEARS, the origins initiative has forged new connections among faculty members in disparate departments and influenced similar programs at other universities. It has led the investment in new tools and fostered cross-disciplinary research with postdoctoral fellowships. But launching such an endeavor has been challenging.

Sasselov has served as the effort’s ambassador. “We’re trying to answer a scientific question that may have few practical applications—it’s a very big question,” he says. “The reason why we’re bothering is because there’s such big, exciting science to be done.” But calling the science interdisciplinary is an understatement, he adds. There is simply no way to address it without broadening the typical scope of disciplines.

The initiative’s regular meetings have helped the nearly 30 associated faculty members explore connections within their research, and faculty are beginning to work collaboratively on papers. But the team has wanted more sustained funding for students and fellows to do research between labs, which would help make theoretical connections reality.

Despite a growing interest in interdisciplinary collaborations in science, the system of training, funding, and recognition still follows departmental distinctions. Sasselov’s larger goal is to ensure that when young chemists come to the program to do cross-disciplinary research with astronomers, they will go on to find positions that value that training, and fellow scholars able to evaluate grant proposals and papers that require peer review. “What we’re trying to do is create a worldwide community of scholars...who are truly representative of this new field,” he says. Beginning this May, the Simons Foundation has made an eight-year commitment to fund the Simons Collaboration on the Origins of Life, directed by Sasselov and Szostak, to connect investigators from several institutions in support of faculty research and postdoctoral fellowships in the area.

Sasselov’s hope is that the current resurgence of interest in life’s beginnings won’t get stymied again as it did in the middle of the last century, but will lead to a new way of understanding life in the universe.



solved only with substantive research that defines exactly what these conditions are—the initiative’s goal.

### BIOLOGY BEGINS: A MULTITASKING MOLECULE AND SIMPLE CELLS

IN THE 1950s, Stanley Miller and Harold Urey of the University of Chicago published the results of a now-famous experiment to test the possibility of creating organic compounds from the inorganic milieu of a primitive Earth. By adding an electric spark to an apparatus that contained methane, ammonia, hydrogen gas, and water, they were able to transform the carbon in the methane into simple organic compounds, including amino acids that are the basis for proteins in living cells. The Miller-Urey experiment dazzled scientists and laypeople alike with the idea that life could form spontaneously from a “primitive soup” of chemicals, and the right conditions (like a lightning strike to supply the energy).

But Sasselov says that the initial excitement faded when the complexity of DNA’s structure—solved by Francis Crick and James Watson at about the same time—was fully appreciated. It seemed impossible that the elegant helix could arise from a primitive chemical soup. “Suddenly the difference between the Miller-Urey experiment and the biomolecules of today, which are DNA and RNA, be-

**Fisher professor of natural history Andrew Knoll, curator of the Harvard University Herbaria’s paleobotanical collections. Behind him is an outcropping of ancient sedimentary Martian rock, which he’s studied for NASA’s Mars Exploration Rover Mission.**

came a huge gap, an unfathomable gap,” Sasselov says. “And the initial excitement actually led to a serious depression where people left the field altogether.”

But in recent years, stalwart scientists have continued to experiment with the chemistries of early Earth, and have made progress in understanding how life could have emerged. One of them is Jack Szostak, professor of chemistry and chemical biology and of genetics at Harvard; two decades ago, he shifted the focus of his research from yeast genetics (for which he shared the 2009 Nobel

Prize in Physiology or Medicine) to studying RNA molecules, which he thought could shed light on the next steps of life’s emergence. “Once you have the right kinds of molecules,” he asks, “how do they get together to assemble into cells that can grow and divide and evolve?” Scientists studying the origin of life today face a chicken-and-egg problem: in modern cells, the genetic instructions of DNA are translated and carried out by RNA and proteins, which perform cellular functions—including building DNA. So

BACKGROUND IMAGE: NASA/JPL/CORNELL





## SCIENTISTS STUDYING THE ORIGIN OF LIFE TODAY FACE A CHICKEN-AND-EGG PROBLEM: HOW COULD ANY COMPLEX MOLECULE HAVE ARISEN WITHOUT THE AID OF OTHERS?

how could any of these complex molecules have arisen without the aid of the others? Szostak, like many other scientists, has focused on RNA as the primary genetic molecule of early life. RNA is a less stable molecule than DNA, but its instability comes with added versatility, allowing it to perform multiple tasks, including some now performed by proteins. Szostak and others hypothesize that in primordial times, RNA served as a quick and dirty multitasking genetic molecule, able both to store biological instructions and catalyze its own reproduction; in later, more stable times, DNA and proteins could have evolved and taken over these functions with greater precision. But how did an RNA-based biology emerge from the early Earth's chemistry?

Szostak has used a technique called *in vitro* selection to screen large numbers of molecules for forms that have a particular function. His lab has applied the technique to generate different kinds of RNA molecules, particularly “ribozymes”—RNA molecules that can catalyze chemical reactions the way protein enzymes do—in the hope of creating an RNA molecule that catalyzes its own replication, because an RNA molecule able to catalyze its own replication

would be a prime early candidate for life. In the process, they have created diverse molecules that look much like RNA or DNA but don't exist in nature. “All these related molecules aren't used in biology, why is that?” he asks. “Is it because it's actually easier to get to RNA, or a historical accident?”

More recently, Szostak's work has focused on how the genetic material spelled out in RNA or DNA came to be bundled inside cells, which form the basis of all living organisms. The most essential feature of a cell is its membrane: a thin layer of fats that draws a critical boundary between inside and outside, self and the rest of the world. With this physical isolation, Szostak says, potentially useful genetic sequences could begin to gain advantage for themselves. His lab has managed to coax interesting behavior out of simple “protocells” (membrane-bound vesicles): getting them to grow and divide under various conditions.

“We actually can have an environmentally driven ‘cell cycle’ in which the membrane grows and divides repeatedly,” he says. “What's missing from that picture is the genetic material, and that, at the moment, looks like a harder problem.” He says there is still a laundry list of problems that must be solved to create a plausible scenario for RNA formation, and several labs around the world are painstakingly working on each one. “I'm fairly optimis-

tic that we'll figure out a way to get the chemistry working in a few years,” he says.

### WHAT IT WAS LIKE WHEN LIFE BEGAN

RESEARCH FOCUSED on studying molecules in test tubes increasingly points to questions about what the early Earth was like. “We're starting to deduce what kinds of environments you'd have to have to be compatible with the systems that we're building,” Szostak says—making it productive to collaborate with planetary scientists to understand these scenarios better. One possibility is that geothermal vents, like the kind found in Yellowstone lakes, could have driven chemical reactions by creating drastic fluctuations of temperature in the water. Certain kinds of chemically active clays could help draw together molecules that would be unlikely to meet if circulating freely in water.

There is also evidence that the amount and type of light was important in the early Earth environment. In 2009, John Sutherland's lab at the University of Manchester made a major breakthrough in origins of life research when it discovered a way that ribonucleotides (building blocks of RNA) could form from a mix of chemicals. But Sasselov points out that one of the steps required to make one kind of ribonucleotide was the addition of ultraviolet light. The spectra of UV light available on the early Earth were different. Stars paradoxically become brighter as they age and deplete their hydrogen cores, so the early Sun was 30 percent fainter, but it was spinning faster, creating a more powerful magnetic field that barraged the Earth's surface with UV radiation that was 200 times stronger than it is today. Sasselov is an expert in analyzing starlight; rather than simply shining a UV bulb on chemicals in these experiments, he wants to recreate the spectra of the early Earth more faithfully in experiments involving prebiotic chemistry.

Research on microbes that live in unusual environments on Earth has shown that life can survive extremes in temperatures, acidity, pressure, dryness, or radiation levels, and thrive on nutrients like iron and hydrogen sulfide. For the purposes of the origins initiative, it's also important to consider that life could have evolved differently than it has on the Earth. Researchers have speculated, for instance, about life forms based on silicon rather than carbon. Another difference might simply be the orientation of biological molecules; many molecules are asymmetrical and can exist in two forms that are mirror images of one another, like right and left hands. But for reasons not entirely understood, life generally prefers to use only one of these mirror images (sugars in biological organisms are always “right-handed” while proteins are always “left-handed”).

George Church, Winthrop professor of genetics, has been investigating this question of handedness, or chirality, in his quest to synthesize functioning parts of cells from scratch. Sasselov says the initiative is supporting work in Church's lab to build a mirror-image version of a synthetic cell, to see if it's possible to create functioning biological systems that have a different chirality than those on Earth. This is just one of the (please turn to page 74)



# A Nearly Perfect Book

The poetry critic,  
the publisher, and  
the art of bookmaking  
in a digital era

by NATHAN HELLER

MANY POEMS enact wild rides of the imagination, but John Ashbery's "Self-Portrait in a Convex Mirror," which announced a new kind of craft in 1974, is also vivid in concreteness and its emphasis on form. Referencing a Mannerist painting by Parmigianino, Ashbery carefully elaborates size, angle, light, texture, and time (a "peculiar slant / Of memory") to tease out his poem's intellectual shape—an approach that draws particular attention to the piece's own materiality. For a publisher of sensitivity, the work raises a particular question: how to publish a poem that brings the physicality of seeing, reading, and writing so distinctly to the fore?

That was one challenge that Andrew Hoyem, one of the leading letterpress printers in the country, faced 29 years ago when he undertook a new edition of the poem. Hoyem runs Arion Press, a fine-edition publisher in San Francisco. Some of the books it has produced are set by hand, and all are printed in small editions whose volumes sell for hundreds or even thousands of dollars. Following tradition, Hoyem either melts down the type or returns it to its cases after the run is complete, preserving the volumes'

uniqueness. The approach runs contrary to mainstream trends in today's literary marketplace, and, like the Ashbery poem, it rests on the value of precision: the physicality of the book as an object and the startling originality of the craftsman's eye. "There's a kind of human rhythm to this," Hoyem explains. "That's what fine printing is—it's about being perfect."

In pursuit of that perfection, he chose not to make "Self-Portrait in a Convex Mirror" a traditional book at all. Instead, he imagined the printed pages as a physical object shaped by the poem's imagery and cultural vernacular. The pages of the volume *Self-Portrait in a Convex Mirror* were not trimmed to their dimensions, but handmade as round sheets. Hoyem printed the lines of the poem like spokes, radiating outward from the center of the page, with generous space between. He stacked the round pages in a custom-made, film-reel-like canister for each copy, in lieu of binding, and, on each canister's exterior, fitted a convex mirror in which the viewer would see him- or herself. ("I see in this only the chaos / Of your round mirror which organizes everything.") He commissioned eight artists, including Jim Dine and Willem de Kooning,





**Porter University Professor Helen Vendler in Houghton Library with a copy of the Arion Press edition of John Ashbery's "Self-Portrait in a Convex Mirror," and publisher Andrew Hoyem at Arion's San Francisco quarters**

to respond to the Parmigianino painting, and interpolated these new works among the wheels of text. Ashbery ['49, Litt.D. '01] contributed a recording he'd made of the poem, and Hoyem included the LP, with the Parmigianino on its cover. All that remained was a critical introduction. For that, he sought the counsel of his wife, Diana Ketcham, a former academic and a critic who is the press's senior editor.

Ketcham proposed Helen Vendler—at that point a *New Yorker* contributor and a relatively new face on the Harvard faculty. (She is now Porter University Professor.) The proposal, Hoyem and Ketcham recall, struck them as a long shot, but one worth trying. ("Early on, I had some advice from a much older man," Hoyem explains. "He told me, 'Go to the top—ask.'") To his surprise, Vendler agreed. She wrote an introduction, which Hoyem printed as "liner notes" to Ashbery's LP. "What drew Ashbery to this painting was its combination of extreme beauty and self-conscious expressive distortion," Vendler explained in her essay. "A convex or concave mirror distorts what it represents; the principle can be taken to extremes (as with mirrors in a funhouse) or it can be used to convey the distancing effect of aesthetic self-representation." She quoted aptly from Wallace Stevens, Gerard Manley Hopkins, and George Herbert. Hoyem and Ketcham loved the essay. Vendler was much taken with the printed result, too.

"I didn't know, when I was asked to do it, that I would be given a copy—that stunned me," she explained recently. "This gorgeous object! So, from then on, I was willing to do anything that seemed within my powers with Andrew."

THEY'VE DONE a good deal. In the years since the "Self-Portrait" edition appeared, in 1984, Vendler has become Arion Press's most prolific contributor, and the two have together produced 11 volumes, accompanied by original work from artists such as Jasper Johns, Richard Diebenkorn, and Sol LeWitt. Most recently, they collaborated on *Stone from Delphi*, a collection of classical-themed poems by Seamus Heaney. Vendler helped select and introduce the poems, with an eye to their historical overtones; her introduction explains how "Heaney's

lyric poems drawing on the classics address motifs significant to his own sensibility, ethics, and linguistic hunger, [and reclaim], for modern ears, works inaccessible in their original language to the common reader." The book is bound with a goatskin spine and printed on mold-made paper from Germany, with 16 watercolor illustrations of Greek and Roman statues by the American painter Wendy Artin, done exactly at scale and reprinted on a high-grade Epson digital inkjet printer—a technology that Hoyem, a master of the old ways, not a vassal to them, calls "one of the major innovations in the history of printing." There are only 300 copies on the market, and they are costly: \$1,200 each.

Arion Press is now the only full-service letterpress left in the United States. Although facets of traditional bookmaking linger—some letterpress printing here, some hand-binding there—no other workshop houses the complete process, from the casting of type to the trimming of covers. In 2000, Hoyem and Ketcham launched a nonprofit, the Grabhorn Institute (named for two earlier San Francisco printers), to oversee these efforts and help pre-

serve the press's repository of knowledge and machinery. Today, its facility doubles as the country's largest museum of working letterpress equipment.

The case for preserving such technologies and methods seems counterintuitive at first, especially in ecosystems as invested in the next new thing as twenty-first-century San Francisco and Cambridge—two of the most digitally oriented communities in the nation. Contemporary publishing favors open access; recent advances in the technology of reading offer many text formats, not the perfection of a single one. Data suggest that Americans read more now than ever before, but *how* they read is increasingly unmoored from paper's physical aspect.

And yet the book persists, with something of a second wind. Today, Arion Press leads a growing group of small Bay Area-based publishers placing a fresh emphasis on physical type and centuries-long tradition, revivifying the old arts at the heart of screen-age creativity. Users of the iPhone might forget that Apple's early rise in design-based computing drew from the traditions of typography, but the press has not: it is among the leading custodians of that craft and one of the few remaining producers of cast type. (Arion's in-house foundry, M & H Type, ships hundreds of fonts of lead type every year.) Though reading habits are changing, the values sought on a page—beauty, clarity, ease—are more crucial than ever, and, in this context, Arion Press's old mastery is as much a blueprint for the future as a preservation effort for the past. Like Ashbery's poem, it helps trace out the porous boundary between physical craft and feats of the imagination: how the word rests on the page and what we dream it might do. "I'm not doing it in order to uphold a standard of traditional letterpress books as against trade books, as against hardcover books, as against paperbacks, as against e-books," Hoyem says. "I'm making what I hope to have regarded as works of art."

HOYEM is a tall man with a stately bearing and the shambling walk of somebody whose joints are worn from many decades spent sitting, crouching, and hunching over work requiring extreme precision and care. He likes bow ties, and suits heavy enough for the fog-drenched outer reaches of the San Francisco avenues. He's bald, with heavy-lidded eyes and a sharp, impish smile that shines out from the depths of his reserve: it can feel, sometimes, like getting a big grin from Mount Rushmore. Yet he rarely jokes about his work. Each book on the shelf emerged from a long parturition, and each conjures memories of the challenges it posed along the way.

Today, Arion Press is housed in a spacious building on the edge of San Francisco's Presidio, a lush decommissioned military base of nearly three square miles cradled by the Richmond district and Pacific Heights and swooping down toward the lower harbors of the Golden Gate. Down a long hallway on the entry level, display cases feature selected volumes, some of which grew from Hoyem's longstanding relationship with Vendler. *Stone from Delphi* is their second book of Heaney's poetry; in 2003, Vendler helped Hoyem assemble *Squarings*, a sequence of 48 Heaney poems, originally from his collection *Seeing Things*. Sol LeWitt, the chosen illustrator, answered with 48 drawings of his own—each six inches square and based on a varying grid on which LeWitt produced "scribbles" (his word). The effect on the page is one of dazzling opticality: forms that are at once rigorously geometric and diaphanously undefined. In her introduction, Vendler explores the poems as evidence of a similar dance between the speaker's ordering intelligence and the free play of his imagination. "Imagined grids and lines," she explains, "are the latitude and longitude lines by which mentality orders the world."

Occasionally, Hoyem has found himself so strongly drawn to an existing work of art as the complement for poetry that commissioning new work is unnecessary. That was the case when he undertook to publish T.S. Eliot's *The Waste Land*, in 2007, again with a Vendler introduction. He could imagine no more fitting work than R.B. Kitaj's 1975-76 canvas *If Not, Not*: a vivid, dreamy composition that Hoyem, picking up on the idea of an in-house master printer, presented across several pages, both as a whole and in fragments. Kitaj, while alive, also contributed lithograph portraits to an edition of Allen Ginsberg's *Kaddish*, *White Shroud*, and *Black Shroud* that the press published in 1992. And although Vendler is not a scholar frequently associated with Beat poetry, she warmed to the project as well. "It seemed to me it was a new line, obviously depending on Whitman, but it had a different rhythm than Whitman's," she says. "A kind of beachhead of gay pride, as we would call it now."

Vendler's own favorite Arion collaboration has been a collection of Wallace Stevens poems that she introduced, in 1985, with original art by Jasper Johns—an artist whom Hoyem recalls as her special request for the project. ("He is the poet I feel closest to," she explains, "and I had always wanted to see the poems treated with the dignity they deserve.") The collection includes 122 poems selected by Vendler;

**Arion casts and maintains a large inventory of letterpress type; the landmark edition of *Moby-Dick*; stamps used to label wrapped packages of fonts of type**





the frontispiece, by Johns, was one of four works he later included in his series *The Seasons*.

After nearly three decades together, Hoyem and Vendler have built a catalog within the press's greater list—Yeats with original Richard Diebenkorn illustrations, Shakespeare's sonnets bound in goatskin and Japanese cloth. Not every collaboration has gone wholly as planned. When Hoyem and Vendler hoped to produce an edition of Emily Dickinson poems, the Harvard University Press, which still holds rights to Dickinson's oeuvre and exercises them actively, wouldn't let them be printed even in a small fine-press edition. So Hoyem, working alone, devised a work-around, using the public-domain early, edited versions of the poems, with art by Kiki Smith. "Harvard thinks it controls Emily Dickinson," Hoyem explains, dryly. "I disagree."

ARION PRESS'S WORKSHOP is located on the lower floor of its facility. At one end is the M & H type foundry: a stark, cavernous space smelling of machine oil and metal. There is a kiln, where Hoyem and his colleagues melt lead into ingots to be used for monotype; stations across the room contain casting equipment. Since the 1990s, Hoyem has been using computer interfaces to cast monotype directly from computer-generated text, expediting the scrupulous work of turning sentence after sentence into lead. Some of the press's most rarefied projects, though, are set by hand. In deference to local printing tradition, Hoyem files his more than 100 tons of poured type largely in what are known as California job cases, with the noncapital and capital letters kept in side-by-side arrays of compartments. More traditionally, though, they're stacked: the lower case and the upper case.

Part of Hoyem's duty as a master craftsman lies in training. He takes apprentices, as his predecessors did for centuries. It is no mean commitment: an apprenticeship runs four years in the foundry and press room, two in the bindery—and that's only the groundwork. "To get the quality in press work that we demand, it takes years," he says. He enforces a schedule. Each morning, staff members are on the job at 8:30; they get a short lunch and an afternoon coffee break and leave promptly at 5. Otherwise, they're at their stations. A visit to the bindery might find a couple of staffers hard at work making slipcases for *Stone from Delphi*. At one end of the room is a sewing machine that they use to sew together many books' spines, though the most labor-intensive volumes are stitched together by hand, on frames. Hand-sewn bindings don't break or gape or hang open to certain pages, so they're perfect for books that get lots of scrutiny and use, like the landmark Arion Press Bible that, today, is the volume

on the pulpit in San Francisco's Grace Cathedral.

