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# HARVARD

## MAGAZINE



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On the cover: Evicted resident Jerry Allen (left) receives moving help from neighbor Tracy Wimmer. Photograph by Michael Kienitz

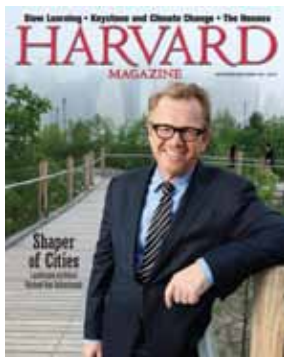
# Cambridge 02138

*Patience and learning, Edward Everett, House life*

## KEYSTONE PIPELINE

ALTHOUGH Michael McElroy's recent article, "Forum: The Keystone XL Pipeline" (November-December 2013, page 37) carefully addresses the pipeline issue, especially in terms of carbon dioxide and climate change, it neglects to adequately cover other issues related to the exploitation of this high-carbon, low net-energy resource.

Canadian tar sands, a mix of clay, sand, and sticky, heavy high-sulfur oil, sit below



34 million acres of pristine boreal forest, a natural community the size of New York State, an area which would be destroyed by mining for the oil. To extract one ton of tar sand, four tons of soil and the life it supports are removed; trees are clearcut, wetlands are drained, and rivers and streams are diverted. Net energy is low;

energy economists have estimated that it takes 0.7 barrels of oil to extract, upgrade, and produce just one barrel of oil. Fur-

## 7 WARE STREET

### The New Order

THE CONTENTS of this issue of *Harvard Magazine* appear in a slightly modified order. As always, your letters come first, followed by Right Now—short articles on engaging new discoveries and knowledge (Harvard's forte, as a research university).

But next you will find John Harvard's Journal, the extensive news section, moved forward. It seems logical to bring this content to the front of the magazine, where news items appear in most publications. As Montage—our coverage of creative and performing arts, criticism and reviews—has grown and prospered (it first appeared in the fall of 2006), its contents have increasingly come to involve work by alumni, and so fit naturally near the pages of alumni profiles and news, The College Pump, and (for College and Graduate School of Arts and Sciences readers), class notes. Its placement there brings together our diverse reporting on graduates, and mirrors the order of presentation found in many peer magazines.

We hope you find this organization of the contents, which are otherwise unchanged, logical and useful. They will appear in the same order in the mobile app,

for readers using tablets or smart phones, when it becomes available to you for test use in late January.

\* \* \*

FOR ALL the understandable current focus on applied sciences and engineering (a major emphasis of the capital campaign) and on Harvard's campuses in Cambridge and Boston, it is worthwhile, now and then, to recall the University's prowess in traditional fields like the humanities and arts, and its presence around the world. By chance, the November 21, 2013, *New York Review of Books* included sequential essays by a pair of distinguished alumni: the incomparable Walter Kaiser, Higginson professor of English and professor of comparative literature emeritus, former director of Villa I Tatti, reviewing a new biography of Bernard Berenson, who founded that invaluable center for Italian Renaissance studies, in Florence; and the Institute for Advanced Study's G. W. Bowersock, previously professor of Greek and Latin here, writing on Byzantium and citing the crucial strengths of Dumbarton Oaks, the University's center for Byzantine studies (and other subjects; see page 11), in Washington, D.C. Two extraordinary cultural assets indeed, among many stars in Harvard's firmament.

~JOHN S. ROSENBERG, *Editor*

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# Where Is Harvard?

**A** FEW YEARS AGO, a graduate student used that question to sum up one of her earliest experiences walking through campus. As she traveled up John F. Kennedy Street, undergraduates made their way from the River Houses to the Yard, passing in and out of Lamont and Widener while freshmen streamed to and from Annenberg Hall. Around them, people crisscrossed the lawns, passing one another to get to the Design School or the Divinity School or the Law School. Every corner was alive with activity, but there were no spaces shared by all members of the University. There was nowhere to point to when she asked, “Where is Harvard?”

Spaces matter. They create unique opportunities in the present and make the past rush back to us in vivid memory. As part of the Harvard Campaign, we will reaffirm the importance of learning and working side by side as we create a campus for the next century. Late last semester, I gathered with members of the Harvard community to celebrate groundbreakings for two common spaces that will enhance the campus experience not just for alumni, students, faculty, and staff, but also for neighbors and visitors.

The Richard A. and Susan F. Smith Campus Center, formerly known as the Holyoke Center, will become an important hub of activity at the heart of our campus. We will create spaces where people will read and study, forge and share ideas, host events and performances, make art and mount exhibits, as well as chat over meals and relax together. Some of the most exciting work being undertaken by students and faculty is interdisciplinary, arising from connections across boundaries. We must continue to generate the conditions for serendipitous encounters—the unexpected conversation that becomes a fruitful partnership or the passing observation that sparks a discovery or innovation.

Across the Charles River, we are transforming the intersection of North Harvard Street and Western Avenue—an area commonly known as Barry’s Corner—into an attractive and inviting destination. New residential and retail spaces will complement the five restaurants that have opened in the area since 2009. Harvard also will renovate and create spaces for recreation and athletics, and improve the public realm with a grove, parks, and pathways. The revitalized common spaces will create a beautiful green gateway to the University, heralding changes in Allston that will shape our future.

Bricks and mortar connect us to one another and to our extraordinary predecessors, stirring in us the hope of making a lasting mark on the world. Witnessing the College’s 200<sup>th</sup> anniversary celebration, Emerson wrote of a “long winding train [reaching] back into eternity,” an observation etched in stone at Meyer Gate. Across the street in Radcliffe’s lecture halls, Helen Keller had lessons spelled into her hand. In Massachusetts Hall, John Adams jotted down the day’s weather in his diary, and George Washington quartered his



troops. Carl Sandburg, George Marshall, Benazir Bhutto, and J.K. Rowling have all looked out over a crowded Tercentenary Theatre and walked the same grounds as the unknowable John Harvard and the ebullient Seamus Heaney.

In 1901, Henry Lee Higginson reflected on the significance of the newly built Harvard Union. “This house,” he explained, “is a mere shell, a body into which you, Harvard students, and you alone can breathe life and then by a constant and generous use of it, educate yourselves and each other.” The Harvard Campaign will help to provide hundreds of thousands of square feet of new space for our “constant and generous use” as we come together from across the University and on both sides of the Charles River to educate one another and share our discoveries with the wider world.

Sincerely,

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

thermore, the water-intensive processing of the tar sands creates toxic sludge and causes huge releases of other pollutants threatening our water and air, including inordinate amounts of carbon dioxide, thus furthering climate change.

Let's work with nature and appreciate ecosystem services, those which give us our clean air and water and are estimated to contribute \$33 trillion annually, and let's focus our efforts on obtaining energy from the sun and other renewables, thereby keeping us and our natural world and future generations more in mind.

PETER K. McLEAN, Ph.D.  
Middletown, Del.

Wow. So now the energy industry owns Harvard. What planet do you expect to live on after the tar sands oil has contaminated this one?

I am ashamed of you.

LANA RUEGAMER EISENBERG, A.B.E. '65  
Bloomington, Ind.

PRESIDENT OBAMA has declared that approval of the Keystone XL (KXL) pipeline is premised on "that so doing would be in the nation's interest. And our national interest will be served only if the project does not significantly exacerbate the problem of carbon pollution." In support of the president's position, the article concludes that "the incremental pipe-line emissions would represent an increase of 0.06 percent to 0.3 percent in total greenhouse gas emissions for the U.S.—significant, though scarcely game-changing."

The increment in greenhouse gas (GHG) emissions from mining the Canadian bitumen/tar sands is not as small as the article implies. The author relies on the well-to-wheel assessment of the net emissions of GHG, a method of evaluation favored by the oil/gas industry. A more accurate representation of GHG emissions would use the well-to-tank evaluation, resulting in a considerably higher assessment.

Further undercutting the oil/gas industry's figures is that the contribution to GHG from the inevitable destruction of large areas of the Canadian boreal forest and wetlands that overlay the bitumen/tar sands is not mentioned, even though the destruction of thousands of living trees would transform that area from a GHG sink into a GHG emitter.

Presidential approval of the pipeline

could be critical in determining to what extent oil extraction occurs—despite the proponents assuring the public that disapproval would have no effect on the rate of extraction because the oil would be transported cross-border via rail. But rail-line is a far less reliable means for oil to reach its destination than via pipeline. Between May 21 and October 19 there were six derailments of Canadian oil-carrying trains out of a total of 13 derailments. There must be a reason for TransCanada's intensive lobbying for the new 36-inch pipeline component linking Hardisty, Alberta, to Steele City, Nebraska. It is shocking that this projected pipeline would traverse the most productive area of the Ogallala aquifer.