It's a local connection that fits with many in the press's past. San Francisco has had a reputation as a printing town, from the Gold Rush era onward, and, in the 1920s, the brothers Edwin and Robert Grabhorn helped set the cornerstone of local tradition. The Grabhorns were trained partly in the principles of "allusive typography"—the idea that typefaces ought subtly to echo the period and style of the writing being typeset. And they believed that the moist, foggy air of San Francisco helped prime paper for inking. In 1930, they published a sumptuous 400-copy edition of Walt Whitman's *Leaves of Grass*, set entirely by hand; it's printed in a large, Goudy type on generous pages (14.4 by 9.75 inches), illustrated with woodcuts, and bound in red goatskin and mahogany. Edwin Grabhorn called the edition "the most perfect book we ever printed."

Hoyem thought so, too. He was born in South Dakota, but his family moved to Iowa during the Second World War. In 1946, they relocated to the Mojave Desert so that his father, a physicist, could take a job in weapons development. In 1946, they relocated to the Mojave Desert so that his father, a physicist, could take a job at what Hoyem fondly refers to as an "atom smasher." Hoyem went to college at Pomona, then enlisted in the navy. When his service ended, he was accepted for graduate school at Columbia, in political science. But he put off installing himself in New York, keen to kill some time and make a bit of money in San Francisco, which was then in the heady throes of a print renaissance. In 1961, on something of a whim, he took a job at Auerhahn Press, an early organ of Beat poetry and the literary avant-garde. (It published William S. Burroughs '36, G '40, and Charles Olson, among others.) "We were printing by letterpress mainly because it was a cheap way to get started," Hoyem explains. At work arranging type, he fell in love. Auerhahn Press was located around the corner from the Grabhorns' center of operations, and by 1964, he'd begun working there part time, in addition to his Auerhahn duties.

Joining Grabhorn Press changed Hoyem's life. Learning at the knee of the local masters, he trained toward exacting standards. And during the late 1960s, it was Hoyem who stepped in to sustain the Grabhorns' tradition. Partnering with Robert Grabhorn,

he launched a new iteration of their celebrated endeavor. In 1973, not long before Grabhorn died, he arranged to take over all his printing machinery. Endowed with this historical equipment and some aesthetic ambitions of his own, Hoyem launched Arion Press in 1974, taking the name from the Dionysiac poet who, according to myth, was rescued by dolphins.

**Squarings (2003), illustrated with Sol LeWitt's self-described "scribbles," and the cover of the volume; Andrew Hoyem with Stone from Delphi, the new Seamus Heaney volume**





**Andrew Hoyem with Arion's "California" job cases of cast letterpress type; a can of black ink (on the left) and brass cans of type wash**

"I was aware of the French tradition of the *livre d'artiste*," Hoyem explains—books produced with great craft and in small editions, usually designed around, or prominently featuring, original art. "My goal was to make artists' books that were entirely cohesive—so that you couldn't separate the art from the typography, visually or in concept." In the late 1970s, he undertook to print a new edition of Herman Melville's *Moby-Dick*, using the Grabhorns' *Leaves of Grass* as a rough guide both in format and in ambition. The book would be large, 15 inches by 10, and hand-set, like the Whitman, in a Goudy face. Hoyem commissioned 100 wood engravings from the artist Barry Moser, but he was particular about what they could depict. No main characters—including the whale—should appear in an illustration, he advised; no major action scene should be rendered. The idea was to let readers create their own mental images of characters and scenes based on the author's writing, with the engravings there only to help them fill in the visual details (like whaling equipment) that they weren't able to envision on their own.

To study the Arion Press edition of *Moby-Dick* today is to have an almost sacred experience of the power of physical print. Its ink is black, with wide margins and initial letters in a dark, aqueous blue. The paper is a faint blue-gray, like the surface of the ocean on a cloudy day. When the reader lifts a page to turn it, the watermark of a whale shimmers through. Because the letter *w* is particularly wide, Hoyem made the abutting spaces slightly narrower; every semicolon has a hairsbreadth gap before it, as if signaling the partial stop. The result is something that one would not think possible: a nearly perfect book.

THE AUDIENCE for Arion Press's work is small but devout, dominated by specialized collectors and subject to the rise and fall of the art market more than to the changing fortunes of the customers of Barnes & Noble. The press relies a good deal on regular subscribers, who collect the new books as they appear, and on institutions such as Harvard's Houghton Library, which regularly orders volumes for its collection. (To augment his passion projects, Hoyem takes commissions for private printings.) The ideal buyer, he says, is someone whose interests lie at the intersection of literature, art, and printing craft—and such people come along more rarely than one might expect. "Most art collectors are not readers," he explained. "They want big, splashy stuff on their walls to show how rich they are." In more than one egregious

case, buyers sliced the original Jasper Johns etchings out of an Arion edition and sold them as self-sufficient works. There is, always, the risk that the market will trump the art.

Half a century ago, the main contours of literary connoisseurship were clear. The canon started with the classics, swept up into Modernism, and left few major works of English-language poetry and fiction unstudied along the way. High culture was, in large degree, a body of shared knowledge; scholars tested unknown works as one might assess porcelain: tapping them at crucial points and listening for the familiar, canonic ring. "Although most of the art of the past falls away into what [Wallace] Stevens called 'the trash can at the end of the world,'" Vendler wrote in her Ashbery introduction, "the great European conservatories, the libraries and the museums, keep our collective Western past in a condensed and selective form." Erudition leaves a material trace, as does its opposite. When Fitzgerald, writing in the 1920s, had Nick Carraway stumble into a vast library stocked with "absolutely real" books whose pages hadn't been cut, the detail was intended to convey, quite literally, volumes about Gatsby's habits of mind.

The limited-edition art book for years benefited from this outlook. If a handful of texts were the measure of the culture's strength, what could be more appropriate than dignifying those canonic works with material refinement? Then, in or about the 1960s, high culture changed. The idea of an absolute canon fell into question, and alternatives emerged. When serious critics today turn their attention to rock music, it is with the idea that *Sgt. Pepper's Lonely Hearts Club Band* may have exercised as significant an influence on the creative imagination of its era as *Mrs. Dalloway* did in its own time. The challenge of the literary world today is not a dearth of quality. It is an excess of excellence, contextually defined.

The role of fine-press books, like those Arion Press publishes, has changed, too. There's now the responsibility not only of perfection but of selection—what to publish at a time when so much may be worthy of attention. Arion Press has played both within that model and against it. The projects it produces have one foot in tradition. (After all, fine press work is virtually extinct.) But the press also embraces a more idiosyncratic approach. Hoyem takes a lot of pride in his new publication of *The Moonstone*, the Wilkie Collins proto-detective novel, here presented in a luxurious edition with original scratchboard drawings by Stan Washburn: an important, if not traditionally high-literary, text that's dignified by a generous presentation. Even a reader paging through *Stone from*





Delphi is encountering poetry that's still relatively fresh.

Vendler, who's built a scholarly career commuting between the old

**The Miller two-color cylinder press; Rochelle Youk cases in a copy of *The Day of the Locust*; Sarah Songer applies crash (coarsely woven cloth) to strengthen a book's sewn spine**

have my best, ev'n all I had.' I think bringing poems, well-dressed and clad, is a tribute to the poems," she went on. "I hope people wouldn't see this as fetishizing—as they say so horribly—the text, but it's paying the text the honor it deserves."

Others have agreed. Since their early days as publishers, Hoyem and Ketcham have been surrounded, both professionally and socially, by a cohort of creative minds. (In the early 1980s, Ketcham and Wendy Lesser '73, the

founding editor of *The Threepenny Review*, organized an informal group of local writers that met for lunch at Oakland's BayWolf restaurant; regular participants included the then-local poets Robert Pinsky and Robert Hass.) Although Ketcham wryly describes Hoyem and herself as "provincials from California," they take pride in the milieu they have assembled—and that milieu, in turn, enjoys the particular creative opportunities that they provide. At one point, Hoyem, designing an edition of *The Great Gatsby*, wrote to the architect Michael Graves, M.Arch. '59, to ask him about contributing art; he'd heard that Graves reread the book every year. Hoyem had been misinformed—it was actually the architect Robert A.M. Stern's favorite book—but Graves was delighted with the assignment all the same, and, somewhere in the midst of completing his design for the Whitney Museum addition (a project eventually abandoned), he submitted elaborate, intricate designs for everything from wine glasses to garden landscaping for *Gatsby*'s imagined West Egg estate. Late this past spring, Hoyem and Ketcham flew to New York for a celebration of one of their recent projects, *Thomas Jefferson's Paris Walks*—written by Ketcham with photographs by Michael Kenna—at Hermès on Madison Avenue, where the book was on display.

The broad social orbit is as much about keeping an eye out for new talent as it is about sharing their wares. Hoyem is 77. He is beginning to think about retirement and about the future of the press. Lately, he's been casting his gaze around for successors, people who share his exacting knowledge of fine press work and his big ambitions for the smallest arm of publishing.

"It could possibly be someone from the art world, but I haven't met a lot of people who have a strong literary bent," he says. The trouble is, partly, the point: no one is inventing books quite like those Arion Press makes. Hoyem isn't too concerned, though, and there's reason to think everything will work out. So far, he has never had much trouble finding the right people for the task. ▢

*Nathan Heller '06, a former Berta Greenwald Ledecy Undergraduate Fellow at this magazine, is a film and television critic for Vogue and a frequent contributor to The New Yorker.*

canon and new work, is in many ways a critical counterpart to this effort. As a doctoral candidate at Harvard in the 1950s, she studied with I.A. Richards, himself a University Professor and an enormously influential literary critic often cited as the modern-day father of what's sometimes called "close reading": a method of explication based on the idea that authorial intent and word-by-word structure are mutually illuminating. His approach was implicitly an empirical answer to the "why" of the canon: Why might readers attend to Shakespeare more than to Marlowe? Why was the slippery modernism of Eliot worth teasing out, line by line? And it provided a standard of appraisal beyond the normal vagaries of taste. Like her teacher, Vendler is now known not only as a guardian and expositor of the poetic classics (her dazzling, line-by-line study of all of Shakespeare's sonnets is today considered the definitive guide through the Bard's poetry) but as a prescient arbiter of contemporary esteem.

Vendler first encountered Seamus Heaney's work during a visit to Sligo, Ireland, in 1975, and quickly became his most eloquent American critical champion. Heaney came to Harvard as the Boylston professor of rhetoric and oratory; he was succeeded, in 1998, by Jorie Graham, another rising poet whose poems Vendler helped introduce to readers. That critical relationship remains strong: as it happens, a volume of Graham's poems is the next project on which she and the press will collaborate.

THESE DAYS, Vendler lives the fast but quiet life of a late-career literary lioness. Her critical opinions are among the most celebrated and distinctive in the nation; her schedule, even in these senior years of her career, runs tight; and she's accustomed, on the dais or in magazines, to reach audiences of thousands. Why set aside the time and energy to contribute tens of thousands of words, across decades, to books whose press runs seldom exceed 400 copies, and whose audience mainly comprises a small circle of collectors? "It makes me think," she explained, not too long ago, in the cozy book-lined office that she keeps in Harvard's Barker Center. "It was strange to be doing these anthologies of so many different poems. Taking on the problem of how to present Stevens to people, or how to present Yeats.

"George Herbert says, in 'The Forerunners,' [that he brought his] thoughts 'to church well dressed and clad: / My God must

# Henry Beston Sheahan

Brief life of a nature writer in a machine age: 1888-1968

by JOHN NELSON

IN 1925 Henry Beston '09, A.M. '11, bought land in the peninsular dunes of Eastham, on Cape Cod, and commissioned a carpenter to build a house on a mound facing the Atlantic, 30 feet in from the beach. The Fo'castle consisted of a single room, 20 by 16, with a wood stove but no electricity. On this "last fragment of an ancient and vanished land," the only neighbors were the hardy "surfmen" two miles north at the Nauset Coast Guard Station. Beston intended the house for summer visits but decided that first summer to spend a year there. His record of that year, *The Outermost House* (1928), has become one of the most beloved books in American literature. His protégée and friend, Rachel Carson, author of *Silent Spring*, once said it was the only book that ever influenced her.

Beston (he dropped "Sheahan" in his thirties) was born a doctor's son in Quincy, Massachusetts. After earning his master's, he taught English at the Université de Lyon before returning to Harvard in 1914 as an English instructor. The next year, he served as an ambulance driver for nine months in World War I. His first book, *A Volunteer Poilu* (1916), written to honor his French comrades, narrates his experience at the Battle of Verdun.

Next, he wrote fairy tales, hoping, as one critic put it, to "cleanse the horrors of war from his soul." *The Outermost House* never mentions the war, but, like Hemingway's "Big Two-hearted River," it is a postwar story about a solitary man immersed in the natural world "beyond the violences of men." "It was on the dunes that he found himself as a writer," wrote his wife, Elizabeth Coatsworth, an admired author herself. "There he was alone most of the time with only the sea, the sky, the beach, and the marshes for company."

Beston described himself as a "scholar with a poetic joy in the visible world." *House* is not a story that gazes inward or seeks drama in self-analysis. All the drama and mystery lie in the dunes, the waves, the night air, the "elemental presences," the great tidal rivalry between ocean and beach, and the struggles of men and birds at sea to survive winter's fury. His readers watch and listen with him, drawn in by an enraptured yet precise prose style that evokes Shakespeare and the King James Bible. From observation Beston moves effortlessly to contemplation of nature's secrets. "In a world older and more complete than ours," he writes, fascinated by the mysterious synchronicity of migrating shorebirds, "they move finished and complete, gifted with extensions of the senses we have lost or never attained, living by voices we shall never hear. They are not brethren, they are not underlings, they are other nations." In nature he finds the wisdom of humility and spiritual sustenance.

Beston and Coatsworth married in 1929 and honeymooned at the Fo'castle. When they found suburban Hingham too busy and trafficked, they bought Chimney Farm (now a National Literary

Landmark) in rural Nobleboro, Maine, in 1932. There, where Beston lived the rest of his life, they wrote together, raised two daughters, befriended neighbors, tended their garden, chopped wood, paddled canoes, and explored the winter forest on snowshoes.

His Maine books, like *Northern Farm*, sing of harmonious, self-reliant country living: uncramped, governed by seasonal rhythms, connected to all the generations who'd farmed the land before them. "Without a farming population," he maintained, "a nation is never healthy in spirit." In Maine, he found "a way of life that has faced the age of the machine and preserved its communal goodwill and the human values." His great gift, his wife felt, was to help readers discover what had been there all along—the forces that contour the land, the first signs of spring thaw, and their own yearning to be rooted in the earth. He was, she said, "a great opener of windows."

In the anthology *American Memory*, Beston celebrated Native Americans, the early European explorers, and the great rivers flowing through "a wilderness that is wilderness no more." *The St. Lawrence River* (1942), a narrative of his many trips along the river, takes his readers on "an adventure beyond politics and frontiers into the older America of the forest, the cataract, and the shadow of trees."

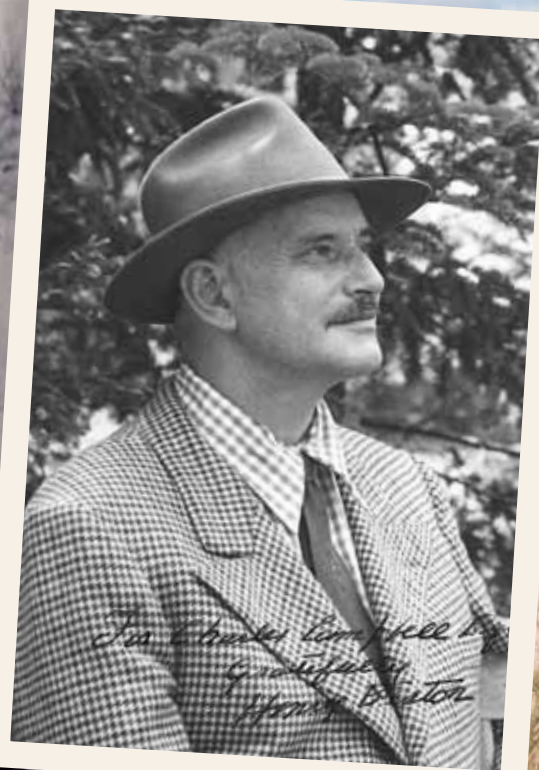
But he was appalled by what this America had become. "I see no future for this form of civilization," he wrote to a friend, "with its brutal egotism, its absence of poetic relation to the earth." In the past century, he believed, America had suffered "an alienation from Nature unexampled in human history." In college, a classmate once scribbled a cartoon of Beston's tombstone, engraved "He hated machines." Now, Beston was convinced, the Machine Age was destroying man's "animal faith," replacing responsibility with passivity, and debasing his very language. His daughter Kate Beston Barnes, Maine's first poet laureate, once said, "He would have been horrified, just horrified, by the world of today."

In 1959, Beston was awarded the American Academy of Arts and Sciences Emerson-Thoreau Medal. Two years later, due in part to the influence of *The Outermost House*, the Cape Cod National Seashore was established. In 1964, Beston returned to Eastham one last time to dedicate the Fo'castle as a National Literary Landmark. The dedication plaque reads "wherein he sought the great truth and found it in the nature of man." He urged young visitors to the site to keep a reverence for nature in their hearts. The house was washed away by a hurricane in February 1978, but pilgrims still come each year to see the place where it stood. ▽

John Nelson '68 is the author of *Cultivating Judgment, on the teaching of critical teaching skills*, and has published nature essays in *The Harvard Review*, *The Gettysburg Review*, *Shenandoah*, and *birding magazines*.

OPPOSITE: HENRY BESTON COURTESY OF THE BESTON SOCIETY; THE FO'CASTLE: TAKEN BY JOURNEY TO OUTERMOST HOUSE AUTHOR NAN TURNER WALDRON; COURTESY OF THE BESTON SOCIETY; BESTON PROFILE COURTESY OF THE MAINE HISTORICAL SOCIETY; BACKGROUND PHOTOGRAPH BY ISTOCK IMAGES





*For Charles Kimball by  
Gratifying  
Henry Boston*

# Self-Fashioning in Society and Solitude

On crafting a  
liberal-arts education

by NANNERL O. KEOHANE

*Editor's note: Each spring term since 2008, Hobbs professor of cognition and education Howard E. Gardner and Pforzheimer professor of teaching and learning Richard J. Light—in cooperation with the Freshman Dean's Office and a group of facilitators—have offered "Reflecting on Your Life." These voluntary discussions, made available to all first-year undergraduates, provide an opportunity to discuss ways to make life choices and to think about values. Last spring, Nannerl Keohane—a scholar of political theory, the past president*

*of Wellesley College and of Duke University, and a member of the Harvard Corporation—met with a group of discussion leaders and students. She asked them to prepare for their conversation by reading "Self-Fashioning in Society and Solitude," remarks she had earlier shared with students at Stanford. This text, adapted from those remarks, bears generally on the aims of a liberal-arts education, at the outset of a new year for the entire University community, and particularly for entering members of the class of 2017.*

SELF-FASHIONING is part of the age-old purpose of higher education, particularly in the liberal arts and sciences. The key point is to be aware, sometimes, that this is happening—to deliberately engage in *fashioning*—not just let events and experiences sweep you along without your conscious participation.

Richard Brodhead expressed this well in his speech to the entering class as dean of Yale College in 1995: "You've come to one of the great fresh starts in your life, one of the few chances your life will offer to step away from the person you've been taken for and decide anew what you would like to become." In this mood, students typically see college as a place where a new stage of life's journey begins. "Incipit Vita Nova" was one motto of my alma mater, Wellesley, and it surely seemed appropriate at the time.