Given the well-documented threat of irreversible global warming, it is irresponsible to argue that small increments in GHG emissions are acceptable. The U.S. should be the leader among industrialized nations in decreasing our planet's carbon footprint, rather than acceding to any increase contributing to the fatal 2°C temperature rise.

In final analysis, however, whatever the president and the Department of State decide may be moot. A bipartisan House of Representatives proposal would fast-track approval of cross-border oil links applications by shifting approval from the State Department to the Commerce Department. That would trigger a flood of GHG emissions from bitumen/tar sands crude oil from Canada into the U.S., contributing to temperature rise, and hastening "game over" for life as we know it on this planet.

MARIAN HEINEMAN ROSE, Ph.D. '47  
Bedford, N.Y.

ADVOCATING for the Keystone Pipeline, Michael B. McElroy manages to avoid any discussion whatsoever of how it will impact wildlife and wildlife habitat. At the least, such an astonishing omission makes his analysis incomplete and his conclusion suspect.

JOHN R. NELSON '68  
Gloucester, Mass.

AFTER MAKING a creditable case for President Obama to deny approval of the Keystone XL Pipeline, Michael McElroy disappointingly comes to the opposite conclusion. There are, however, several additions to the denial column that should be considered.

McElroy states more than once that in terms of climate impact "it makes little difference where the oil is consumed." But

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*Photo: Kevin Wood, who conducts research in molecular and cellular biology, is the author of a paper that lays out a new way to design multidrug therapies for everything from bacterial infections to cancer.*



the national-security aspect of allowing the pipeline to be built concerns decreasing the U.S. dependence on non-North American sources of oil. Bringing tar-sands oil to the Gulf is no guarantee that it will remain onshore. In fact, Canadian energy minister Ken Hughes said recently, “[F]or Alberta, the strategic imperative is that we get our [petroleum] products to the ocean, so that we secure global prices for our products....The solutions are additional pipelines to the West Coast, to the East Coast, [and] to the Gulf Coast.”

The Ogallala Aquifer, which lies in the path of the Keystone XL Pipeline, also deserves consideration. One of the world’s

largest aquifers, it runs under eight states in the Great Plains and provides much of the drinking and irrigation water to those states. An oil spill in this area could devastate this vital and irreplaceable resource.

First Nations people on both sides of the Canada/U.S. border are vigorously fighting the pipeline. They are trying to protect their sovereign lands from this unwanted incursion, having already experienced the consequences of the tar-sands oil extraction. Native peoples in these areas have elevated rates of cancer and other diseases as a consequence of tar-sands-related pollution of water, air and soil. They realize that a huge pipeline to the Gulf would increase worldwide demand, which would increase extraction and thus increase environmental degradation.

Canada’s boreal forest, currently the largest intact forest on earth and home to innumerable species of plants and animals, is being clear-cut for tar sands extraction. The Mordor-like expanses dotted with toxic pools of sludge created by this process, while heartbreaking, are also extraordinarily short-sighted. These forests, like the Am-

azon in the southern hemisphere, are both vegetative lungs and carbon sinks, something desperately needed in our attempts to mitigate the effects of climate change.

Finally, while McElroy quotes preeminent climate scientist James Hansen in his first paragraph, he does not use Hansen’s most telling quote about the tar-sands exploitation: “If Canada proceeds, and we do nothing, it will be game over for the climate.”

Vote no, Mr. President, the world is watching.

CAROL SOTO  
San Francisco

McELROY presented a fair and logical article with statistics on the Keystone XL Pipeline, in contrast to the general media. My general question, however, for all those fighting against the pipeline, is: What right do we have as Americans to tell citizens of a foreign country, Canada, what they can and can not do with their tar sands? It is their business, not ours. If we don’t buy it, China will.

ROBERT B. YOUNKER, M.B.A. ’61  
Rockville, Md.

#### SPEAK UP, PLEASE

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

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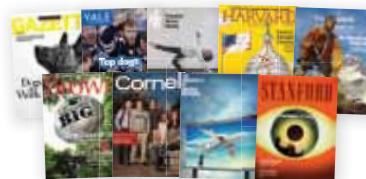
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## THE POWER OF PATIENCE

THANK YOU for publishing the insightful article, “The Power of Patience,” by Jennifer L. Roberts (November-December 2013, page 40). As a minister I regularly notice how bad most of us are at aging and dying, which is the one part of life we all have in common (regardless of occupation, race, income level, age, gender, or graduation year).

I regularly look to the humanities for a deeper understanding of how to be a better human and world citizen. Yet even with my very oldest members, some raised in homes without indoor plumbing and in the days of “party” telephone lines, observations about one’s own aging and dying process are woefully absent. Regardless of the year of our birth, it seems to be in our human nature to rush away from our spiritual, mental, physical, and emotional experiences.

Eleven months is a long time to wait for feedback, but even today this is a realistic timeline. “Delays can themselves be productive.” The body and mind shift over long periods of time. Are we paying attention? Do we note when our memory

## In Your Service

**We salute** two outstanding contributors to *Harvard Magazine* for their work on readers’ behalf during 2013, and happily confer on each a \$1,000 honorarium.

Art historian Jennifer L. Roberts—Agassiz professor of the humanities and chair of the committee on degrees in American studies—sparked wide discussion with “The Power of Patience” (November-December, page 40), her probing essay on teaching students to decelerate and to immerse themselves in their subjects in pursuit of deep learning. It is fitting that we recognize her work with the Smith-Weld Prize (in memory of A. Calvert Smith ’14, a former secretary to the Governing Boards and executive assistant to President James Bryant Conant, and of Philip S. Weld ’36,



Jennifer L. Roberts

a former president of the magazine), which honors thought-provoking writing about Harvard.

Nathan Heller ’06, a past *Harvard Magazine* Ledecky Undergraduate Fellow, now a staff writer for *The New Yorker*, crafted a richly reported and wonderfully composed feature on Porter University Professor Helen Vendler’s long collaboration with Arion Press, one of the country’s most distinguished fine-book publishers, in “A Nearly Perfect Book” (September-October, page 34)—the latest of his many excellent articles in these pages. We take special pleasure in awarding him the McCord Writing Prize, named for David T.W. McCord ’21, A.M. ’22, L.H.D. ’56, in recognition of his legendary prose and verse composed for these pages and for the Harvard College Fund.

We warmly thank both. ~The Editors



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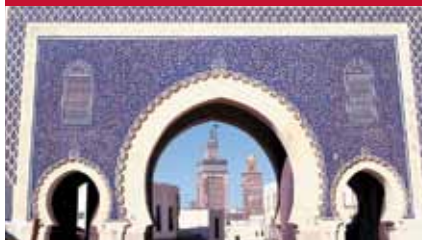


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## LETTERS

changes, fatigue increases, energy accelerates, spirit moves? Contemporary life might control us with its tempo, but only if we choose to let it. We can text up to the moment of our death, but in doing so, we can also render ourselves oblivious to the meaning and experience of the one precious life that each of us carries.

I suspect that if we all ruminated on being “too liney,” we would lead deeper, richer lives that result in more peaceful deaths.

REVEREND SHARON K. DITTMAR, M.Div. '97  
*Cincinnati*

BREVITY AND CONCISION dominate the pace of modern life. Jennifer Robert's timely plea for immersion and slowed awareness in deepening learning aims to wind back the tidal wave of the “frenetic motion of the mind” (my phrase) that has become the norm in today's college students. The distracting allure of hastily skimmed over data channeled through the portable lit screen militates against deep and meaningful engagement.

What is more worrying is that the habit of superficial grazing and casting a wide net on Google has been shown to permanently imprint itself upon the neurocircuitry of formative brains. Learning styles that favor putting down deep roots are being selected out by societal and technological pressures. The burgeoning trend for authoring abbreviated cultural commentary tailored to suit the modern distractible sensibility could reflect this seismic shift. Imagine trying to distill the epic historicity of *War and Peace* into tens of easily digestible pages, or faithfully rendering the essence of all Shakespeare's plays in an evening's sitting. Rather than being exhausted taking numerous promiscuous bites from the whole of our burgeoning cultural menu, we'd do better to select the few offerings that still allow thoughtful assessment in the midst of leisurely contemplation. Fast culture, like fast food, promises a quick fix but is unlikely to make a lasting impression.

DR. JOSEPH TING  
*Brisbane, Australia*

### LANDSCAPE ARCHITECTS, UNITE!

ARRRGGGHHH! I am getting too old to fight this fight but here goes. I was heartened to open my mailbox to Michael Van Valkenburgh on the cover of *Harvard Magazine* (November-December 2013, and page 32).