You now have this incredible opportunity to shape who you are as a person, what you are like, and what you seek for the future. You have both the time and the materials to do this. You may think you've never been busier in your life, and that's probably true; but most of you have "time" in the sense of no other duties that require your attention and energy. Shaping your character is what you are *supposed* to do with your education; it's not competing with something else. You won't have many other periods in your life that will be this way until you retire when, if you are fortunate, you'll have another chance; but then you will be more set in your ways, and may find it harder to change.

You now also have the materials to shape your character and your purposes: the rich context, resources, incomparable opportunities that Harvard provides. And the combination of time and materials is truly an opportunity to treasure.

My purpose in this essay is to think with you about how you might use this time and these materials wisely, with full awareness that this experience will be unique for each of you, but also the conviction that since countless other men and women have set out on the same journey, they can offer some perspectives that will be helpful to you now.

## *Advice from past sojourners*

I'LL BEGIN with one basic piece of advice about how you might approach this business of "self-fashioning." It's the very familiar maxim carved on the temple of Apollo at Delphi: "Know Thyself."

This may seem wholly paradoxical: I'm discussing your fluidity, your openness to new character and form, and I start by advising you to get to know yourself, what you already are like. But it's not so paradoxical if you think it through: among the materials you should use to form or shape or fashion yourself, the basic qualities and most durable features of your own personality surely have to be taken into account. Whatever you do here at Harvard, you will not be creating yourself from scratch.

For example, you already know whether you are quick to anger or even-tempered; you can learn to adjust this internal barometer to some extent, controlling your temper rather than exploding immediately. But you can't turn yourself into a slow, patient person if that's not what you are. If you have a tendency to procrastinate, there are ways to set real deadlines for yourself, but you won't ever be the kind of person who finishes a paper several days before it's due. If you are tone deaf, no matter how much you listen to concerts, you will not develop perfect pitch.

To understand better what you are working with when you shape your "self," I went to the unabridged dictionary. I was amazed to see that under the word "self" there are *three and one half* pages, closely printed, of variations on the word—from self-



abandonment and self-abnegation to self-validation and self-will. Clearly the English language is as absorbed in “selfhood” as many individuals are!

“Self” means “the total, essential, or particular being” of a person, what distinguishes you as an individual from others, what sets you apart and makes you unique; it also means your *consciousness* of this separateness, this distinctiveness, this “you.” Harvard professor Stephen Greenblatt offers a particularly eloquent definition of “self” in his book *Renaissance Self-Fashioning*: “A sense of personal order, a characteristic mode of address to the world, a structure of bounded desires.” Psychologists and neuroscientists have a good deal more to say about what “self” means, but for the purposes of this essay, I’m going to leave it at that.

There is another thought-provoking maxim related to but distinct from “Know thyself,” also grounded in the Greek and Roman classics: “Take care of yourself, attend to yourself.” This variant was highlighted by Michel Foucault in a lecture called “Technologies of the Self.” Foucault insists that this “taking care of yourself” is “a real form of activity, not just an attitude.” It’s like taking care of a household or a farm or a kingdom. That’s what we are talking about in discussing “self-fashioning”: paying deliberate attention to your “self,” taking good care of it, tending and developing it, not just taking it for granted.

This all sounds appealing, but like most young people, and most people across history, you are more likely to be self-absorbed than self-abandoning. What we may all need most is reflection on the importance of *community*, of *other selves*. I’m going to link the two in this essay because I believe firmly that we fashion our “selves” both in solitude and in society.

### *The character of solitude*

**S**OLITUDE IN LITERATURE almost always involves individuals who have spent their lives in society but are separated from it, either voluntarily or because they have been exiled, lost, or shipwrecked. On the positive side, think of Thoreau at Walden Pond, Buddhist and Cistercian monks, solitary back-

packers spending weeks in the wilderness. These individuals have sought out solitude for its virtues in developing selfhood and for its restorative qualities. But precisely because they are already familiar with society, already shaped by it, we can’t see these persons as totally isolated. They carry their social training, assumptions, equipment, and preferences around with them even in solitude.

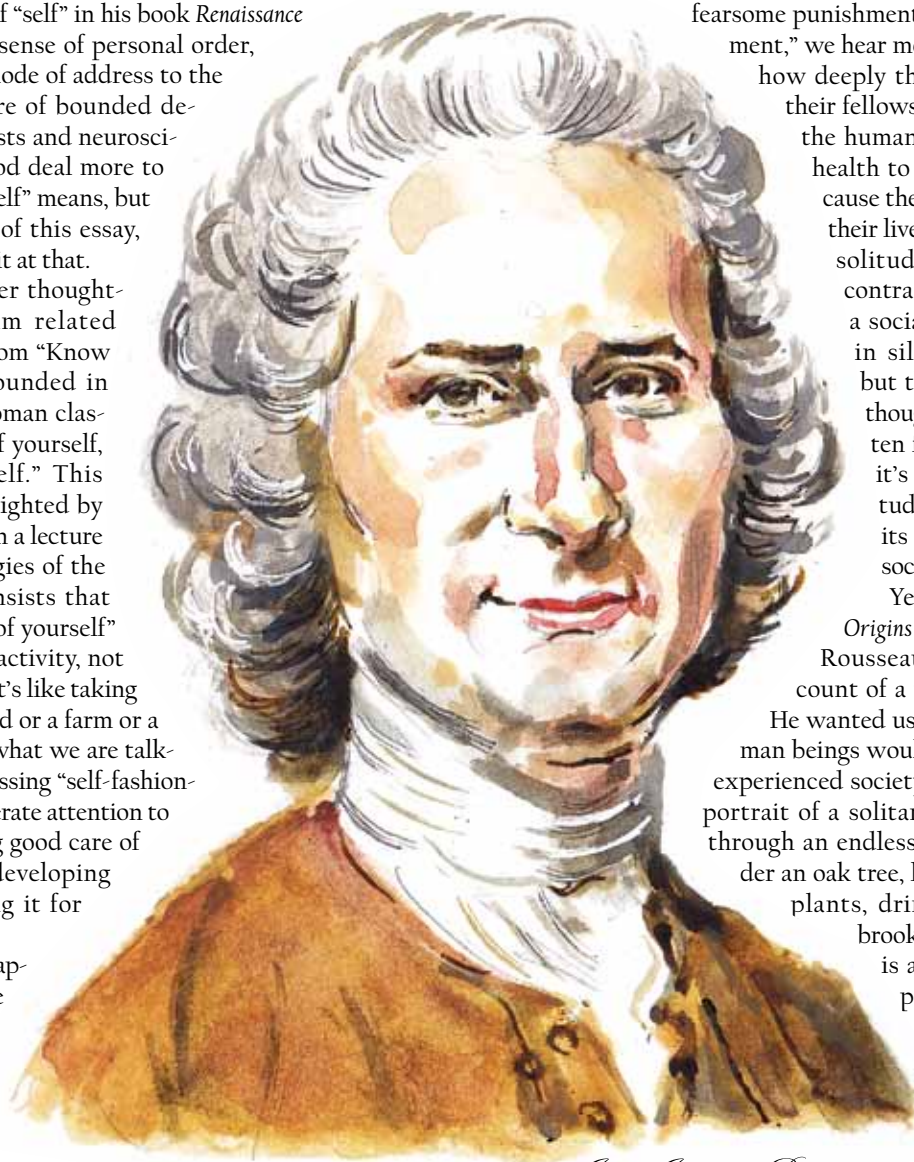
In describing the most negative form of solitude, the fearsome punishment called “solitary confinement,” we hear men and women talk about how deeply they miss the company of their fellows, how devastating it is to the human personality and mental health to be always alone. It’s because these individuals have spent their lives in society that enforced solitude is so unbearable. The contrast between being part of a social group, and living only in silence with no company but the insects and your own thoughts, is what prisoners often find most devastating. So it’s hard to think about solitude without being aware of its counterpart and context, society.

Yet in his *Discourse on the Origins of Inequality*, Jean-Jacques Rousseau set out to give an account of a truly solitary individual. He wanted us to think about what human beings would be like if we had never experienced society at all. He paints a vivid portrait of a solitary individual wandering through an endless forest, finding food under an oak tree, living on acorns and wild plants, drinking from the nearest brook, sleeping wherever there is a comfortable place. This person rarely encounters other human beings and shows no curiosity when he does. He needs no instruments or machines; his own strength is fully sufficient for his purposes.

*Jean-Jacques Rousseau*

In such a situation, says Rousseau, “one is always carrying oneself, so to speak, entirely with one.”

Rousseau didn’t claim that the life of the solitary savage would be especially happy; it would be quite boring, lacking intellectual stimulation and company. It seems brutish in the worst sense of the word—worse than the life of many social animals. The only thing that brings human beings together in this imaginary forest is sex, and when it’s finished, both savage man and savage woman fade off into the forest, never thinking about the other individual and not even recognizing the person if they ever encounter each other again.



It's the ultimate one-night stand.

But wait a moment, you may ask: what if savage woman gets pregnant? What happens to savage child? And here Rousseau is forced to confront an insight that rarely comes up in the classic works of political thought: our species comes in two sexes, and it cannot always be true that whatever goes for males also goes for females. An author may get away with always referring to "Man" on some topics if nobody calls him on it; but it won't work when you are writing about reproduction.

So Rousseau hypothesizes that his imaginary woman, being a healthy savage, has no problems with her pregnancy, bears her child in isolation and nurses him because both the child and she need this, and even comes to feel some kind of closeness to the child; but as soon as the child can feed himself, he too melts into the forest, and they never see one another again.

This hypothesis seems especially implausible, for many reasons, but it brings us back to

Rousseau's purpose in doing this thought-experiment: he wants to figure out what's most basic about our species, about our "self." Unlike Hobbes, Rousseau didn't think we would naturally make war on each other; unlike Aristotle, he saw no reason that we would naturally seek out society. Instead, in his view there are only a few basic human traits, most of which we share with other animals: we have a natural interest in ourselves and our own preservation. And we also have a natural instinct of compassion or pity if we see another being in pain. But two other traits are distinctively human: we are unusually intelligent, and we have the capacity for self-improvement, adapting creatively to circumstances, not just following instinct.

Given these traits, the *Discourse* goes on to describe what happens as our population grows and the changing environment throws human beings together more regularly. Rousseau asserted that the happiest era for mankind was when individuals gathered into families and small villages. They could then enjoy human companionship, love, friendship, art, and music without all the disadvantages that come with more complex societies. Yet the story of what happens in society is not completely positive, by any means. Rousseau's main point is how society shapes and deforms us. We begin to compare ourselves with other individuals, we start to have an interest in appearing more handsome,



*Michel de Montaigne*

stronger, smarter than we really are, and in this context, envy, greed and a proprietary sense of family and household crowd out the basic instincts of compassion and the simplicity of the savage life.

As Montaigne (whom Rousseau greatly admired) says in his essay "Of Vanity": "Whatever it is, whether art or nature, that imprints in us this disposition to live with reference to others, it does us much more harm than good. We defraud ourselves of our own advantages to make appearances conform with public opinion. We do not care so much what we are in ourselves and in reality as what we are in the public mind." Thus both Montaigne and Rousseau make us aware of the formidable power of society to shape us as individuals, leading us to behave in ways other people expect or want us to, rather

than in the ways that might be true to our best selves. That's a temptation to which you should be especially alert when you are surrounded by so many intelligent, articulate, forceful fellow-students.

For most of us—certainly those of us on a university campus—solitude is a relatively rare experience. If we are to fashion ourselves, we will be doing so in the presence of other people, most of the time. We develop as selves through our interactions with other human beings—through relationships, beginning with the family and then the school and the neighborhood, through art, music, language, culture, ideas. Our selves are never, and cannot be, purely isolated beings: we are the products of our experience and our environment, and we need to understand the self in and through society, not as a stand-alone cardboard cutout.

The warnings of Montaigne and Rousseau about how this experience can deform us, pull us away from our true selves, misshape our selfhood, should be in our minds. But we should also recognize that most of what is best about us comes from our interactions with other individuals.

### *The path of education*

HOW THEN can we fashion ourselves in society? And what does your education have to do with this?

In his novel *Emile*, Rousseau described in great detail the formation of a human being able to live comfortably with himself and also as a productive member of society. Education was the key, and the carefully designed format of *Emile's* educa-



tion has been a spur and stimulus to thinking about education ever since. Emile had a tutor who managed every detail of his life from pre-school to young adulthood, ensuring that he learned just the right things at the right time and was not exposed to corrupting influences. Emile turned out perfectly, as a model husband, father and citizen. And Sophie, the young girl who is educated specifically to be his wife and helpmate, to regard Emile as her god and take her instructions and happiness from him, is presented in the novel as the perfect wife and mother.

But not surprisingly, in an unpublished sequel to *Emile*, Rousseau shows how the young man goes off the tracks because he can't function well without the familiar guidance of his tutor. And Sophie demonstrates that she has a mind of her own; she resents being placed in total submission to her husband/master, longs for a wider scope in her life, and goes off with another man.

So the formation of selfhood that depends on having someone else shape you like a work of art falls short of forming a successful human being. And it's not surprising that theories of education since the eighteenth century rely much more on individual choices and taking a significant responsibility for your own intellectual development.

In college, you have an exceptional amount of freedom to choose from the bewildering variety of great courses listed in the catalog, and the amazing proliferation of extracurricular activities, including both those that are already established and those that you might help organize, as so many Harvard students do. If you sometimes think, as you make these choices, about what kind of self this seminar (or this sport, or this club, or this office) will help you to become, you may find guidance here. Does this activity promise to make you a deeper, fuller, more interesting person? Does it expand your life in new ways, or build on what you have done before in ways that make you stronger? Does it challenge you to develop new mental or emotional muscles, so to speak?

Taking too many familiar or "safe" courses, embarking on yet one more extracurricular activity without any particular passion for it, won't allow you to answer these questions with a convincing "yes." You have time here at Harvard to fashion yourself, but not enough time to dribble it away or remain locked in your old comfort zone. You should stretch yourself, take some risks.

As Montaigne says about travel: "The mind is continually exercised in observing new and unknown things; and I know no better school...for forming one's life than to set before it constantly the diversity of so many other lives, ideas, customs, and to make it taste such a perpetual variety of the forms of our nature." You can do this through actual travel, time spent studying or working abroad, as many of you will during your Harvard years; but you can also do it through virtual travel—courses in history, literature, art, anthropology and other disciplines that expose you to "the diversity of so many other lives."

### *Society and self-fashioning*

**A**CCORDING TO these pieces of advice, you should think about society not as a kind of zoo or curiosity shop where you can pick up a persona that suits you, but as the source of inspirational exemplars, diverse possible ways of shaping yourself, fascinating models. This means reading biographies and his-

tory, novels and essays, and paying attention to how people you admire handle challenges as they come along.

Yet society is not only a source of inspiring examples: it is even more often, as Rousseau said so well, a source of profound pressures to behave in certain ways. Society will surely shape you, the opinions and preferences and activities of your family, your friends, your classmates and professional colleagues, everyone with whom you spend any considerable amount of time. But too often the pressures are negative and will not help you in your self-fashioning, as all of us know when we reflect on peer culture, websites, TV shows, and movies. For worthwhile self-fashioning, you need a surrounding society that speaks to what is most importantly human, and brings you together with others in rewarding collective activities.

In the fifth chapter of her powerful work of political philosophy, *The Human Condition*, Hannah Arendt discusses the connections between individuals and political communities. She notes that each human being is "distinguished from any other who is, was, and ever will be"—which is a vivid way of thinking about selfhood. Yet precisely because each of us is a distinct individual, we need speech and action to communicate; I cannot just sense instinctively what somewhat else is thinking. In speaking and

**You should think about society not as a kind of zoo or curiosity shop where you can pick up a persona that suits you.**

acting, we "disclose ourselves" and thus expose ourselves to possible misunderstanding or exploitation by others, but also to the rich possibilities of communication.

Speech and action, in Arendt's sense, cannot exist in isolation; they are meaningful only within human relationships. By the same token, "human nature"—as distinct from our more animal qualities—depends precisely on our capacity for speech and action: it is in fact through speech and action that each of us constitutes *our self*. This is Arendt's distinctive contribution to our discussion of self-fashioning: *the self is created not by each of us as individuals in isolation, but through the activities we share with other human beings—language, creativity, striving, politics*. If your goal is to fashion a worthwhile self, you should be mindful of your surroundings and choose companions and activities that will give you opportunities to develop your language, creativity, striving, and politics in more depth.

### *Self-fashioning and citizenship*

**T**HIS AWARENESS of the importance of our relationships with others in fashioning the self also highlights our responsibilities to those outside ourselves, and the ways in which your education should prepare you to discharge these duties effectively. We have particular responsibilities as citizens of democracies that impose on us more weighty duties (and provide much richer opportunities) than those available to subjects of an autocrat. And one of the main aspects of self-fashioning that should concern you is preparing yourself seriously for good citizenship. Only in that way can you be one of those individuals who actively works to build a better community—political, social, economic—rather than one who just accepts what's on of-

fer, accommodates to second or fifth best, lives with corruption, inertia, degradation of public life and public services, and mostly retreats into private life.

The urge to retreat into private life—the gated community, the corporate jet, the hired car, the private school—as the public world around us decays is one of the most powerful temptations you will face. You will of course enjoy some of these private benefits if you are sufficiently privileged by wealth and good luck. *But if you are to have a whole, integrated, complete self, you must resist becoming totally immersed in private spheres.* You must see it as part of your self-interest and your moral duty to play your part in society, to give something of yourself away to others who are in need, *to help sustain the common structures that make up our public life.* If you fail to do this, you will become a shrunken and diminished self. Recognition of this fact is what Alexis de Tocqueville called “self-interest rightly understood,” or “enlightened self-interest”: not pure egoism or selfishness, but caring for yourself in the context of acknowledging your responsibilities to others, which brings with it significant moral commitments and deep rewards.

At a time when democracy is passionately sought by people in countries around the world, and countries that have long enjoyed democracy are struggling to sustain it against multiple pressures, education for citizenship is one of the most powerful arguments for a liberal-arts education. Our democracy needs citizens who can think for themselves, assess arguments made by people who have a stake in a particular outcome, attend to nuances in difficult policy situations, and respect the interests and the dignity of others who are not like them. We need citizens who can empathize with others and take responsibility for working with other citizens to help fix things, not just throw up their hands and gripe about what’s wrong. And that is surely connected with self-fashioning.

### *Solitude, society, and the sexes*

**N**OW THAT WE HAVE ESTABLISHED our rich and unbreakable connections to society, noted our obligations to be fully participating members of the public sphere, and discussed the ways in which our relationships with other selves powerfully shape our own individuality, we can appreciate more fully why occasional solitude is also important, and how solitude and society can work together to fashion our full selves.

I note once again that our species comes in two basic variants, male and female. Both are fully human individuals. But the expe-

riences of members of the two sexes in all known societies are demonstrably different in some important ways, from infancy to old age. Some of this is culture, some of it is biology. That is why you can’t just take for granted that anything that goes for men goes for women, too. But ignoring this fact, or assuming that a

woman is just a deficient version of a man, is one of the most fundamental errors of many past thinkers.

This point is made with particular eloquence in Virginia Woolf’s essay *A Room of One’s Own*, which was originally a lecture to undergraduates at Cambridge University in 1928.

Woolf’s major point in this essay is that across history, men have been far more likely than women to enjoy certain advantages—control of wealth, higher education, opportunities for travel. These advantages have given men a much better preparation for professional life, for writing books, for political life, for adventuring into society, for self-fashioning in whatever they may choose to do.

These resources have also given men more scope for solitude. Men can shut themselves up in their workshops or their li-

braries and ignore the needs of children or the kitchen. Just having “a room of one’s own,” where you can retreat to think and write and work or simply be your solitary self, is a privilege that relatively few women in history have enjoyed—only the comparatively wealthy ones, who may sometimes have more solitude than they would want because they are denied outlets into the world open to their brothers, husbands, and fathers.