My mature restraint is exhibited when I

**HM** Many correspondents weighed in on the



Keystone XL pipeline, among other issues. Read additional letters at <http://harvard-mag.com/letters-14>.

hold back from trotting out all the reasons why “The Urban Landscaper” was an unfortunate title. Geez, landscape architects everywhere are thrilled that Van Valkenburgh heads the multi-discipline team to redesign the arch grounds here in St. Louis.

If you only knew how diminished we all feel when referred to as “landscapers.” Now that I've gotten this off my chest, I might even read your article.

D. ANNE LEWIS, M.L.A. '82  
*St. Louis*

*Editor's note:* We take the point. But a magazine headline is not a title in a professional journal. The cover reads, “Landscape architect Michael Van Valkenburgh.”

### EVERETT AS “COTTON WHIG”

THE AUTHOR of the piece on Edward Everett (Vita, November-December 2013, page 44) lets his subject off too easy by referring to him as a “pragmatic Whig.” Everett was, in fact, a so-called Cotton Whig, a derisive term applied to members of that party who cared little about the “turbulent issue” of the extension of slavery and who were said to represent an alliance of “the lords of the loom” with “the lords of the lash.”

The eminent Civil War historian James McPherson, in his great book *Battle Cry of Freedom*, points out that the Constitutional Union Party, on whose ticket Everett ran for vice president in the 1860 presidential election, was created for the sole purpose of denying the presidency to Abraham Lincoln. McPherson wrote that “the Constitutional Unionists did not expect to win the election.” “The best they could hope for,” he wrote, “was to carry several upper-South states and weaken Lincoln sufficiently in the lower north to deny him an electoral majority.” Then, according to McPherson, the House of Representatives might elect John (please turn to page 79)



# Right Now

The expanding Harvard universe

## VIRGIL REVITALIZED

### A Poet's March of Ages

**I**N AN ERA of Twitter and data and apps, what place is there for a 1,600-page encyclopedia devoted to a long-dead Roman poet? Lane professor of the classics Richard Thomas and Porter professor of medieval Latin Jan Ziolkowski, who directs the Harvard-affiliated Dumbarton Oaks Research Library and Collection in Washington, D.C., make the case that this is the perfect moment for the first comprehensive Virgilian reference work published in English—their three-volume *Virgil Encyclopedia* (Wiley-Blackwell).

Considered the greatest poet of ancient Rome, Virgil (70–19 B.C.E.) lived through the fall of the Roman republic and the beginnings of the empire, a period that included civil wars, the assassination of Julius Caesar, and the rise of Augustus. His works include the pastoral *Eclogues* as well as the *Georgics*, a series of poems ostensibly about farming, but he's best known for the *Aeneid*, an epic that memorializes the founding of Rome.

"Virgil was at the center of the curriculum in the West for almost two millennia," says Thomas. "His poetry was

read, studied, and absorbed in their youth by the greatest poets, philosophers, painters, sculptors, and composers, from his own lifetime to the end of the nineteenth century and beyond." Not only did Dante choose Virgil as his guide through the Inferno; the Roman poet's influences appear in operas by Berlioz, paintings by Rubens, the sculpture of Bernini, poems by Frost and Heaney, the songs of the British pop

singer Dido, and even in David Mitchell's 2004 novel *The Cloud Atlas*. The *Aeneid* also became a kind of rallying cry for leaders attempting to reestablish empire, including Charlemagne, the Habsburgs, and Mussolini. "The *Aeneid* is coopted and used as propaganda," Thomas says, "but in ways that Virgil didn't anticipate."

He and Ziolkowski say they wanted to make the encyclopedia useful to readers from scholars to high-school Latin teachers. Prior to their work, the most recent comprehensive reference source for Virgil was written in Italian, and its first volume appeared nearly 30 years ago. Changes in the field—including an increased empha-



**Aeneas, future founder of Rome, rouses the sympathies of Dido, queen of Carthage, with the tale of the destruction of his home city, Troy.**

sis on *reception*, how readers respond to and reinterpret a text at different points in history—made a new encyclopedia overdue. A digital version will, the editors hope, make periodic updates possible. But they also see the printed volumes as important. “I think, particularly with canonical authors like Dante or Shakespeare or Virgil,” Ziolkowski says, “people find great solace in the idea of sitting down and actually holding the whole text in their hands and engaging with it.”