So whether they have too little solitude or too much, women have often had a different experience of solitude and society from men. Men can leave the house and go off on a journey in many societies where women can never travel alone. Women in most cultures have had much less opportunity than men to explore the world, follow their adventurous inclinations. And they have been less likely to have a place or time where they can enjoy solitude. It’s worth keeping this in mind when you read authors who write about self-fashioning. You can sometimes stop and ask: Would this advice have worked for a woman in the society this author is describing? Or are these

(please turn to page 75)



*Hannah Arendt*



# JOHN HARVARD'S JOURNAL

**UNCOMMON SPACE:** The plaza between Harvard Yard and the Science Center has been remade as a campus crossroads. It features fixed and movable seating, anchors for reunion tents, wiring for movie nights and other performances, and a trilevel planting of ginkgo trees, sumacs, and ferns to soften the Science Center facade and provide shade and year-round visual interest. Chris Reed '91 of Stoss Landscape Urbanism was the principal designer; for details, see <http://harvardmag.com/plaza-13>.

*Photograph by Jim Harrison*





## The Campaign Context

CONTEMPORARY university fundraising drives collect stupendous sums: the Stanford Challenge attracted \$6.23 billion; the University of Southern California has set a \$6-billion goal. Given Harvard's place in American higher education, a similar sum is likely to headline coverage of The Harvard Campaign at its public unveiling on September 21. But the academic aims for which the campaign seeks support, and the changing context in which it is conducted, matter far more to Harvard's future. In summer conversations, President Drew Faust and Provost Alan M. Garber provided a broad overview of their capital-campaign goals. Dan Shore, vice president for finance and chief financial officer, put it in the context of forces reshaping research universities (see "Financial Focus").

The campaign aims to make Harvard "stronger in every way," Faust said: intellectually, in facilities, and financially. The latter objective, she noted, sounds obvious but is not: gifts can initiate but not fully pay for new programs that require additional University funds. Such demands can compete with the core goals: strengthening Harvard's capacity to attract superb students and scholars and support their learning, teaching, and research; and selectively pursuing new priorities. In this sense, Faust emphasized, the campaign is carefully balanced. That reflects continuing costs from Harvard's robust expansion during the past dozen years (in expensive laboratories and other facilities, the professorial ranks, and financial aid); the long period since the University Campaign concluded in 1999 (many peers have

conducted two or more fund drives in the interim); and newly challenging economic circumstances (the \$11-billion decline in the endowment's value in fiscal year 2009, uneven investment results since, and now reduced federal research support).

University-wide, Faust emphasized four broad themes:

- Access and talent. "What we are," she said, "is going to depend in no small part on *who* we are." Hence, a strong campaign focus on financial aid and on faculty resources.

- Interdisciplinary scholarship and learning. Faust pointed to "the changing nature of knowledge and the integration of knowledge across fields"—a University



Drew Faust

ROSE LINDQUIST/HARVARD NEWS OFFICE

focus, atop schools' priorities, to enable inquiry across disciplinary boundaries.

- Internationalization. She pointed as well to the importance of "enabling Harvard to be global"—to take advantage of a more open world by bringing people to campus to study and conduct research, and enabling students and professors to work world-wide.

- The digital world. "New digital opportunities in higher education," she said, impel broad focus on teaching and learning, and on broader questions of privacy, data security, and so on.

How these motifs play out as specific campaign goals will unfold over time—at the September 21 launch events; during the following 18 months as the individual

## Financial Focus

**"About 75 percent of our revenues are from the endowment, tuition, and sponsored research,"** reports Dan Shore, Harvard's vice president for finance and chief financial officer. "And about 75 percent of our expenses are for people and space. The growth of revenue is challenged, and the growth in expenses is tough to manage and sticky."

Unpacking those realities provides a financial setting for The Harvard Campaign—a context Shore and Corporation member James F. Rothenberg, the University's treasurer, began to detail in their preface to the annual financial report, published last autumn (see "Sober Finances," January-February, page 47). They wrote about the challenges of volatile capital markets for an institution dependent on its endowment and with a "disproportionately fixed cost structure." They pointed to University reliance on federal funding, especially for biomedical research, "when the government's projected deficits and accumulated debt create enormous pressure to reduce such discretionary dollars." And they noted the costs of daily and deferred campus maintenance.

"The campaign is incredibly important," Shore said in an early-July conversation—in part because even absent new resources

during the prior decade (when fundraising had to be deferred), "There are things we didn't feel we could wait to do." One example is financial aid. Since the undergraduate-aid initiative was liberalized in 2007 through the academic year just begun, spending on such scholarships has risen about 90 percent—an increase of nearly \$90 million in the Faculty of Arts and Sciences' (FAS) annual budget. According to FAS, in the wake of the augmented aid, greater family need during the recession, and the depreciation of its endowment, just 46 percent of current College scholarship funding is underpinned by dedicated endowments. That makes it challenging to sustain aid, and sops up much of the available *unrestricted* funding (from tuition and current-use gifts)—limiting FAS's ability to invest in new priorities, or to replace lost federal research funding. University-wide, according to Shore, scholarships are a core value, but with aid only about 50 percent endowed, Harvard needs to raise a *lot* of money to secure them.

Similarly, FAS has begun House renewal, undertaking multimillion-dollar refurbishments of Old Quincy and Leverett's McKinlock Hall, and proceeding with Dunster House's roof, chimneys, and windows ahead of interior renovation—all under way this summer, using FAS funds and some recent gifts.

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schools begin their own fundraising efforts; and throughout the anticipated five-year public Harvard Campaign itself, Faust indicated. Some priorities will become more concrete as academic leadership coalesces around desired aims; she pointed to the 2012 creation of edX, Harvard's online-learning partnership with MIT, as an example of a significant effort that did not exist two years earlier, when campaign planning was already well under way.

But a few concrete objectives can be discerned now. Beyond financial aid, priorities that loom large, Provost Garber said, include a flagship intellectual goal and its associated building needs: securing sufficient endowment and other funds to support the School of Engineering and Applied Sciences (SEAS, formally established as a school within the Faculty of Arts and Sciences [FAS] in 2007) and its planned expansion; and providing the large new facilities it re-

quires for teaching and its burgeoning interdisciplinary, applied research in association with other Harvard schools. That facility will be the foundation for future Harvard growth in Allston. Another major goal is the comprehensive renewal of the College's residential Houses—a \$1-billion-plus program already under way. (Other, substantial building plans include more investment in common spaces, like the renewed Science Center plaza (page 47), and especially the Allston construction and renovation envisioned for Harvard Business School [HBS] and the athletic facilities, detailed in the University's regulatory filing with Boston authorities on July 26, covering 1.4 million square feet of projects



Alan M. Garber

ROSE LINCOLN/HARVARD NEWS OFFICE

during the next decade, much of it tied to campaign support—see “Allston Advances,” page 57.)

Faust sketched some of the inherently cross-school programs the campaign will attempt to support—many pursuing new intellectual opportunities where research and teaching can have “a real impact on the world”—in fields such as global health; energy and the environment; stem-cell science; and neuroscience. Presumably, elaborating such programs will also help specify how Harvard wishes to define its global footprint.

Harvard will also “foreground” pedagogy and learning, Faust said, building on diverse elements such as the Harvard Initiative on Learning and Teaching and

So the campaign must backstop these very large programs; enable Harvard to pursue what Shore called an “amazing set of opportunities”; and guard against looming problems. The importance of flexible funding has if anything risen since that 2012 financial report, simply to sustain the current research enterprise. Given the new federal budget “sequester” and continuing challenges to research grants, he said starkly, “a different social contract” between government and universities is in prospect, raising the challenge of defending “why universities are sufficiently important to justify the investment governments make in us and with us.” He described the situation as “an acute industry challenge” for higher education. Harvard's planning, he noted, also assumes less robust capital markets and endowment returns than in recent decades. (Such concerns, raised for all of higher education by debt-rating agencies in the past year, were reinforced in an *Inside Higher Ed* summer survey of university chief financial officers: only small minorities expressed confidence in their schools' financial models during the next half-decade.)



STEPHANIE MITCHELL/HARVARD NEWS OFFICE

Dan Shore

All these factors are at work at Harvard Medical School (HMS). Following a \$29-million operating deficit in fiscal 2012, administrators anticipate reporting a roughly \$40-million deficit in the year ended June 30. That reflects declines in sponsored-research funding generally; routine increases in salaries and costs for supplies; and investments in new programs (like the systems therapeutics initiative; see “Systematic Drug Discovery,” July-August, page 54). In response, HMS's Next initiative has identified possible savings within the school's administrative and operating expenses (which make up about one-quarter of its \$625-million budget overall), and the school is seeking opportunities to realize new revenues from scientific discoveries.

Writ large, the same forces and responses are evident across Harvard. Even as fundraising proceeds, Shore said, it will “have to be accompanied by other things: changes that not all members of the community will find exciting” (from shared services to changes in employee benefits). In the financial realm, for example, Harvard sold its Watertown Arsenal real estate this spring, realizing \$168 million, part of a con-

tinuing program to reduce debt, Shore said—and continues to examine other assets. An April debt refinancing will yield annual savings of \$10 million or so during the bonds' remaining couple of decades until maturity.

In the meantime, planning disciplines adopted since the roller-coaster circumstances of the prior decade have better equipped Harvard “to operate as a truly integrated academic institution and administrative apparatus,” Shore said, from capital planning and annual and longer-term budgeting to coordinated reporting to, and decisionmaking by, the expanded Corporation and its new financial committees. Launching new programs, he said, has become “a much more challenging question”—a productive state of affairs, he maintained, given financial constraints and the sheer costs of operating a research university. Compared to a decade ago, “We're *much* better able to focus the campaign's targets on the things that are most important to us.”

“The campaign by itself, however successful, won't solve some of those problems,” Shore said, referring to the changed external climate. But it matters especially now, he said, because even as all universities cope with large uncertainties, “The campaign is a way we can feel emboldened” to “take our destiny in our own hands.”

edX. This encompasses “hands-on learning” of a sort the University has not previously embraced, she noted, via the “making” aspects of cognition in at least two realms: engineering and applied sciences (tying into the priority given to SEAS) and the arts (aspirations detailed in a 2008 task-force report Faust commissioned early in her presidency; implementation has been slowed by the financial crisis and recession). Comparable interest appears in HBS’s experience-oriented first-year FIELD course, which complements the traditional case-based pedagogy, and in the Harvard Innovation Lab, used by students from many schools. (Discussing work on teaching across the University, HBS dean Nitin Nohria recently said, “I’ve been struck by how much of the experimentation does have this quality of making learning more visceral, team-based, and action-oriented.”)

As the emergence of applied-sciences and arts initiatives suggests, priority-setting for the campaign has itself been a protracted undertaking. Garber said the schools’ academic plans played the most important role, as refined through meetings of the council of deans (who identified common and cross-school wants) and the work of such existing entities as the University Committee on the Arts (an outgrowth of the 2008 report) and the University Science and Engineering Committee (dating to 2007).

Their recommendations were refined using criteria developed by Reid professor of law (and former acting dean) Howell Jackson to identify goals of *University* significance (whether multiple schools were involved, potential intellectual impact, and so on). That helped Garber when he assumed his post in 2011 and, Faust joked, “became the repository of people’s aspirations” for campaign funding. Of late, he and colleagues have determined which initiatives have leadership in place, how they fit with or augment existing programs, and so on. A group of supporters who helped test the feasibility of funding ideas has morphed into the campaign executive committee. The result will be the first truly all-University campaign, with every school participating.

Individual school objectives—how many existing professorships to try to endow and where to try to establish new ones, for instance, or discipline-specific

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### Blake’s Whales

Zoological artwork by Agassiz student

James Henry Blake is on display at the MCZ.

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ic substantive goals—will roll out in turn (FAS, the Harvard School of Public Health, and the Radcliffe Institute are on deck for late October). Faust mentioned as examples the undergraduate concentration in architecture and design and a proposed program in theater and dance performance, both with teaching connections well beyond the College.

As the effort gears up, Faust and Garber both stressed the reinforcement of community among alumni—and not just for the hoped-for, tangible benefits of wide, successful philanthropic par-

ticipation. During the planning process, Faust said, it became clear that this is a “particularly salient moment for higher education,” a time to think through Harvard’s priorities as higher education itself changes—intellectually, and under pressure from external economic and social forces—and to help define directions for the academy at large. “Rallying the community on behalf of higher education”—as she put it—during a period of uncertainty, or even doubt, in the larger society would in itself be an important accomplishment.

## The E-mail Investigation

THREE SEARCHES of Harvard College resident deans’ e-mail accounts last September—prompted by unauthorized disclosure of Administrative Board communications during an investigation of widespread misconduct on a final exam—“were undertaken in good faith” by people who “believed that they were acting in compliance with applicable e-mail privacy policies.” So found an outside review conducted by attorney Michael B. Keating, LL.B. ’65, as requested by President Drew Faust last April, after further e-mail searches were reported (see “E-mail Imbroglia,” May-June, page 46). Ke-

ating found no intentional violation of any requirement that resident deans be notified of the searches (a point of ambiguity in University policies—they were *not* notified), and stated, “[T]here is no evidence that any of the individuals involved read the content of any e-mails that were identified as a result of these searches.”

Keating’s report was delivered to Faust and a subcommittee of Corporation members on July 15, reviewed by the entire Corporation later that week, and made public on July 22. The detailed narrative covers the brief period within which all the e-mail account searches took place and the targets of those searches, which extended



## HARVARD PORTRAIT



COURTESY OF FOLEY HOAG

**Michael B. Keating**

to resident deans' communications with student advisees (presumably those concerned about involvement in the misconduct investigation) and with reporters for *The Harvard Crimson* (and, it turns out, *The Boston Globe*) covering the story.

Among the details Keating uncovered:

- Beyond conducting searches of accounts maintained by Harvard University Information Technology (HUIT) and by an outside vendor (where some resident deans' accounts resided), HUIT "archived" or made copies of all the resident deans' administrative accounts for possible review at a later date.

- During the review of "metadata" for the 17 resident deans' accounts, HUIT and the outside vendor, respectively, scanned 14,000 and 17,000 e-mail accounts' information, in all—including, it is now known, faculty and staff members' and students'.

- The searches were apparently conducted within the interpretation by Harvard's Office of the General Counsel (OGC) of some, but not all, of existing University e-mail privacy policies (some of which, it became clear after the fact, overlap, are inconsistent, or leave gaps).

Responding to the report, Faust said in a statement that she was "reassured" by Keating's conclusion that the individuals who undertook the searches acted in good faith and in a manner they believed to be consistent with policy and with "a guiding responsibility for safeguarding student confidentiality and the integrity of the Ad Board process." She continued: "Unfortunately, the detailed factual account... deepens my already substantial concerns about troubling failures of both policy and execution. The findings strengthen my view that we need much clearer, better, and more widely understood policies and protocols in place...."

Corporation member William F. Lee said in an accompanying statement that Keating's "detailed account...makes it even clearer than before that there is much work



**Judith Grant Long**

"Like most city planners, I'm a city planner and something else," says Judith Grant Long, M.D.S. '95, Ph.D. '02, RI '12, associate professor of urban planning at the Graduate School of Design. The "something else" involves sports and finance: once Canada's third-ranked junior squash player, she later studied economics in college. Afterward, while working as a consultant, she realized that local governments often oversubsidize developers pushing big sports stadiums. She came to Harvard for a design-studies master's, and met Christopher Long '82, M.B.A. '87, while waiting for friends at Harvard. (The couple recently celebrated their tenth anniversary there; they live in Concord with their two daughters.) Grant Long joined the GSD in 2005. Her first book, *Public-Private Partnerships for Major League Sports Facilities*, argues that big stadiums almost always cost taxpayers dearly: Hamilton County, Ohio, for example, recently sold a hospital to cover debt payments on a Bengals stadium. But stadiums may confer other benefits, she says, in particular as redevelopment projects or sources of civic pride. Her current research on the Olympics shows that hosts almost never recoup their investment, either, but often have other motives for seeking the Games: "The classic example is Beijing in 2008, announcing its arrival as a sort-of-free-market economy." For smaller cities, Grant Long says less-expensive soccer stadiums, which can be used by students and professional players alike, are among the best sports-facility investments. Otherwise, she advises, build parks and recreation areas that serve both kids and adults. "I'd like to take the focus off the big leagues," she says, and encourage "sports, at the local level, that are multigenerational."

ahead in improving the University's policies and protocols concerning privacy of, and access to, electronic communications." Lee pointed to the University task force examining such questions—chartered by Faust and chaired by Green professor of public law David Barron—for those proposed improvements.

Among the issues the Keating investigation raises for task-force consideration are:

- The technological knowledge of the administrators and OGC attorneys with authority to approve and oversee such searches.

- The coordination of University and school policies, particularly given the finding that the OGC attorney did not review a Faculty of Arts and Sciences (FAS) policy on the privacy of faculty electronic materials; in fact, according to Keating, "in 2012, no attorney at the OGC appears to have been aware of its existence. Also, neither the HUIT Employee nor the FAS administrators who approved the search-

es knew about it."

- The level at which future requests to conduct such investigations must be authorized, and whether, in practice, the OGC attorney or other authorizing personnel have the opportunity to discuss the rationale for and mechanics of a search, or to challenge the decision to proceed with such searches.

In September 2012, the decisions to investigate resident deans' e-mail accounts were made under extreme time pressure (as detailed in the Keating report). It is not obvious that a great deal was gained by proceeding, yet much harm was done when the investigations were revealed, piecemeal, last spring. In the future, the University will no doubt want organizational structures and a culture in place that encourage



William F. Lee

airing diverse views on alternative courses of action (including but not limited to e-mail searches), on the consequences of those alternatives (versus searches), on the mechanics and scope of any searches, and so on—even under time pressure. The community will want assurance that these critical decisions and actions take place within the context of improved,

coherent, and well-communicated policies. The Barron task force has much important work to accomplish this fall.

Read a detailed account of the Keating investigation, with a link to the full report, at <http://harvardmag.com/keating-13>. An analysis of the investigation, unanswered questions, and issues facing the Barron task force is accessible at <http://harvardmag.com/email-13>.

James Ryan



James Ryan, the new dean of the Harvard Graduate School of Education (GSE), argues persuasively that the second most significant ruling about school desegregation is *Milliken v. Bradley*, which the Court decided in 1974. The decision was momentous for the opposite reason: it halted the startlingly short-lived national effort to desegregate public schools, heavily segregated by race because of widespread segregation in housing.

The justices ruled, 5-4, that a metropolitan area could not desegregate a city's largely black school district by consolidating it with largely white suburban districts and transporting students between them, unless there was proof that suburbs had deliberately devised separate schools for blacks and for whites or were otherwise liable for segregation across district lines. The majority said de jure segregation (caused by the state or a local government) was different from de facto segregation (resulting from social and economic factors, like lower housing prices in the city and white flight to the suburbs) and that it was constitutional to address only the first through a metropolitan-wide effort.

It is common among education reformers to describe the country's current education crisis as "the civil-rights issue of our time." For Ryan, that is literally so:

## Education and Opportunity

THE SUPREME COURT seemed to close a long, fraught chapter in American history in 1954 when it held that the Constitution prohibits every state from maintaining separate public schools for blacks and for whites. In *Brown v. Board of Education*, by a vote of 9-0,

the justices called for an absolute end to a pervasive consequence of America's racial divide. The ruling is often called the most important of the Court in the twentieth century; it is clearly the most important about school desegregation.



the crisis stems from the failure to desegregate public schools after the Supreme Court would not let remedies for reform cross the line between city and suburbs, a fundamental divide of geography, race, and class.

He tells this far-reaching yet little-known story in *Five Miles Away, A World Apart*, published in 2010. It contrasts the experiences of the struggling Thomas Jefferson High School in Richmond, Virginia, and the thriving Freeman High School in the nearby suburb of Henrico County. Freeman was then 73 percent white and 75 percent middle class. TJ, as the other school is known, was 82 percent black and mostly poor. Students at the first easily exceeded Virginia's academic standards on statewide tests. At the second, they struggled to meet them and didn't see the point of the tests—even though the amount of money spent on the education of each student was notably higher at TJ.