That text includes 2,200 entries written across nearly a decade by more than 350 scholars. Of the experts invited to take part, a surprising number responded with enthusiasm, “without trying to demur and wriggle out of it,” Ziolkowski reports. “Many of them feel almost a sense of personal gratitude to Virgil for having opened doors to them as literary critics, for having

led to events or travels, or encounters with other people that they value.” The editors are no different. Growing up in New Zealand, Thomas had a childhood friend whose father and uncle were beekeepers, and the boys often watched them collect honey. When that friend died in college, Thomas found comfort in Virgil’s verses about the “tiny and fragile world” of bees. Ziolkowski vividly remembers “the mixture of fear and pleasure” he felt as a teenager reading Virgil with a no-nonsense Latin teacher, and notes that his father, Theodore Ziolkowski, who wrote *Virgil and the Moderns*, shaped his own thinking about the poet.

The entries cover a vast array of subjects: Aeneas’s doomed lover, Dido; Wilfred Owen, the British World War I poet who took cues from the *Aeneid*; the presence of Virgil in music. An entry by Michael Sullivan, Ph.D. ’07, a classical philolo-

gist and research associate at Dumbarton Oaks, explores the debate about inscribing a verse from Virgil on the 9/11 monument, and the entries written by Thomas include one on the singer-songwriter Bob Dylan. The editors say there are topics to interest every reader; Ziolkowski compares the encyclopedia to “enabling people to walk down this wonderful corridor in a marvelous museum and to look through the doorways into rooms that are filled with beautiful paintings or objects. We can give them the excitement and the information they need,” so that someday “they might want to come back to those rooms and spend more time.” ~ERIN O’DONNELL

RICHARD THOMAS WEBSITE:

<http://scholar.harvard.edu/rthomas>

JAN ZIOLKOWSKI E-MAIL:

[jmziolk@fas.harvard.edu](mailto:jmziolk@fas.harvard.edu)

#### A TAXING LIABILITY

## The Fix in Fossil Fuels

**T**HE UNITED STATES is wasting more than \$4 billion a year by giving oil and gas companies tax breaks that do not benefit consumers or the economy, says Joseph Aldy, assistant professor of public policy at the Kennedy School of Government and a for-

mer special assistant to the president for energy and environment. This special treatment for the fossil-fuel industry, he points out, adds to the national debt and maintains the country’s dependence on a finite natural resource that produces greenhouse gases.

Some of the tax benefits now in force

date back nearly a century, to a time, he notes, when oil drilling was considered a “very risky economic activity” that deserved federal support. But improved drilling technologies and the global nature of the ever-growing market for liquid fuels have radically changed that original calculus, Aldy writes in a paper funded by the Hamilton Project, a Brookings Institution initiative that sponsors policy proposals intended to “create a growing economy that benefits more Americans.”

Eliminating the tax breaks could slash the U.S. deficit by as much as \$41 billion in the next decade, Aldy asserts—without materially increasing retail fuel prices, reducing employment, or weakening the nation’s energy security. “The vast majority of the provisions in the tax code that I call for eliminating effectively lower the cost of investing in a new oil field, gas field, or coal mine,” Aldy says; thus, they make such investments more appealing than investment in a new factory, for example. This, he says, distorts how people make investment decisions, resulting in more capital and taxpayer monies going into oil and gas production. These tax breaks do not, however, have a material impact on U.S. energy production. (He cites a 2009 study, done for the nonprofit organization Resources for the Future, that indicates

**First discovered in the 1880s, the Midway-Sunset oil field near Taft, California, remains in production today.**





removal of these tax breaks would reduce U.S. oil production by about 26,000 barrels per day, or less than one-third of 1 percent of current U.S. production.) In contrast, he points out, some now-expired tax provisions, such as the “unconventional gas tax credit,” did provide incentive for firms to test novel technologies on a commercial scale and helped promote the development of shale gas fracking.

Although Aldy would eliminate 12 specific tax provisions that benefit oil and gas companies doing business in the United States, he writes that eliminating just three provisions in particular—expensing intangible drilling costs, the section 199 domestic-manufacturing tax deduction for oil and gas, and percentage depletion for oil and gas wells—would yield 89 percent of the potential economic benefits that his study projects. That would not only level the playing field between fossil- and alternative-fuel companies, but also enable the U.S. government to make the case that large developing countries like India and China might also benefit by phasing out their fossil-fuel consump-

## The Top Three Tax Breaks That Subsidize Fossil Fuel



For a list of the 12 tax subsidies that Joseph Aldy would eliminate, see [harvard-magazine.com/2014/01/taxbreaks](http://harvard-magazine.com/2014/01/taxbreaks). Ending them all, he says, would reduce the U.S. deficit by \$41 billion in 10 years.