The book explains that today's crisis in American education in K-12 schools is predominantly a crisis of the bottom 30 percent, with students from low-income families in urban schools lagging badly behind students from middle-income and wealthier families in suburban schools in every measure: test scores, graduation rates, and rates of going to college. But the isolation of low-income minority students in cities (and increasingly of low-income black and Latino students in racially segregated and isolated suburban schools) means that middle-class and wealthier white suburban students are also isolated, at a measurable cost.

In an increasingly diverse nation, a substantial body of scholarship shows, it is best for students of all races, ethnicities, and backgrounds to learn from each others' points of view. Students in integrated schools are more tolerant and less prejudiced, measured by the tendency to accept and connect with people of other races versus holding them at a distance and turning them into negative stereotypes. They are more likely to want to go to integrated colleges, live in diverse neighborhoods, and work

## Yesterday's News

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

**1923** The College admits 940 applicants, its largest class ever. For the first time, those in the top seventh of their preparatory schools have been admitted without having to take entrance exams.

**1928** Radcliffe College surveys its married graduates to find out "what sort of men its alumnae prefer to marry." The answer is clear: 53 percent chose Harvard men, with MIT second (5 percent) and Yale third (2.5 percent). "Clearly," the editors add, "undergraduate charm decreases with the square of the distance."

**1933** The editors report that "Interest in football seems to be at a low ebb in Cambridge," a trend prevailing at other colleges as well. They speculate that the decline is due to a combination of students preferring to participate in athletics, rather than cheer on their classmates, and the possibility that elaborate rules and coaching make football "an uninteresting struggle."

**1943** *The Bulletin* adopts its own "fighting format" for the duration. Type size and paper weight are reduced, and alumni are asked to curtail their letters to the editor, because "there can

now be no such gallant abandon" as in the extravagant pre-war days.

An Alumni Notes item summarizes newspaper accounts of the adventures of Lieutenant (jg) John F. Kennedy '40 following the sinking of his PT boat.

**1948** The Graduate School of Design joins the Schools of Education, Public Health, Medicine, Dental Medicine, and Public Administration in formally admitting women to its program, and the *Crimson* opens its comp to Radcliffe students.

**1958** A new residential option, the Harvard Cooperative House—the first of its type at the College—opens at 3 Sacramento Street after more than 1,000 hours of refurbishing and renovations to the building. Future upkeep and other chores will be done on a rotating basis by its 29 residents.

**1968** Columbia University student revolutionary Mark Rudd, on concluding a brief Cambridge visit, observes that Harvard students just don't seem to have enough issues to protest about.

**1983** Nuclear-disarmament activist Carla Johnston, the former deputy director of the Union of Concerned Scientists, becomes the first Peace Fellow at Radcliffe's Bunting Institute.

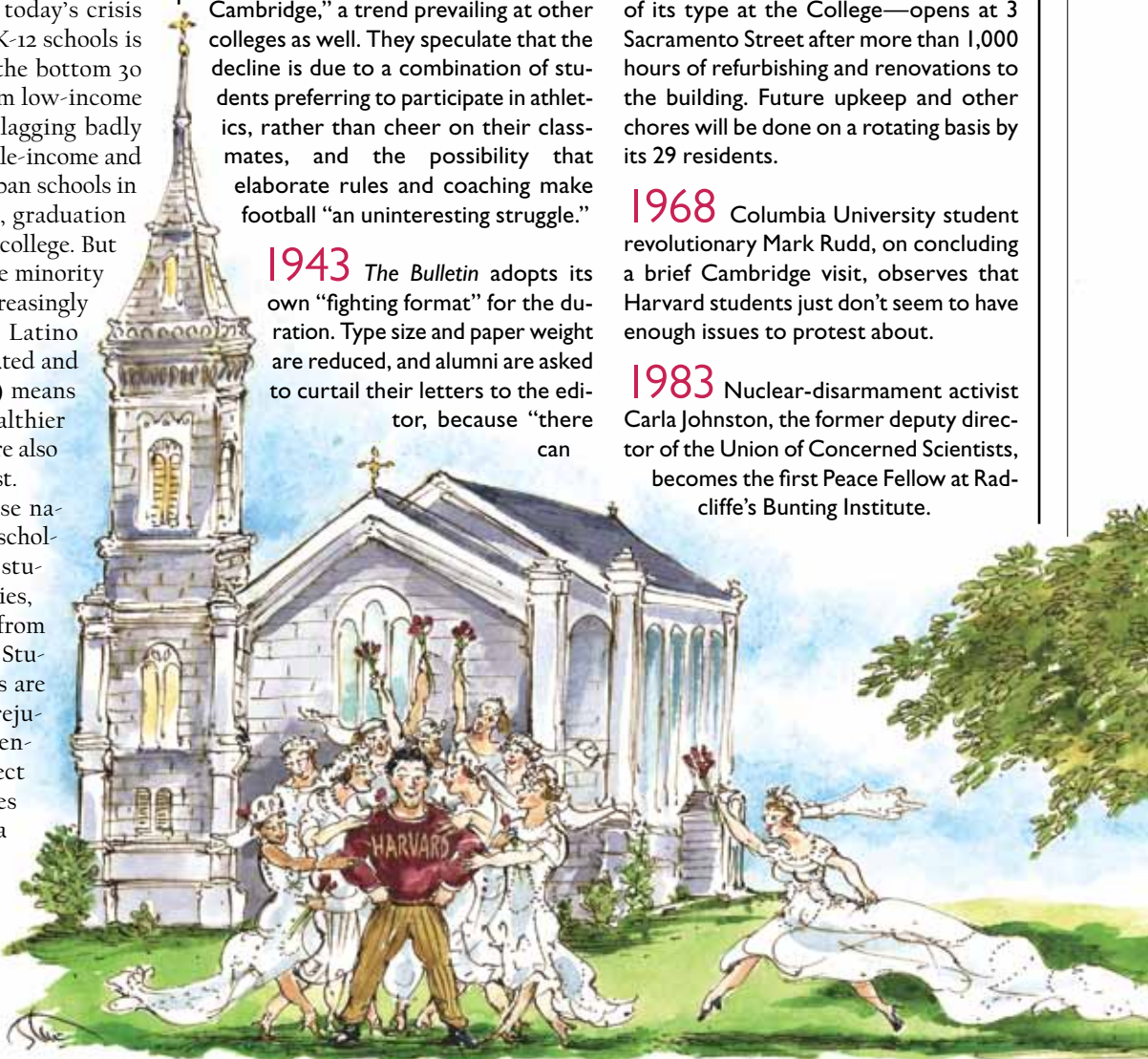


Illustration by Mark Steele

with people from different backgrounds.

Since the *Milliken* ruling, there has been a vast effort to improve public education for students from kindergarten through high school with an extensive range of reforms. These include substantial spending to boost student achievement in urban schools, networks of charter schools as alternatives in urban public districts, and academic benchmarks on standardized tests for schools as well as students.

From his sweeping research, however, Ryan concluded that only one reform would make a sea change of difference in the overall performance and development of American students. That reform would mandate the most ambitious kind of integration: with students of different classes and races, from cities and adjacent suburbs, transported across district lines to go to school together.

This kind of integration makes schools more likely to have the elements that improve academic achievement, Ryan wrote: “strong principals, talented and engaged teachers, reasonable class sizes, a rich curriculum, high expectations on the part of students and teachers alike, adequate facilities, and active parents.” Such integra-

tion can also “bring political benefits and greater accountability,” through “a critical mass of active and engaged parents” who are “more likely to have the clout to fight successfully for resources,” to monitor “principal and teacher performance,” and contribute to the effectiveness of their child’s school.

A student from a poor family is much more likely to succeed academically in a school filled mostly with middle-class students than in one filled mostly with lower-income students. And students from middle-income families maintain their achievement when they go to school with students from poor families, if the school maintains a majority of middle-class students.

“The same is true for racial integration,” Ryan wrote. “The socioeconomic composition of a school matters more to academic achievement than the racial composition.” But to “give up entirely on racial diversity,” he went on, “is to accept the narrowing of expectations for public schools....”

That narrowing refers to a focus solely on academic goals, with the abandonment of civic goals—like fostering ties that bind Americans as “We the People.” Integration

allows schools to fulfill a civic mission, seeking to teach students not only reading, writing, and arithmetic, but also how to be better citizens. In the twenty-first century, Ryan wrote, that must include “understanding and friendship across lines of class and race.”

RYAN, who is 47, is a sterling example of what can happen when talent and drive are empowered by family and fine teachers. He grew up in a blue-collar family in New Jersey, where his father worked for the telephone company, repairing phone lines and then supervising repair crews, and his mother was a bookkeeper. Neither went to college, but they insisted there was no limit to what he could accomplish. Teachers of his in public schools reinforced that message. With a scholarship and other financial aid, he went to Yale, graduating summa cum laude and Phi Beta Kappa in 1988.

He took a gap year after college—playing rugby on a team made up of New England college players who toured New Zealand and Australia; working as a children’s ski instructor in Colorado; and, in rural Kentucky, spending a couple of months volunteering, through Catholic Charities,

## Invigorating the Humanities

**Three new** introductory courses in Harvard’s undergraduate arts and humanities curriculum debut this fall. “The Art of Listening,” “The Art of Reading,” and “The Art of Looking” are “predisciplinary” introductions to fundamental problems, histories of meaning, and critical methods in the arts and humanities, effected through intensive study of exemplary sounds, texts, images, and objects. A full-year arts and humanities survey course for freshmen and sophomores will follow in 2014-15. The new courses were developed during an 18-month study of the humanities at Harvard, where enrollments in fields such as English, music, and the visual arts have fallen by half since 1966. Commissioned by Faculty of Arts and Sciences dean of the arts and humanities Diana Sorensen and released as a collection of reports in early June, the Harvard study, which involved 40 faculty members, was reinforced nationally a few weeks later by an American Academy of Arts and Sciences report to Congress.

Both reports found, broadly, a dwindling proportion of students concentrating in the humanities. Theories to explain the decline have ranged from general assertions that the humanities are less relevant to contemporary society (or that technological gadgetry hinders efforts at sustained observation and reflection) to specific economic arguments: that preprofessionalism among undergraduates is rising, for example, either as consequence of a difficult

job market, or—in an argument more focused on Harvard and similar institutions—as a consequence of growing numbers of students on financial aid.

But data gathered during the study at Harvard, where the decline has been most pronounced during the past decade, show that financial aid has little impact on which concentrations undergraduates ultimately choose. What the evidence shows instead is that students who indicate an intention to concentrate in a humanities discipline “defect” to other concentrations at a much higher rate than students who plan to study other fields. Among students who *do* choose to concentrate in humanities, satisfaction is very high (93 percent). “We have less a ‘crisis’ in the humanities in Harvard College,” the report states, “than a challenge and opportunity”; and “we should arrest and reverse the decline of concentrator numbers by focusing on freshmen.”

“The point of an undergraduate education in the humanities,” Sorensen explained in an interview with this magazine, “is to



JUSTIN IDE/HARVARD NEWS OFFICE

**Diana Sorensen**



in a group home for disabled kids.

On a full merit scholarship, Ryan went to the University of Virginia Law School, where he continued to play rugby and graduated first in his class in 1992. He clerked for Chief Judge J. Clifford Wallace of the United States Court of Appeals for the Ninth Circuit and for Chief Justice William Rehnquist of the Supreme Court, and worked for two years as a public-interest lawyer in New Jersey, on a landmark case in state court about increasing funding for poor school districts.

Since joining the University of Virginia's law faculty in 1998, Ryan has focused on how American law and politics have shaped education and opportunity during the past half-century, often impeding or undermining the progress they were intended to bring about. His work has been about root causes and basic solutions, removed from ideology. He was honored as one of the university's best teachers, and has also won a national reputation, as Yale Law School's James Forman Jr. has described it, "as the best scholar in this niche of legal scholarship."

Forman co-founded the Maya Angelou Charter School, in Washington, D.C.; he

and Ryan served together as members of its board of trustees. The school, started for young people who had been in the juvenile justice system, now also teaches former dropouts and students needing special education. They are mostly black and from low-income families.

"How much is Jim Ryan willing to roll up his sleeves and help solve nitty-gritty problems?" Forman asked, and answered: "He analyzed school data to help the school figure out how to boost the attendance rate of students who were chronic no-shows." The school gave points to students who showed up, and rewards for points accrued, like a day's exemption from having to wear the school uniform.

Harvard president Drew Faust said she heard "a chorus of acclaim" when she spoke with people in education about Ryan as a candidate for dean. His belief that his life was transformed by the opportunity he had to get a great college education is "all but inseparable," she emphasized, from his passion for helping provide similar opportunities for young Americans without great means. She is excited by his excitement that being dean puts him in a position, as being a law professor has

not often done, to help solve fundamental problems in education.

The GSE's focus is on the intersection of scholarship, policy, and practice. Ryan's mandate includes continuing to build its two doctoral programs: its recent, highly sought-after one in education leadership, which is training leaders for school districts, government agencies, and other key organizations in how to apply current effective policies and practices; and its new, cross-disciplinary program in education research, which in the fall of 2014 will begin training future scholars, policymakers, and others in how to develop more effective policies and practices.

His most recent research, an example of the latter, explores why special education in America's public schools must change because of compelling lessons from neuroscience. The main federal law governing this area of education assumes that learning disabilities are internal—caused, for example, by an injury to the brain. The law does not cover learning problems resulting from external sources, like growing up in poverty.

Meanwhile, the learning disabled make up 5 percent of the country's public-school students, but draw more than 20

develop habits of mind, to develop a sense of how to reason rigorously, how to express ideas in a compelling way, and how to write well....We want to make that clear, and then find a way to draw students into our courses."

To that end, the Rothenberg professor of Romance languages and literatures and of comparative literature continued, the study re-envisioned the curriculum as "a platform to create courses that undergraduates care about: how do you build a meaningful life, what do you think about war, or what is the meaning of love?" Such a curriculum should also "forge ties that connect departments" she said, and "give our students a sense of a social and academic collective to which they can belong."

The hope is that the new gateway courses, by providing a common introductory experience that can be shared by a large number of students, will reinvigorate recruitment, particularly during undergraduates' first year; and also improve integration within the division of arts and humanities. All three courses, and a few other divisional arts and humanities offerings, should count for concentration credit, the study recommends. Further, to bolster the retention of likely concentrators, the report suggests improved advising and outreach as well as enhanced coordination and collaboration among clusters of freshman seminars in the arts and humanities.

The study also calls for reviving an aggregation of arts and humanities course listings in the online catalog:

Reviving an Arts and Humanities section starting in 2013-14

will facilitate cross-divisional teaching and offer greater visibility to courses that transcend the cultural and/or disciplinary boundaries into which departments are divided. By encouraging cross-disciplinary teaching initiatives that reach beyond our Division and even beyond FAS, this new Arts and Humanities section will enable our Division to promote intellectual exchange and a more active culture of collaboration across the University.

Looking further ahead, the study suggests developing internships that show students the desirability of humanities degrees, whether for finding jobs or for pursuing graduate study. (Half of admitted medical-school students, for example, have concentrated in one of the humanities.) Another proposal suggests facilitating an option for humanities study as a secondary field in combination, for example, with physics or chemistry—perhaps using the new introductory courses as a foundation. (According to its catalog description, "The Art of Looking," taught by professors Robin Kelsey and Jennifer L. Roberts, will hone "skills of visual, material, and spatial analysis through encounters with aesthetic objects from Harvard's collections" and also "approach looking through a consideration of key technologies from its history, such as the telescope, the television, and the easel painting.")

"Though varied in tack and emphasis," Sorensen said, "these efforts share a common goal: the collective assertion of the humanities as an essential foundational element in American liberal arts education."

percent of all education spending—more than \$100 billion. Experts have been calling for wholesale reform of this field; it is common for them to assert that special education costs too much because it covers too many young people.

Ryan's view is the opposite. He argues that "the distinction between internal disorders and external circumstances is increasingly untenable" because the severe stress from living in poverty "can cause learning problems in much the same way that a brain injury or lead poisoning—which are explicitly included as bases for special education eligibility—can cause learning problems."

Not all poor children are learning disabled, he emphasizes, but millions of school-aged children now living in poverty are not among the 6.6 million students enrolled in special education. There "is not yet a smoking gun" linking socio-economic status to brain function or structure and

to deficits in thinking, but he lays out evidence about strong correlations between poverty and learning difficulties that "provide converging strands of proof." In his view, many students who are poor and struggling in school should be covered by special education because of the damaging effects of "toxic stress." He quotes the words of the neuroscientist Martha Farah: "Growing up poor is bad for your brain."

As Ryan and the GSE look for fresh, far-reaching ways to close the opportunity gap for young Americans, *Five Miles Away, A World Apart* will be germane, even though integration is not a priority in education for either the Democratic or Republican parties. The book presents a brief for what would be most effective in improving American education, but also for what Ryan believes is compelled by justice, despite the Supreme Court's reversal between its decisions in *Brown* and *Milliken* and the harshly diminished

aspirations that followed.

"Equal educational opportunity is a foundational principle of our society," he has written, yet educational opportunities "are far from equal in this country and too often depend on where students live, on how much money their parents earn, or on the color of their skin." The nub of his book's conclusion is that "separating the poor and politically powerless in their own schools and districts is antithetical to the idea of equal educational opportunity." Anyone who deals with Ryan as dean will be much better prepared if they understand this deep-seated conviction and how it shapes his ambition for American education.

—LINCOLN CAPLAN

*Lincoln Caplan '72, J.D. '76, formerly a member of the editorial board of The New York Times, was founding editor of Legal Affairs magazine and is the author of five books about the law. He is a Visiting Lecturer in Law at Yale Law School.*

## Where the Women Aren't

WOMEN NOW HOLD nearly 23 percent of the tenured professorships in the Faculty of Arts and Sciences (FAS), more than double their 10.7 percent share of 20 years earlier: they numbered 127 of the 557 senior faculty members during the 2012-2013 academic year. Yet their representation in the faculty's total ranks, including junior professors, has risen far more slowly, from 18 percent in 1993-1994 to 25 percent now (181 of 712 faculty members)—and the latter proportion has held steady since 2007-2008. That reflects stubborn limits in the gender composition of tenure-track faculty: the female proportion has fluctuated between roughly 30 percent and 40 percent for nearly two decades—and recently declined to 35 percent.

Bussey professor of organismic and evolutionary biology Elena M. Kramer, chair of the Standing Committee on Women, presented these data, and accompanying analyses, to the FAS last spring. In a later conversation, she said that, given the rising proportion of women earning doctorates generally, and across diverse fields, the committee felt compelled to ask, "Why can't we break out of this 30 percent ceiling in our tenure-track appointments?"

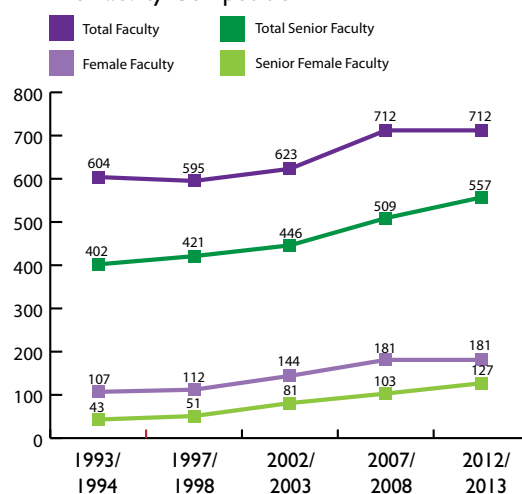
Specifically, the committee found that recently, Harvard and peer institutions

have awarded Ph.D.s to comparable proportions of women, measured in general categories: arts and humanities, the sciences, engineering, social sciences. But FAS's tenure-track cohorts consistently comprise a smaller proportion of women than the doctoral pools, particularly at the assistant-professor level, "underscoring our poor performance at recruiting women in recent years."