Tax Provision	Lost tax revenue over 10 years*
1. Expensing intangible drilling costs	\$13.9
2. Domestic manufacturing tax deduction for oil and gas	\$11.6
3. Percentage depletion for oil and gas wells	\$11.5

\* in \$ billions (estimated)  
Source: OMB (2012)

tion subsidies. At the 2009 G-20 summit in Pittsburgh, he notes, world leaders recognized that fossil fuels were being subsidized globally to an extreme extent (about half a trillion dollars) and called for the practice to end. Eliminating consumption subsidies in developing countries would reduce global oil demand (and the associated carbon pollution) by about 5 percent, Aldy says, and thus lower the price of crude oil worldwide. Critics have claimed that getting rid of the tax provisions will cost jobs, reduce U.S. energy security, and

hurt small businesses, but he says that is not what economic history shows.

“If you just look at the track record of these subsidies in the U.S. tax code and what’s happened to U.S. production over the last 40 years...[there is] basically no correlation,” he reports. “The problem is that the current tax breaks do not target new technologies, nor do they target pollution-reducing technologies. The current tax breaks are indiscriminate and apply even now, when oil prices have been at their highest all-time levels over the past

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**Claudine Gay, professor of government and of African and African American studies, uses big data in her study of American political behavior at the Institute for Quantitative Social Science.**

PHOTO: RICHARD PASLEY

five years. They enrich firms that would have drilled wells anyway. In fact, the impact on U.S. production is negligible.”

If the subsidies were eliminated everywhere, global oil consumption could fall by more than four million barrels per day—benefiting consumer nations, including the United States. In addition,

global carbon dioxide emissions contributing to climate change could fall about 7 percent by 2020 and about 10 percent (more than five billion tons of carbon dioxide per year) by 2050. “If the U.S. could actually deliver on what the president committed to in 2009, and...get rid of these production subsidies,” he says, “it has the

potential to leverage a lot of change and behavior in other countries.”—LAURA LEVIS

JOSEPH ALDY E-MAIL ADDRESS:

**joseph\_aldy@hks.harvard.edu**

JOSEPH ALDY WEBSITE:

**[http://belfercenter.ksg.harvard.edu/experts/1014/joseph\\_e\\_aldy.html](http://belfercenter.ksg.harvard.edu/experts/1014/joseph_e_aldy.html)**

KICK, IN THE PANTS

## Wearable Robots

“ROBOT” SUGGESTS constructions of synthetics and steel, from enormous machines on factory floors to the Roombas that vacuum floors at home. But assistant professor of mechanical and biomedical engineering Conor Walsh has a different kind of robot in development. Walsh, a core faculty member at the Wyss Institute for Biologically Inspired Engineering, is creating soft robots designed to aid human movement; they are light, efficient, and built into the fabric of clothes.

In one project, funded by the Defense Advanced Research Projects Agency,

Walsh’s group and collaborators are designing a robotic exosuit to improve the endurance of soldiers, who routinely carry heavy packs. The invention may also help patients with motor impairments, who often have difficulty walking. The idea of a wearable robot is not itself new, but previous versions were known as “exoskeletons,” because they typically used rigid outer frames for support. That design, Walsh notes, can compromise the very purpose of the suits: their restrictive machinery and large battery packs only add to the load.

His lab is instead building minimalist,

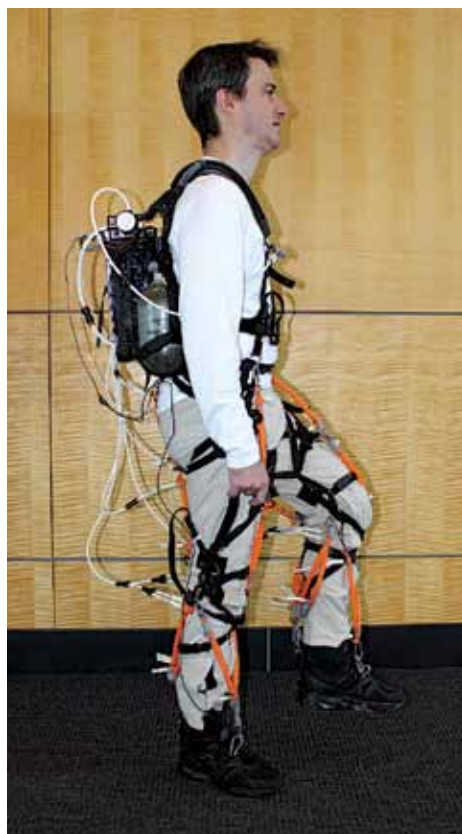


**A soft robotic glove intended for hand rehabilitation therapy uses fluid-powered elastic tubes to mimic finger movements.**