When the committee extended its analysis, Kramer reported, some fields and many departments across FAS "are doing well relative to peers [at other institutions] and to the rate at which Ph.D.s are being awarded." Thus, she discounted general "leakage" from the academic pipeline that siphons women out of Harvard's faculty ranks. Rather, she focused on the demographics of several large FAS departments, compared to peer institutions', to highlight seemingly large disparities—with Harvard trailing well behind the peer mean proportion of tenure-track women in economics, government, and English, for example. She concluded that in at least some instances, Harvard is doing less well at recruiting, attracting candidates, and sustaining tenure-track women faculty—"at every step of the process."

(Such concerns have prompted deeper

FAS Faculty Composition



inquiry. Lee professor of economics Claudia Goldin, president of the American Economic Association, has begun investigating the disproportionately male enrollment in undergraduate economics concentrations. She has found pervasive unawareness of this gendered skew in economics departments, and suggests that women's disproportional early attrition from the field, after introductory courses, raises the need to rework the curriculum to stress the discipline's utility in analyzing socioeconomic problems, not solely its business and finance applications.)

Several factors complicate hiring at



Harvard, Kramer continued. When hiring slows, as it has since the recession began, a “conservative effect” takes hold, in business and in academia, making every search more protracted, and perhaps inducing those hiring to look for people most like themselves. Moreover, FAS continues its slow transition to a tenure-track system, raising the bar for junior-faculty appointees (who were formerly regarded as more likely to be short-term colleagues). Finally, she said, women candidates may be conservative about where they apply—and avoid institutions lacking a strong history of internal promotion.

In response, Kramer said, “We want departments to think about these issues” as soon as they contemplate a search. That means analyzing their own composition vis-à-vis those of peers elsewhere. It also requires “tracking” the pool of talented young scholars from the time they begin making academic presentations and earn degrees, to know where to find the best candidates. The most successful departments, Kramer said, citing other institutions, are “always in search mode.” Lest these steps seem onerous or unnecessary, she said, FAS dean Michael D. Smith is “very concerned about this issue”—as he made clear during the early-April faculty meeting where Kramer spoke.

FAS’s dean for faculty affairs and planning, Nina Zipser, is responsible for translating that concern into action. In

an interview, she cited two ways of ensuring effective searches. First, echoing Kramer, she pointed to gathering good data, including annual examinations of the “vibrancy, depth, and career stage” of all the candidates in a specific field so that a search can be proactive, rather than limited to submissions that arrive after its launch. “We need to have a culture that is much more cognizant of everyone who is coming out” of the pipeline, she said.

Second, Zipser said, departments need “really good search practices” that counter “implicit biases that preclude candidates who aren’t traditional.” To that end, with the help of Cabot professor of social ethics Mahzarin R. Banaji, senior adviser to the dean on faculty development, Zipser’s office has promulgated revised “Recommendations for Ensuring the Integrity of Faculty Searches” that reflect current research on factors that can lead to less optimal outcomes. (Orchestras, for example, famously evaluated musicians differently when candidates performed anonymously.) Tenure-track search committees are urged to include tenure-track as well as senior professors. Search criteria should be set in advance, to avoid the risk of tailoring them for a preferred candidate. And written evaluations should be sought, lest any faculty members, particularly junior ones, feel inhibited about speaking out.

Such ideas, Banaji said in an interview,

are widely available in the research literature, but the knowledge “seems disengaged from real decisionmaking.” Businesses where she has lectured, and which hire regularly, are eager to adapt their practices to better serve customers and shareholders, but academic recruiting—more limited and episodic—has been slower to change. In general, she said, people “don’t know how to make good decisions,” but “we are discovering what gets in the way.” The guidelines aim broadly at shedding light on implicit biases in recruiting, and instilling processes that get better information before decisionmakers. Within the psychology department, for instance, Banaji said, faculty members must now attend a candidate’s academic presentation, or at least watch it on video, before voting; in years past, there was no such requirement.

“Every generation will have some lack of imagination about hiring the next,” Banaji said. Now, when “everything is up for grabs in appointments” (candidates’ genders, ethnicities, degree-granting institutions), she added, it is essential for the scholars who appoint the next cohort of FAS professors to pause to ask explicitly, “Are we making decisions that are in *Harvard’s* best interest?” Among brilliant professors, the most humbling recognition might be, as Banaji put it, “This is not about being smart—it’s about being human” in making those choices.

## Allston Advances

THE UNIVERSITY’S new 10-year Institutional Master Plan (IMP), filed with the Boston Redevelopment Authority (BRA) in late July, details nine projects totaling 1.4 million square feet for Harvard’s expanding campus across the Charles River in Allston. Among them: an addition to Harvard Stadium that will include indoor seating and office space; a new, larger, basketball gymnasium; a 150- to 250-room hotel/conference center located on Western Avenue across the street from Harvard Business School (HBS); and various renovations and additions to HBS’s campus, such as a new auditorium for Burden Hall, faculty and administrative offices, and renovation of the ad-

jacent Soldiers Field Park housing complex.

A preliminary form of the IMP submission, including these projects, was unveiled in October 2012 as a basis for community discussion and negotiations. Several of the proposed projects have since expanded in estimated square footage. Retail and institutional-affiliate and/

or graduate-student housing space associated with construction of a new basketball pavilion, for example, has increased the project size from 200,000 to between 270,000 and 340,000 square feet. The demolition and replacement



Visit [harvardmag.com/](http://harvardmag.com/)  
extras to see more  
images from the plan.

**Harvard’s new master plan for Allston shows projects scheduled to be built during the next decade in gold. The view is from Barry’s Corner, at the intersection of North Harvard Street and Western Avenue, looking back toward Cambridge.**



of Burden Hall (designed by renowned architect Philip Johnson '27, B.Arch. '43), will now run to 140,000 square feet. The "gateway" administrative office building closest to Barry's Corner, nearest the intersection of Western Avenue and North Harvard Street, has expanded from 200,000 to 300,000 square feet. And a slightly larger renovation of and addition to Harvard Stadium, it is now reported, will result in a net reduction of approximately 8,000 seats. These projects, together with Allston campus work already underway or approved (including a science complex now designated as a new home for the School of Engineering and Applied Sciences; a campus-services facility at 28 Travis Street; and the Barry's Corner housing and retail development slated for groundbreaking later this year) will result in the creation of 2,350 construction jobs, according to Harvard's estimates.

The IMP also sketches Harvard's long-term vision for its Allston campus, which—while in no way binding—would in future decades transform the area from paved, vehicular-oriented, industrial and commercial uses to others that promote the typologies of Harvard Square and its environs, with walkable green spaces, numerous transit options, retail districts centered on road intersections—and, of course, permeable, shady quadrangles with many substantial academic buildings.

"This comprehensive plan will expand Harvard's academic presence in Allston and build upon the shared goal of extending community programming, improving infrastructure and the public realm, and creating a new nexus where campus and community meet," said a news release from the office of executive vice president Katie Lapp, who oversees Allston work. "The plan includes... projects that support academics, research, executive education, assembly, office, hospitality, retail, culture, and housing." University officials hope to gain BRA approval for the projects sometime this fall.

Some Harvard-Allston Task Force members have expressed concern about Harvard's plans: they worry that the Barry's Corner project will not become the community hub the University is promising; that the new development will increase traffic in the area; and that the new parking lots, particularly on North Harvard Street behind the proposed "gateway" administrative office building, will be unsightly. "For

15 years this has been held out by Harvard and the city as being this wonderful, thriving town center of our community which has never had such a town center," said Task Force member and longtime Allston resident Harry Mattison in a recent interview. "Harvard's idea of Barry's Corner is a basketball arena, some sort of office building, a giant parking lot....None of those things are going to make this area great. None of them will make this area even good." Residents have asked Harvard, before construction, to address questions about retail and cultural amenities, transportation (including residents' use of the Harvard shuttle service), parking, housing affordability, and public-space planning, as well as about promised "transformative community projects," slated for discussion in August meetings as this magazine went to press.

As Mayor Thomas Menino prepares to leave office, developers rushing to take advantage of the improved economic environment and strong local demand for housing are "lining up to seek key approvals for billions of dollars of mega projects before the election of a new mayor who could upend or delay their plans," according to a July *Boston Globe* report. Boston's

mayor and the BRA exercise significant control over development approvals. Harvard's Allston plans have been prepared and reviewed by the community for several years, and are following a long-established timetable; even so, the IMP review will take place in the context of this development boom and the first change in the mayor's office in two decades. (Menino was awarded an honorary degree at Commencement this past May.)

Harvard officials have previously stressed that the IMP projects would be complementary to the University's aspirations for Barry's Corner. "We will be working very hard in our planning to make sure the ground plan, pathways, and streets work to connect these projects effectively to Barry's Corner so that it is an intuitive connection," Harvard's director of physical planning, Harris Band, said in October 2012, adding: "This is a very diverse variety of projects in terms of use, including executive education, classrooms, faculty and administrative offices, a hotel and conference center, housing, retail, and other ground-floor uses and open space. That variety is very important because it combines to make for a very dynamic area."

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## THE UNDERGRADUATE

# Dear Younger Self

by CHERONE DUGGAN '14

SINCE I WAS very young, I've routinely wished that my future self could give me advice. Despite having some doubts about how stable selves are over time, it's something that I still wish for, from time to time—mostly when I'm anxious, upset, bored, or overly philosophical. And as of this column's writing I'm simmering in pre-senior-year, pre-"real-life" thoughts and plans that have put me in a particularly time-travel and advicey mood. So, though my time-travel advice can only be given fictively to myself in the past, these are the thoughts I wish I had been able to share with my 18-year-old off-to-college self:

1. **Learning:** Realize what kind of learn-

ing you like. For me, at least, the *kind* determined the *topic*. I'm bad at doing problem sets, I don't like exams, and I feel no personal obligation to, or connection with, my professor or teaching fellow when I'm in large classes—and therefore don't do my work (see upcoming: Statistics 104, sophomore spring). So I take small, writing-heavy classes (see: two-person freshman seminar). The sooner you realize that this is how you and I work, the better.

Everything finally clicked for me when I realized that professors are really more important than the subject matter. I read some great books, and looked up the authors. A lot of the time, those authors are



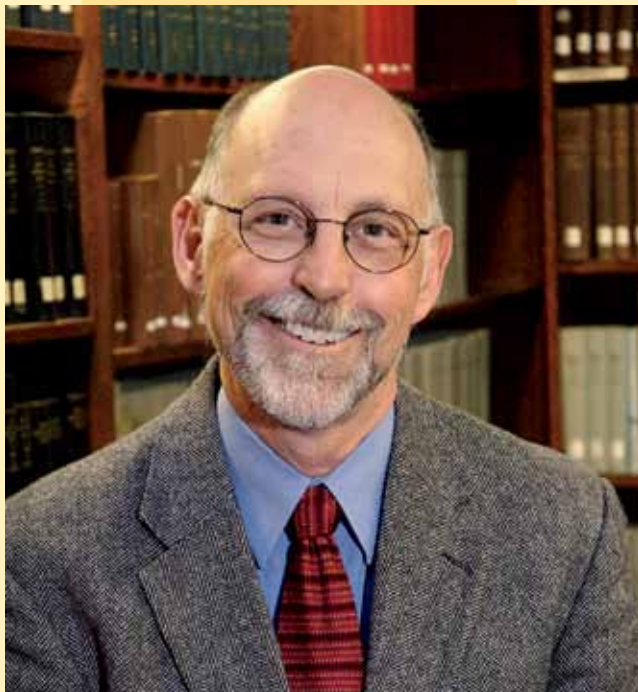
## MOOC Momentum

HarvardX announced fall online courses on the edX platform in fields spanning Chinese history, neuroscience, and poetry (see <http://harvardmag.com/harvardx-13>). Meanwhile, edX formed its first partnership in India, as the Indian Institute of Technology became an affiliate. In an interview with *The Financial Times*, edX president Anant Agarwal predicted a purely online degree offering by a partner university within less than one year. Coursera, the for-profit company offering a wide array of massive open online courses (MOOCs), raised \$43 million in a second round of financing, from new investors including a World Bank affiliate; that brings its capitalization to \$65 million. According to news reports, Coursera aims to expand international outreach (in part by translating materials and developing mobile-device courses for students in Africa and elsewhere who lack computers); open its platform to third-party developers (edX is open-source); and double its staff to approximately 100 (on a trajectory parallel to edX's reported plans). And Blackboard, a classroom-software company, announced plans to provide free MOOC hosting for its customers, and threatened to undercut other enterprises' fees.

## Socially Conscious Investing

The Corporation Committee on Shareholder Responsibility has chosen Parnassus Equity Income Fund as the investment vehicle through which it will accommodate donors who wish to direct their gifts to a socially conscious investment vehicle (rather than to the general funds overseen by Harvard Management Company). Each year, 20 percent of the fund's beginning market value will be made available for financial aid across the University. Separately, Harvard Management Company, which oversees the endowment assets, has appointed Jameela Pedicini vice president for sustainable investing, a new position responsible for investigating environmental, social, and

# Brevia



**INTERIM COLLEGE DEAN:** Gray professor of systematic botany Donald H. Pfister was appointed interim dean of Harvard College in early July, succeeding Evelyn M. Hammonds, whose service concluded at the end of June. Pfister has been dean of Harvard Summer School, and was master of Kirkland House from 1982 through 2000. He said of his new charges, "The College is filled with talented, energetic students who breathe so much life into this University," and added that he looked forward to his continued engagement with them. Faculty of Arts and Sciences dean Michael D. Smith cited Pfister's "deep engagement with both undergraduate education and with the learning communities of the Houses." Smith will convene an advisory committee to search for a permanent dean this fall.

governance issues associated with the University's investments. For more information, see <http://harvardmag.com/pedicini-13>.

## Reading Period Revised

The Faculty of Arts and Sciences has voted to reconfigure the end of each

term, beginning in the fall of 2014, with a revised calendar that slightly shortens reading period, prohibits regular instruction during that period (except for intensive language classes), and—acknowledging the reality that examinations are administered in fewer courses—bestows a new name on a slightly lengthened Final Examination and Project Period. Final papers, take-home exams, and other culminating assignments must be due on or before the official exam date assigned to each course, but no earlier than the fourth day of reading period.

## Admissions Ruling

The Supreme Court's late-June procedural ruling in *Fisher v. University of Texas at Austin* (see <http://harvardmag.com/ruling-13>), had the effect of upholding admissions processes at selective institutions that consider race in admissions. President Drew Faust said in a statement, "We are heartened that the Supreme Court

today has affirmed the vital interest of universities in bringing together students from many different backgrounds and points of view." Nonetheless, some educators who favor such admissions policies felt that the court's ruling in fact poses technical hurdles (a standard of "strict scrutiny") that might invite still more legal challenges and curtail such admissions practices. Columbia president Lee C. Bollinger—a constitutional-law professor (and defendant in earlier cases when he was president of the University of Michigan)—expressed concern in *The New York Times* that the opinion "will empower lower courts, and, no doubt, litigants to challenge benign considerations of race—those that seek to advance legitimate goals of diversity in education—more easily than ever."

## Fundraising Report

As Harvard readies the public phase of its capital campaign (see page 48), Rice University announced that it had exceeded the \$1-billion goal it set for its ef-

fort launched in 2008, and the University of Virginia said it had met the \$3-billion target it established in 2004. Separately, Stanford (for the past eight years the leading fundraiser among U.S.-based universities and colleges) announced a new, \$151-million gift from alumnus John Arrillaga, a Silicon Valley real-estate developer—its largest from a living individual. And Danville, Kentucky-based Centre College, enrollment 1,370, has received a \$250-million gift, the largest ever to a liberal-arts college, to fund 160 scholarships for students concentrating in natural or computational sciences or economics.

### Women's Transition

The Committee for the Equality of Women at Harvard (CEWH; <http://world.std.com/~cewh>) was founded in 1988 by concerned Radcliffe alumnae (many from the classes of 1953 and 1958) who sought a significant increase in tenured women faculty and equity for all women at Harvard. (Among other steps, it established the Harvard Women Faculty Fund to raise money to be held in escrow until matters improved.) During reunion meetings this past May, the or-

ganization decided that—with the Office of Faculty Development and Diversity and the Harvard College Women's Center firmly established, and the creation of a new Shared Interest Group, Alumnae/i Network for Harvard Women ([www.harvardwomen.net](http://www.harvardwomen.net)), spearheaded by CEWH members—its goals had been achieved and it will dissolve this year. (For an update on the numbers of female faculty within the Faculty of Arts and Sciences, see "Where the Women Aren't," page 56.)

### Scientific Pursuits

The Association of American Universities has announced that eight campuses will receive seed funding for pilot projects to enhance undergraduate education in science, technology, engineering, and mathematics (the so-called STEM fields); Brown, Penn, and Washington University are the private institutions awarded grants. Elsewhere, the State University of New York has decided to separate the Albany campus's College of Nanoscale Science and Engineering as a stand-alone degree-granting institution, emphasizing the growing scope and importance of semiconductor and high-technology research and industrial investments in the region, as well as a renewed effort to compete for further research funding in the field.

### Nota Bene

**LIBRARIAN IN CHIEF.** Sarah Thomas has been appointed vice president for the Harvard

Library, a new position, reporting to the provost. She had been serving as Bodley's Librarian and director of the Bodleian Libraries at the University of Oxford, and was previously Kroch University Librarian at Cornell. As previously reported, Mary Lee Kennedy, senior associate provost for the Harvard Library since 2011, departed in May to become chief library officer of the New York Public Library.

**MEDICAL MANAGERS.** Two senior Harvard Medical School officials have moved on to new posts. William W. Chin, executive dean for research since 2010, departed to become executive vice president of science and regulatory affairs for the Pharmaceutical Research and Manufacturers of America, effective July 1. And executive dean for administration Richard G. Mills, who had been at the medical school since 2005, has been appointed Dartmouth's executive vice president and chief financial officer.

**HUMANITIES HONORANDS.** Robert Putnam, former dean and now Malkin professor of public policy at Harvard Kennedy School—author of *Bowling Alone*, on community and social capital—was awarded the National Humanities Medal on July 10. Other honorands included a pair of alumnae historians: Jill Ker Conway, Ph.D. '69, former president of Smith College and author of *The Road from Coorain*, and Natalie Zemon Davis, A.M. '50, LL.D. '96, whose works include *The Return of Martin Guerre*.

**MISCELLANY.** Rothenberg professor of Romance languages and literatures and professor of comparative literature Diana Sorensen has been elected to the board of trustees of the National Humanities Center, a private institute for advanced study in the field. (Bass professor of English Louis Menand is also a trustee.) For more about her work as dean of arts and humanities, see page 54....Corporation member Theodore V. Wells Jr., a prominent trial lawyer, has been retained as part of Steven A. Cohen's defense team as his large hedge fund, SAC Capital, contends with insider-trading criminal charges.



**CHECKED OUT:** The Inn at Harvard closed on July 15, pursuant to plans that were announced a year earlier, and will be remodeled as swing space for those undergraduates displaced temporarily by the College's extensive, multi-year residence-renovation program. The adaptation of guest rooms and construction of dining and social spaces is expected to be completed in time for the 2014-2015 academic year, when Dunster House will be redone. Displaced workers were offered employment-related services and severance packages.



Robert Putnam

BROOKS CANADAY/HARVARD NEWS OFFICE



Harvard professors. Take their classes (see: historian of science Steven Shapin, with whom I took a class junior spring). If the authors of the thoughts or books you love aren't currently living, or aren't currently living Harvard professors, take classes in which they are read. Or make up an independent study and create your own syllabus that includes them. Better yet, just read them when you should be doing other, less interesting things.

Talk to your professors, teaching fellows, and fellow students not just as a *student*, but as the *person* you are. They really are quite personable. Go to office hours with life-questions, not just course-related questions. The relationships you have with people will be more important to you, and to me, than any relationship we have with a grade or a prize. That means learning isn't academic. It's summers. It's jobs. It's awkward situations. But mostly, it's people. For thoughts and people are the stuff time and life are made of, at least for me. Intertwine them.

**2. Living situations:** Don't, however, get too emotionally intertwined in these. They can be fun, and they can be flops. If you temper your expectations, though, they can be perfectly comfortable. Whatever it is that you want in a roommate at any particular time will change. I've found that it's almost better to room with people you're not completely emotionally invested in as friends. Try to be the type of roommate you would like to have (see: mirror). If your definition of that matches your roommates' definitions, stay with them and be happy. If not, it's better to change your behavior, your thoughts, or your rooming situation if something really isn't working out.

Time away, both from solitude and from company, is good. Talking, instead of internal-mulling, is also good.

Not taking yourself too seriously is even better. So is giving people the benefit of the doubt, as well as benefiting from your own (see: "A Perforating Doubt," January-February, page 56).

**3. Money:** Try to have some. Also, try to make some. It's generally useful—but shouldn't be the main criterion for anything. You really don't need much. Library desk-jobs are great (see: unwittingly shrewd job decision, freshman spring). My job makes me go to the library at certain times during the week, and makes me stay there. This has done wonders for my personal, academic, and fiscal productivity. Try always to have enough money in our account for a last-minute return ticket home, or a medical emergency—just in case (see: the bad-tooth crisis, freshman fall). Fellowships are also great. Apply for them. Also, please, I beg of you—buy a good coat, good shoes, and at least one great dress—you will need them. You should also try not to drink up or eat up too much of our money. Instead, save it for me!

**4. Friends:** People are, simultaneously, the best and worst parts of life. Much like roommateships, the best friendships develop between people who have symmetrical feelings and connections in one, or many, moments. These symmetries can overlap for minutes, for months, or for what-seem-like-forevers. Each type of overlap is valuable. And sometimes, these symmetries take round or pointy shapes. You'll decide which shapes are the most enduring and beautiful, though—and they can and will change, as you (and times) do. Also, the pop-culture definition of friends being plentiful, steadfast, and of-the-same-age-group as you isn't necessarily true. My host parents have been some of the best friends I've ever found (see: "My Families," May-June, page 52). I've also been surprised by which people I've stayed close to from high school, and through college—sometimes, they've been the people I've least expected.

Your best friends are ones you can be silent with and still feel comfortable (see: siblings). Make sure you can be silent with

yourself, too. But not always: Asking things of yourself, and others, is the best skill you can cultivate. People can't read minds (and you certainly can't read mine). So, when something goes wrong, or when you'd like something to go right—ask your friends for help. Much of the time they can, will, and love to give it.

**5. Love:** (See: above comments about roommates and friends, amplified.) Love is not just a quality that naturally springs from romantic or semi-romantic situations. It's what you and I feel for our family and the people, activities, and thoughts in our lives that make us feel honest. When I realized this, I began to think differently about what I did with my time and the people I was surrounding myself



Illustration by Dan Page

with. Deciding to be around people who love something—*anything*—passionately, makes caring for them and their cares a contagion. In terms of the physical and the purely whimsical, have fun, but make sure to cover your drinks at parties (see: sophomore summer). And, not being in any romantic relationship is better than being in a bad or draining one (see: well—she'll know it when she sees it). Remember that crushes flatten, and that most of the time, there's no predicting what will happen. So don't take things too seriously. You're young—and anyway, you know very little about how I will feel about things. Try to take an educated guess. But don't be certain—because you aren't. Then again, if you think you really love something, or like someone, just go for it. See what happens.

6. **The Future:** For a period, I was pretty worried about what the future held for us, and how badly I was directing myself toward it. But then I figured: the future is not something that will happen to me, helplessly. It's something I'll live—not as another, better person who does all the things I'd like to be able to do, like getting up early, or being an extrovert—but as myself. Realizing which parts of you, and me, I can and cannot change has been important in terms of guessing what will make our future whole and better (at least, the part of your future I've lived so far). I'm still learning those things.

In the meantime, just do things you like, and do them well, according to your own standards. Then, you'll get to where I am and realize that the present doesn't have to come from the past or the fu-

## Fresh Fellows

**Harvard Magazine's** Berta Greenwald Ledecy Undergraduate Fellows for the 2013-2014 academic year will be Noah Pisner '14 and Jessica C. Salley '14—selected from among nearly two dozen applicants. The fellows join the editorial staff and contribute to the magazine during the year, writing the "Undergraduate" column and reporting for both the print publication and [harvardmagazine.com](http://harvardmagazine.com), among other responsibilities.

Pisner, of Fairfax, Virginia, and Winthrop House, transferred to the College following a year at the University of Southern California, where he studied cinema and television production. In Cambridge, he is concentrating in social studies, with a focus in international law and development, and pursuing a secondary field in English. He serves as a features writer for *The Harvard Advocate* and as an executive editor of *The Harvard Crimson's* magazine *Fifteen Minutes*. He spent the summer working as an editorial intern at *McSweeney's* in San Francisco and doing thesis research in southern India.

Salley, of Covington, Louisiana, and Dunster House, is concentrating in Near Eastern languages and civilizations and history, and expects to earn a language citation in Turkish. Outside the classroom, she is the multimedia chair of the *Crimson* and writes for *Fifteen Minutes*. During the summer, she conducted archival research for her senior thesis in Turkey before traveling to Armenia and Georgia to work on an archaeological field project.

The fellowships are supported by Jonathan J. Ledecy '79, M.B.A. '83, and named in honor of his mother. For updates on past Ledecy Fellows and links to their work, see <http://harvardmagazine.com/donate/ledecy-fellowships>.



Noah Pisner and Jessica C. Salley

STU ROSNER

ture—but from an intertwining of both. Make yourself that intertwine. Don't get caught up in the mistakes or pressures of the past or the present, or the invisible, looming future ones I'll surely make. Even the darkest of them fade. Let them. Then, you can just be happy with

yourself, and you and I will reunite again. Then, we'll conquer time. ♥

*Cherone Duggan '14 is a rising senior and former Berta Greenwald Ledecy Undergraduate Fellow at the magazine. She would like to thank Cameron Rejali '82 for sharing his kind words of advice.*

## SPORTS

# Scrum, Rucks, Mauls

*Varsity rugby for women begins a new era in Crimson sports.*

**R**UGBY HAS its own language. Even if you haven't watched a full match (80 minutes, in two 40-minute halves), you may be familiar with the *scrum*, a fun word to say, and, for the uninitiated, a bizarre phenomenon to watch: players link arms, bow their heads,

and push forward against a likewise engaged opposing team, all the while attempting to gain control of the ball (a chunkier, more ovoid version of a football) with their feet. It looks like a mindless people pile-up. But it's not, as Sue Parker, Harvard's first coach of varsity women's rugby, can explain.

"There is an element of brute force," concedes Parker, who most recently coached the women's rugby team at the U.S. Naval Academy. "But you'd be surprised—there's also tremendous technique involved. At Navy, we were a smaller team than a lot of those we played against. But if you have strong fundamentals, a less powerful scrum can still win the ball."

That's rugby in a nutshell—a contact sport played without padding that rewards sheer strength while demanding the technical skills of passing, kicking, carrying, and tackling in pursuit of a *try*, the five-point equivalent of football's six-point touchdown. (Kicking the ball through the goalposts will earn two more points for a



conversion; a field goal, worth three points, can be attempted at any time.) Players usually pass by throwing underhand, and can pass only backward or sideways, not forward; defenders can tackle only the player carrying the ball; and as soon as a player is tackled, anyone from either team can immediately pick up the ball and start a new attack by kicking, passing, or running with it. Sometimes players form an unruly pack, or a *ruck*, over a loose ball, in an attempt to push it toward the try line; a *maul*, on the other hand, occurs when players converge on an unfortunate ball-carrier who has been tackled but not taken to the ground.

The no-pads, high-contact aspect of rugby is part of its fearsome mystique, and Parker teaches the art of tackling with great care. “We show where your feet need to be in relation to the ball-carrier, and the proper angle of your torso in relation to your hips and thighs,” she says. “Where do you squeeze and drive through [to make the tackle]?” (You do it in the ball-carrier’s waist-thigh region.) “We repeat this slowly and under careful observation until a player has confidence that she’s doing it safely and in the right position. Then we have the ball-carrier start running.” Through some odd calculus, this close, sometimes ruthless contact on the field creates a legendary culture of camaraderie off the field: “You play a brutal, super-intense match against



**Holding a rugby ball, Sue Parker stands before rugby goalposts. She is Harvard's first varsity coach in the sport.**

your opponents, and afterwards, eat pizza together,” says Parker. “There aren’t many sports where that’s the case.”

Rugby most often has 15 players to a side, but can also be played with seven, which is how Parker first experienced

To receive weekly football reports from “Cleat,” sign up at <http://harvardmag.com/email>

the game as a law-school graduate in her early twenties. “I was working for a big firm in D.C. and not enjoying how my lifestyle had become so completely sed-

entary,” she says. She had always been a student athlete, competing in the javelin throw and 800-meter run at the University of Maryland, but rugby was something completely new: “It had everything I loved—raw speed, kicking, passing, and an unbelievable level of teamwork.” Parker was hooked. She started playing on community teams and worked her way up to coaching jobs, practicing law throughout. Only now—with the Harvard position—is she focusing on rugby full-time.

Since her rugby epiphany in 1991, Parker has competed as a member of the USA Rugby 7s Eagles, the country’s national amateur team, and gone on to coach that squad; the Washington D.C. Furies, a club team; and Navy. This summer, she took a team of Navy players to the World University Games in Kazan, Russia, where they finished with a 1-6 record; they were the first American team to play rugby at these Games, where they competed against national teams from the other countries. As chair of the USA Rugby Women’s Collegiate Strategic Committee, Parker led efforts to promote the sport to NCAA varsity status.

Harvard is the first Ivy League college to sponsor a varsity women’s rugby program, which launches this fall—although as a club sport it dates back to 1982 for the women’s team and to 1872 for the men’s. The Crimson women won national titles as a rugby club in 1998 and 2011. (Only the women’s program is going varsity. Parker believes it will be good for the Harvard men’s club as well, and she has already reached out to the male ruggers.)

The other Ivy colleges all have women’s

## Harry Parker

The word “legend” gets applied almost indiscriminately to sports figures these days, but Harry Parker, head coach of heavyweight men’s crew at Harvard for 51 years, was the genuine article.



BRETT MOORE/HARVARD ATHLETIC DEPARTMENT

He may be the most successful coach in the history of American college sports: across the decades, his crews’ overall winning percentage was in excess of .800; they won 16 official and unofficial national championships, and never had a losing year. Even at age 77, Parker was still at the peak of his powers: his last three crews went undefeated in the regular season.

He did this while coping with a rare form of blood cancer that took his life on June 25. Many oarsmen regarded him as their most important teacher at Harvard. (For more on Parker, see page 10, and coverage at <http://harvardmag.com/parker-13>.)

club teams. Parker's goals for the season include winning the Ivy Rugby Conference, which embraces those club teams and Harvard's varsity. (As the NCAA classifies rugby as an "emerging sport," it sanctions official competition between varsity and club squads.) She also wants to support the club players as they make the transition

to the more intense level of physical and mental commitment that a varsity sport requires. And Parker plans to cast a wide recruiting net. "I think the fact that I didn't have significant team-sport experience helps me relate to players who are coming to rugby for the first time," she says. "Why not bring everything to the table and be

extremely creative in how we apply strategies and techniques from sports like soccer and lacrosse to rugby, to see if we can catch other teams off guard? No matter what your physical dimensions, there's a place for you on the field if you're curious, motivated, and devoted to becoming a student of the game." ~JULIA HANNA

## ALUMNI

# An Artful Business

*Where inspired artists meet aspiring collectors*

**A**IMING TO CREATE their own "art stimulus package" during the 2008-09 economic downturn, Emma Katz '06 and her sister, Ani, put together an exhibit at the Brooklyn Art Space. Her job as an assistant to a Broadway producer had evaporated with the recession so she was working shifts at an organic bakery in the East Village. Ani, a Yale graduate, was tired of cycling through internships. "There seemed no good reason to wait around to get a job," Emma recalls, "when we could just do what we wanted

and put on a show with our friends—and have some fun."

More than 200 people turned out for their Recession Art Inaugural in April 2009. It featured seven young artists—among them Ani, now studying photography at The Columbia College of Art in Chicago, and Jane Van Cleef '06, Katz's sophomore-year roommate, who makes and sells stuffed toys (woodland animals and interchangeable outfits, such as Catalina Mouse, who sports a red bonnet and flowered skirt) through her company, Hazel Village.

The exhibit's surprising success led to six more pop-up shows—and a full-time occupation for Katz. She is now executive director of Brooklyn-based Recession Art (<http://recessionartshows.com>), which moved into permanent gallery space in March and now represents more than 80 "of the best visual artists of our generation—on the cusp of achieving their dreams." The mission is to find, show, and sell affordable art: generally \$10 to \$1,000.

"The traditional art world is seen as too expensive and too elitist for the average art-lover," says Katz, a calm, organized woman who was named one of the "top 30 influential art professionals under 30" by Artinfo last year. "We are trying to engage all levels of collectors, and let them know that they can start even if they only have \$50." Developing this commercial niche—a sustainable alternative-art market—is critical, especially for fledgling artists in need of support. "When you buy art, you're doing it for yourself, to have an object

that makes you think and feel more intensely," says Katz, "and you're doing it as a vote for the continued importance of art in society. That's the big picture."

Brooklyn has seen an influx of artists and galleries, along with more affluent gentrifiers, during the last several decades. "It's a great place for us," Katz agrees. "People here have an appreciation for what's different, what's unique. Buying from someone they can meet and knowing the story of the piece or the person is important." The gallery is

**At her gallery, Emma Katz promotes sophisticated original work by young artists such as sculptor/photographer David Rodriguez, represented here (left to right) by *A Love Song Played at a Very Specified Frequency*, *Holding Device*, and *The Thing About Distance*.**





among the idiosyncratic, locally owned shops and restaurants that comprise hip Boerum Hill. It mounts solo exhibits and group shows, as well as semiannual larger displays next door at the Invisible Dog Art Center, a three-story former factory building from the 1800s used mostly recently for belt-making. In 2009, the building was converted into studios, spaces for exhibitions and special-events, and the Beam Center, which teaches technology and design to those under age 18.

One of Recession Art's earliest artists, Ian Trask, reveals the inherent aesthetics of waste materials: cardboard boxes, wood chips, and old forks and spoons, which he once twisted into elegant chess pieces. The center offered Trask an artist-in-residence post, Katz reports, "which meant he had a room in the basement filled with many hundreds of rounds of belting materials, buckles, and adornments, all piled up all over the place." His resulting sculptures, set in rectangular boxes or on recycled wood, transformed simple webbed belting into gracefully interconnected spools and lines of colors and swirling shapes suggestive of the gears and conveyer belts of early industrial-age machines. "Kids love his art because they recognize the urge to bend their silverware and play with colorful balls of yarn," Katz says. "Collectors love it because it engages a trend toward DIY and recycling, but is also polished and perfectly framed for their homes"—priced from \$25 to \$5,000.

The June show, *Facts and Fictions*, was mostly photographs and video art co-curated by Ani, who maintains a small role in Recession Art while in school. It featured arresting color portraits of older women, including one of a swimmer floating like melting wax in the water, by Barbara A. Diener, along with almost surreal images of average people in modest settings that are offset by luminescent objects by Julie Renée Jones, which cost between \$550 and \$1,800. (Ani knows both artists through Columbia College, where they also studied.) Katz is inspired by how Jones creates the mysterious, ethereal light; it offers a poignant glimpse of hope amid mundanity. Art provides "a window into someone else's perspective on whatever big questions they are grappling with," she adds. "You take that in and you can learn from it—or recognize your own thoughts and feelings in it."

The gallery also has a small store, where

drawings and collages sell for \$100 to \$350, and smaller items like original magnets, coasters, and cards cost around \$6. "I don't want the gift-shop look, full of knick-knacks," Katz says. "We keep the more commercial items to a minimum." Notable

are cards and illustrations by Andrea Tsurumi '07, who lives in Queens and recently graduated from the School of Visual Arts in Manhattan. A set of digital reproductions of her pen-and-ink drawings, *13 Witches*, depicting imaginary animals and eccentric people, sells for \$20. Coming soon are her two new children's books: *Andrew Jackson Throws a Punch* (a comic loosely inspired by Jackson's first inaugural and proclivity toward violence) and *But Suddenly, an Octopus* (a twist on Little Red Riding Hood).

TSURUMI, who met Katz through their work in the Harvard-Radcliffe Gilbert & Sullivan Players (HRGSP), calls her friend "extraordinarily clear-sighted." Running Recession Art "brings together her love of the arts, her logistical talents from theater and event-planning, and her interest in working with other creative people. Recession Art has also made itself culturally accessible by making 'unpretentiousness' a key goal. Most of that has to do with Emma."

Katz emphasizes that she is an art-lover, not an artist. Growing up in Bay Shore, Long Island, she played the cello and learned traditional art appreciation through visits to museums in New York City and Europe with her family (her mother is Susan Barbash '76). At Harvard, she immediately joined the close-knit institution that is the HRGSP: "Half the people there were already really into Gilbert and Sullivan before college," she says. "The other half wanted to do theater and stumbled upon it, and stayed."

She played cello in the pit orchestra, then was elected to the board, and soon became a driving force in producing the organization's fiftieth-anniversary celebration in 2005-2006. That entailed planning for 15 events in four days comprising more than 200 alumni, students, and their guests, as well as building, from scratch, a 5,000-alumni database that helped her



**Recession Art's home is a repurposed belt factory in Brooklyn.**

raise the gala's needed \$20,000. Katz had always wanted to be involved with the arts, but administration had not occurred to her as a career until "I started to realize that I was more organized than a lot of other people," she says, "even a lot of very smart, very talented Harvard students." At the Dudley Co-op, Katz was first elected United Steward, in charge of ordering all the food from wholesale vendors, and later served as treasurer, then president. "Emma is at home among spreadsheets and checklists—which is not to say she is uptight or robotic. She is actually really warm, and she has a great sense of humor," says Van Cleef, her former roommate. "She is a natural organizer, but tolerant of artistic types. I think she's proud that she can help them. And she really can."

As business manager for Van Cleef's Hazel Village, Katz was pivotal in moving the company beyond a one-woman operation. Katz not only worked out a business plan and marketing strategy, Van Cleef says, but during the holiday season was also there to help physically open booths at two lucrative Manhattan street markets in Union Square and Columbus Circle. "I needed to find and schedule a bunch of salespeople and general helpers—elves, basically," says Van Cleef, "and I had not planned ahead, naturally. But Emma stepped in, found the people and scheduled them, told me how much I owed them."

Supporting women in business and in other ventures is also an outgrowth of Katz's Harvard concentration in studies of women, gender, and sexuality. Her senior thesis was on the Queen's Company, an all-female Shakespeare theater group. After graduation, she moved to Manhattan (where she now lives with her husband, "C.J." Christos Gineros, a computer engineer), with plans, now on hold while

she builds Recession Art, to become a theater producer. Katz's résumé includes a string of theater internships and jobs, most recently with Frigid New York, an independent theater festival. Producing an art show, she has found, is not dissimilar. "You're bringing people together and seeing everything that has to happen from day one and making sure you have people doing all these things" collaboratively, she explains. Do artists need her? "I think so," she says, laughing. "There are plenty of artists who would never even think of putting up their own show."

In addition to Katz, the gallery employs only two part-timers who assist especially with cultivating collectors. Galleries are constantly forming, nurturing, and balancing relationships with those who make the art and those who buy it. "We find our buyers through targeted networking, using our friends, artists, and neighbors as starting points," she reports. She has also partnered with the Wassaic Artist Residency in upstate New York and the new Ground Floor Gallery in Park Slope (Brooklyn), and routinely visits galleries, open studios, and the Affordable Art Fair, which has a similar mission, albeit at higher prices (around \$10,000). "In general we are a very grass-roots operation," she says. "I e-mail and call people individually about our openings, updates about artists that might interest them, events, and new artwork in the store."

To make the monthly rent, Katz must sell \$7,000 worth of art. "We're not quite there yet," she adds. "But that's the goal." She generally splits, 50-50, the selling price of a piece with its artist, and collects significant revenue from the semiannual open calls, based on given themes (such as *Open Notions and Broken Boundaries*, the fall group show): artists pay \$30 per submission to the gallery committee that decides whether the art will be in the show and another \$30 if they want critical feedback. In addition, Katz offers artwork documentation services and art-related administrative support, as for Hazel Village.

Pricing art is an art. "There are no set rules and no obvious reference points. Even the artist doesn't know," reports Katz. "The biggest problem I have found in selling art is that customers hesitate because they don't know how to gauge whether something is worth the price. And some artists don't want to sell their art for below a perceived value they hold. It's a constant

negotiation between the artists and buyers, and I am the middleman."

Recession Art's September 7-October 13 solo show features new paintings by one of Katz's favorite artists, Brooklyn resident Megan Berk. Her work, including renderings of the mid-century glass and flat-roofed suburban California homes designed by Joseph Eichler, has a spare, moody feel, softened by lush, liquid-like coloring. "Sometimes you can clearly see that she is painting a landscape or a house and sometimes that landscape becomes just a flashing of light and color," says Katz. The paintings appeal to a diverse group of people, she adds, such as those "interested in traditional representational painting, cutting-edge techniques, abstract art focusing on shapes and colors, architectural or interior-design aesthetic." Sales are consistent, even at higher prices: Berk's large acrylic paintings, about five feet by six, go for around \$5,000.

The fall group show (October 26-November 24) is curated by the gallery's associate director, Christian Fuller, and further explores the fluidity of abstract and representational art. Works will include the surreal topography of illustrator Maximilian Bode, abstract primordial landscapes by Leo Castañeda, and the bold, tactile paintings of Summer Wheat.

Practically, "we need good variety, something at every price, and something for everyone's taste," Katz says. Ultimately, though, what's shown is based on what she finds interesting. "It's very hard to sell anything you are not passionate about. When I think about owning visual art, I think about having something in my life that is a representation of an idea or an emotion or a memory. If I connect with something on that level, it's fantastic to be in its presence every day, because then every day can be a transcendent experience—outside of my own mind." ~NELL PORTER BROWN

## Capital Connections

*An energetic alumni leader emphasizes her "ability to listen."*

CATHERINE A. GELLERT '93, the new president of the Harvard Alumni Association (HAA), joined the organization as an elected director in 2007. At her first dinner, "Everybody seemed to know each other," and to want to catch up, she says. "I quickly

learned that this was the spirit of the HAA: folks who care deeply, who are experienced volunteers, and who want to make a difference for the betterment of the Harvard community. I was hooked!"

Such enthusiasm will serve her well this



Catherine A. Gellert



year as the University begins the public phase of a multibillion-dollar capital campaign (see page 48). Starting in September, events will be held for alumni around the world. "The HAA wants to engage alumni in the intellectual life of the University—on the road, at educational events, and through social media," she says. "This is a wonderful time to get involved. As part of the leadership, we all have to now put our oars in the water and row in the same direction—sharing in the vision and excitement around how to make Harvard relevant in today's world."

Gellert, who has an M.B.A. from Columbia, has worked in her family's Manhattan private-investment company, Windcrest Partners. She is a former co-chair of the executive committee of the Harvard College Fund and vice president of the HAA's engagement and marketing committee. A class reunion-gift chair, she also served as treasurer of the Harvard Club of New York City before becoming HAA president.

During the last year she has focused on analyzing University research (from focus groups and surveys) on how alumni perceive their relationship to the institution. Details of the findings have not been publicized, but in general, Gellert says, 86 percent of alumni "feel very positive toward the University and about 24 percent feel connected to Harvard." Alumni also tend to be more closely attached to each other than to the institution. The HAA and alumni groups, she adds, are now developing better ways to "inspire and motivate our alumni around their connection to Harvard." (That group includes her parents, Michael E. Gellert '53 and Mary C. Gellert, a 1957 graduate of the Harvard Radcliffe Program in Business Administration, and her brother, John M. Gellert '92.)

At Harvard, she concentrated in fine arts (now called history of art and architecture) because it was a small, interdisciplinary department and offered superb museum collections that functioned as "laboratories." By studying Italian Renaissance painting, for example, she learned about power structures and economies and allegory and symbolism—and how to communicate what she learned to others. It was the "ultimate liberal-arts" degree, she says, "and while I have not pursued it professionally, I would not change my concentration were I to do it all over again." She worked on the business side of the Hasty

Pudding Theatricals, was the H.A.N.D. (House and Neighborhood Development coordinator) for Eliot House, and was involved with CityStep, which teaches performing arts to Cambridge school children.

In recent years, she has moved away from money management to focus on nonprofit work. She is a trustee of her secondary-school alma mater, St. Paul's School, and a board member of both the International Women's Health Coalition and of the Lincoln Center Institute, which uses "the capacities learned through the arts to enhance K-12 education in public

schools." A passionate traveler, Gellert is proud to have visited all seven continents by the age of 40; she also climbs mountains, skis, bikes, and golfs. To the HAA, Gellert brings a worldly view, sporty energy, and pertinent professional skills. But just as important, she says, "is my ability to listen." No doubt, as she travels for the campaign this year, she will meet many alumni eager to talk. "I feel everyone has a story," she adds, "and if we spent more time listening to them, people would feel better about their voices being heard and reflected in the collective good." ~N.P.B.

## Hiram Hunn Awards

SEVEN ALUMNI are to receive the Hiram S. Hunn Memorial Schools and Scholarships Awards, presented by the Harvard College Office of Admissions and Financial Aid, at a ceremony in Cambridge on October 25. Hunn, a member of the class of 1921, recruited and interviewed prospective students for many decades; this year's winners, collectively, have performed more than 200 years of service.

**Marshall Allen**, M.D. '53, of Evans, Georgia, has been inspired by applicants for 48 years, sometimes even reading the books they recommend. Two of his candidates were accepted to the class of 2017.

**T. Carter Hagan** '60, of Maplewood, New Jersey, has served as chair of the Harvard Club of New Jersey's schools and scholarships committee, which covers Greater Essex County (the northeastern part of the state), since 2000. In addition, he is a former club president and chair of

its nominating committee.

**John Irving** '83, M.B.A. '89, of Saint John, New Brunswick, Canada, has interviewed students since 1983 and is a former chair of his local schools and scholarships committee. He is also involved in other activities at the College, Harvard Business School, and the Graduate School of Design.

**Margarita Montoto-Escalera** '78, M.B.A. '85, of San Juan, Puerto Rico, began interviewing candidates as soon as she moved to the capital city in 1991, and later served as president of the local Harvard Business School club.

**Elaine Hoffman Morris** '58, of New York City, has interviewed students for nearly 50 years, through her tenure as president of the Radcliffe Club of New York and then as co-chairperson of the Harvard Club of New York City.

**Miguel M. Palos** '76 and **Claudia Friederichs Palos**, of Bradbury, California, have done schools and scholarships work in the Los Angeles area for 25 years, first as interviewers, then as area leaders in the San Gabriel Valley. In 2006, they also received the Harvard Club of Southern California's John Harvard Award.

**Milton Yasunaga** '77, J.D. '81, of Honolulu, has chaired his local club's schools and scholarships committee since 2001, but has been interview-

ing students for more than three decades. He says he aims to make the process "enjoyable, encouraging, and helpful for all applicants."



**Marshall Allen**



**T. Carter Hagan**



**John Irving**



**Margarita Montoto-Escalera**



**Elaine Hoffman Morris**

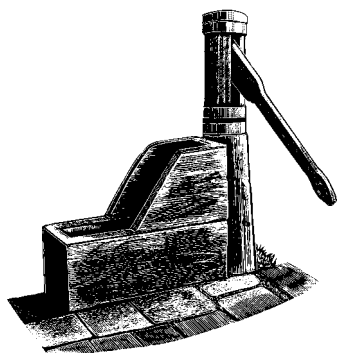


**Miguel M. Palos and Claudia Friederichs Palos**



**Milton Yasunaga**

# How to Beat the Heat



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

GO TO THE BOTTOM of the world and (almost) to the top. You'll be cool. Alan Nawoj, S.M. '04, a developer of mobile application software from Lexington, Massachusetts, was one of 92 punishers of the flesh from nine countries to endure temperatures around 22 degrees Fahrenheit while negotiating the icy course of the Antarctica Marathon on March 30. Nawoj, 33, who has a personal-best marathon time of 2:52:27, went on to win in 3:29:56. "It was certainly the most difficult marathon I've ever done," he reports, "and it was a true test of mental and physical fortitude." "He ran a great race under brutal conditions," said fellow competitor Richard Ehrlich, age 60, whose time was 5:27:57.

Nawoj aspires to complete a marathon on all seven continents. He has one to go, Africa, and will choose between either the run in Marrakesh or at Kilimanjaro.

In Antarctica with Nawoj was a friend, Myles G. Osborne, Ph.D. '08 (in African history), of Warsash, Southampton, U.K. The former Cabot House tutor, now at the University of Colorado, Boulder, finished the run in 5:33:10. He had a top-of-the-world adventure on Mount Everest in 2006. "It was 7 A.M. on the morning of May 26, and Osborne and his team had been climbing for over seven hours since the night before," the *Harvard Crimson* reported. "They were in their tenth week on Mount Everest, and it

was their third attempt at reaching the summit," 492 feet above. Then they saw a man at trailside sitting three feet from a 10,000-foot precipice and inching toward it. He later said he thought he was on a ship and wanted to get off. He was removing his protective clothing piece by piece. He had reached the summit the day before, but became delusional on the way down from lack of oxygen. His guides said they tried to get him down the mountain but finally left him for dead. Osborne and his team gave up the idea of summiting and instead saved Lincoln Hall, a 50-year-old Australian. "Mount Everest is just a big hill," said Osborne.



READ A BOOK of Harvard history. That's cool. Edward Tabor '69, M.D., of Bethesda, Maryland, reports: "I recently came across *Harvard Scholars in English, 1890-1990* (Harvard University Press, 1991, long out of print), edited by W. Jackson Bate et al. It is a collection of biographical sketches of 21 professors of English. In the late 1960s, I was an enthusiastic English concentrator, but I was surprised now to learn so much about the English department of those years. For instance, Professor Douglas Bush was known among the faculty for his extraordinary memory, and he had memorized the approximately 11,000 lines of Milton's *Paradise Lost* and recited them silently to himself to occupy his time on a train journey to Chicago. I was surprised to learn that Professor John M. Bullitt, the first master of Quincy House, had been one of the 268

Harvard sophomores enrolled in the Harvard Grant Study of normal development. Participants were anonymous, but Professor Bullitt revealed his role and told his colleagues, 'When they follow us out to our later years, they will get a shock.' At the peak of his own career, he resigned his mastership to join the Peace Corps for two years in Bolivia.

"While I was caught up in this nostalgia, I took a look at the English course offerings in the four course catalogs from my years at



**Nawoj crossing the finish line in Antarctica. Shortly thereafter, he got "very cold very quickly" and spent three hours recovering from hypothermia.**

Harvard. I had not known that I would still have these 44 years after I graduated. I had written notes in them while 'shopping' for classes—including a notation that a tutor in Winthrop House had said that Professor Bate's course, 'The Age of Johnson,' had 'the hardest exam I ever took at Harvard.' (I took the course anyway and have always been thankful that I did.)

"Today's Harvard students will not have the opportunity to browse through their own College course catalogs 40 or 50 years from now because the catalogs are now available only online." ~PRIMUS V

















## LIFE'S BEGINNINGS

(continued from page 33)

ways that synthetic biology—an emerging field that tries to redesign or construct biological parts and systems for useful purposes—can inform origins of life research.

“Is there a single biochemistry underlying any form of life anywhere, or are there alternatives?” Sassellov asks. “And if there are alternatives, do they depend on the initial conditions of the planetary environments, so one planet will have one, another planet will have another?” As scientists start to explore exoplanets, this question will become increasingly practical rather than theoretical.

### THE EVOLUTIONARY ENGINE

LIFE REQUIRES MORE than just getting the right molecules together—it’s an engine propelled by evolution. Martin Nowak, professor of mathematics and of biology and a member of the initiative, says that most biologists think of evolution as a process that takes place among *organisms* that reproduce;

evolution at the level of *molecules* is unfamiliar. But Nowak looks at the problem from a mathematical perspective; to him, evolution “is a well defined process that can be described as precise mathematical equations.” Accordingly, he believes that the same principles governing complex life forms must have been present at the simplest levels—otherwise scenarios for the origins of life depend on a collection of random events.

Nowak argues that evolution is the driver of life, not an added feature. His research on humans and other organisms has focused on cooperation, which he says is a fundamental aspect of evolution. By the same token, he adds, “I believe that coop-

**Jack Szostak, professor of chemistry and chemical biology and professor of genetics. Behind him is an illustration of a protocell, a vesicle containing fragments of RNA.**

eration among molecules is essential.” What he calls “prelife” was not a primordial soup of chemicals but an active, generative phenomenon in which mutation

and selection were already acting on molecules. Only when some of them began reproducing, out-competing the others, did life truly begin. Nowak hopes to carry this line of thinking forward with the initiative, bringing his theoretical perspective to the chemistry research already under way.

For Szostak, the question of when life began isn’t necessary to answer right now. “If we really want to understand the origin of life, what we want to understand is the process. It’s a whole pathway of steps,” he says. “Where do you draw the line between life and not-life? Well, different people might have different places where they like to draw the line. It doesn’t really matter—what matters is getting some insight into the overall process.”

Understanding that process might make the definition of life a little less mysterious. “We want to understand exactly what it takes,” says Sassellov, “not just say, ‘Something magic happens.’”

*Contributing editor Courtney Humphries is a freelance science writer in Boston.*



BACKGROUND IMAGE: COURTESY OF JACK SZOSTAK



**SELF-FASHIONING IN SOCIETY  
AND SOLITUDE** (continued from page 46)

generalizations accurate only for the men? What, after all, were the women doing in this society?

Virginia Woolf asks us to imagine that Shakespeare had a sister called Judith, as talented as he. And Woolf asks: what would have happened to Judith? Despite being “as adventurous, as imaginative, as agog to see the world” as Will, she was not sent to school, had no chance of reading Horace or Virgil, was scolded when she picked up her brother’s books on the sly. She was betrothed by her father at an early age to someone she hardly knew, beaten when she protested, and even though she loved her family, she ran away to London. But men laughed in her face. As a woman she could not get training or act any part in a play. Someone took pity on her and they became lovers. But she became pregnant and in despair, Woolf says, “she killed herself one winter’s night and lies buried at some crossroads where the omnibuses now stop outside the Elephant and Castle.”

You students today, male and female, are in the exceptionally fortunate position of being able to take all the eloquent advice you have heard, all the inspiring and thought-provoking books you have read, and act on what you have learned. In the past, only a few exceptionally privileged or exceptionally motivated men were able to follow their adventurous natures and travel widely around the world. Only they could have found the time and space to meditate about solitude or enjoy its fruits. The major exception to this generalization has always been members of religious orders, male and female, who could choose to retreat from society. But today, for each of you, these wonderful aspects of the human experience are open before you.

*Solitude in society*

**A** GAINST that background, I’ll offer a few more nuggets of advice to help you think about self-fashioning in society and solitude.

Many active men (and a few women) throughout history have specifically sought places where they could occasionally retreat to enjoy the felicities of solitude even as they also enjoyed the advantages of society and traveling. Montaigne, for example, lived a very active life, with family, friends, political positions, much travel; but he was exceptionally well aware of the importance of occasional solitude. His favorite place for writing and reflection was the tower library on his estate in southwestern France, to which he climbed by a series of narrow staircases reaching to the very top of his domain, with a view of the vineyards and grain fields, a ceiling carved with some of his favorite quotations, and lines of books and manuscripts around the shelves. If you visit his estate, you can still see

that library and understand what his life was like.

Inspired by that beloved space, in his eloquent essay “Of solitude” Montaigne used the arresting image of “a back shop all our own, entirely free.” He thought of his own mind as a kind of tower library to which he could retreat even when he was far from home; it was stocked with quotations from wise people and experimental thoughts and jokes and anecdotes, where he could keep company with himself. He suggested that we all have such back shops in our minds, and I would add that the most valuable and attractive people we know are those who have rich and fascinating intellectual furniture in those spaces rather than a void between their ears. And this is surely one of the most important purposes of a liberal education: it is an extraordinarily fine way to furnish the “back shop” of your mind. As a result, you will be a

much better conversationalist, so that others will seek out your company rather than regarding you as a simpleton or a bore. And you will also be better prepared to relish solitude, whether you choose it or it is imposed on you.

Let me close with a quote from Ralph Waldo Emerson’s essay on “Self-Reliance”: “It is easy to live in the world after the world’s opinion; it is easy in solitude to live after our own; but the great man is he who *in the midst of the crowd keeps with perfect sweetness the independence of solitude.*”

This is the image I want to leave you with: developing the ability to maintain “with perfect sweetness” the independence of solitude—the integrity and wholeness of the self—in the midst of the crowd. Your education should give you the capacity to shape and sustain your selfhood. It should both furnish richly the back shop of your mind, and prepare you to be a productive member of whatever society you live in. And at best, it should also give you the ability to retreat into yourself even in the midst of a busy life when you need to get your bearings, refresh your spirit, reaffirm your integrity, and confirm what is most important to your self. ▽



*Virginia Woolf*



# Battle-Scarred

*What life was like for those who did not die*



**A**mericans can't seem to get their Civil War out of their heads. It was bloodshed on home ground, and it was hugely bloody, with 620,000 killed in action or dead of wounds or disease. Last December, the Center for the History of Medicine held a program to mark the one-hundred-fiftieth anniversary of the war. Drew Faust, Lincoln professor of history and president of Harvard, spoke on "Civil War and the End of Life." Jeffrey Reznick, of the National Library of Medicine, spoke on "Disability and the Cultural History of Modern War." (A video may be seen at <https://cms.www.countway.harvard.edu/wp/?p=6531>.)

A current exhibition at the Countway Library of Medicine, *Battle-Scarred: Caring for the Sick and Wounded of the Civil War*, examines the American Civil War from a particular perspective, to commemorate those who died in battle and also document the experience of the wounded and the ill and the men and women who cared for them on the battlefield, in hospitals and prison camps, and on the home front. The exhibition was curated by Jack Eckert and Dominic Hall; an online version created by Jennifer Hornsby appears on the website above.

This lithographic bird's-eye view from the exhibition of the Satterlee U.S.A. General Hospital in West Philadelphia, done by

Charles Magnus in 1864, with the numerous hospital buildings surrounded by a village of tents, gives a notion of the scale of the medical and human problems faced.

All wars lead to advances in the treatment of trauma, and much was learned about amputations and artificial limbs from the Civil War carnage. Charles T. Greene, above, had his leg amputated at the knee after the lower part was carried away by a cannon ball. The photograph, by William Bell, circa 1864, was one of many examples of surgical cases and specimens published by the Surgeon General's office for the edification of the medical profession.

The many amputations

fostered an industry in artificial limbs. The Salem Leg Company had an early lead due to a recommendation by the government. But there was competition. Darwin DeForrest Douglass marketed an artificial leg that he claimed to be far superior to "those

cheap ephemeral substitutes known as 'government legs.'" But consider this testimonial for Salem legs from a soldier: "I work 10 hours every day, and have to stand all the time. Besides that, I walk to and from my meals three times a day, and that is about three miles. As to dancing, I have tried to three times; but as my leg had not been to school, I could not do it very well, but expect to before winter is over." ~ C.R.



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