flexible robots that make use of the body’s natural, pendulum-like mechanics during walking—an approach, he says, that allows the robots to operate more efficiently. “Say you have someone on a swing, and you want it to move back and forth,” he explains. “If you grab the swing and physically keep it moving through its trajectory, you’ll have to expend a lot of energy. But if you start a person swinging, then you just have to give a little tap at the right time, and the swing will keep moving.”

The lab has produced an adjustable suit made of nylon, polyester, and spandex that is strapped snugly around the user’s hips and thighs and connects to boots at the heel. When the wearer walks, sensors embedded in the insoles send a signal that is relayed up the body to an actuator box, which can be clipped onto a backpack or waist belt. A computer processor tracking the user’s gait tugs (using motors and pulleys) on cables strapped at the hips and ankles to provide well-timed bursts of power, thus reducing the energy needed for walking. “We’re not trying to make sure that we carefully move the leg to a precise position,” Walsh says. “Rather, we just want to give a little kick or burst at the right time.” The exosuit currently runs on ap-

**Conor Walsh’s lab is designing a robotic “exosuit” to aid human movement; soft and lightweight, it can be worn under clothes.**



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THE CAPACITY TO  
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OF DISCOVERY AND  
A PREMIER SOURCE OF  
IDEAS, ADVANCING  
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AND RESEARCH, AND  
LEADING CHANGE IN  
THE WORLD.”

—DEAN MICHAEL D. SMITH



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Visit [www.harvardmag.com/extras](http://www.harvardmag.com/extras) to see a video of wearable robots.

proximately 50 watts of continuous power and can operate for four hours; its components—suit, actuator, and battery—weigh six kilograms (about 13 pounds) altogether, nearly all carried around the waist.

In another application of soft robotics, Walsh's team is also designing a fluid-powered glove for hand rehabilitation. Rather than use pulleys and cables, as in the exosuit, the researchers designed silicon-based inflatable tubes to mimic the motion of fingers. By wrapping the hollow elastic in thin fibers, they could control how the material stretched and curved when air or water was pumped into the tubes. That way, the material itself assumes the correct shape when pressurized, eliminating the need for complex mechanisms and control systems to recapitulate hand movements. "One of the advantages of these types of soft robots," says Walsh, "is that you can design complexity into the structure to simplify the control requirements." He imagines that the robotic

glove could supplement physical-therapy exercises, aiding patients who have difficulties with motor control.

So far, the soft robots have been tested extensively on healthy people, and Walsh's group is now beginning work with clinical partners to determine whether the glove and exosuit can help patients with disabilities. In the meantime, the team continues to refine its inventions. One major goal is improving the exosuit's ability to monitor the wearer's gait and accurately time its responses by embedding sensors along the length of the leg, rather than in the boot alone. The lab is also testing how the exosuit responds when the user travels over rough terrain, or walks at varying speeds.

For Walsh, the "soft robot" concept itself has been a major success. "To be able to show that we can actually make systems that can be functional, yet soft, is super interesting," he says. "It opens lots of fundamental research questions that span materials science, robotics, and biomechanics."

~KATHERINE XUE

CONOR WALSH E-MAIL:

[walsh@seas.harvard.edu](mailto:walsh@seas.harvard.edu)

CONOR WALSH WEBSITE:

[www.seas.harvard.edu/directory/walsh](http://www.seas.harvard.edu/directory/walsh)

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# New England

## REGIONAL SECTION



## Extracurriculars

### LECTURES

#### Mahindra Humanities Center

<http://mahindrahumanities.fas.harvard.edu/content/norton-lectures>  
Sanders Theatre

- February 3, 12, and 27, at 4 P.M.

The 2014 Norton Lectures present “The Ethics of Jazz,” by Herbie Hancock. (For details, tickets, and additional future lecture dates, visit the website above.)

#### Radcliffe Institute for Advanced Study

[www.radcliffe.edu](http://www.radcliffe.edu); 617-496-8600  
Knafel Center, 10 Garden Street

- February 6, at 4 P.M.

*New York Times* architecture critic Michael Kimmelman discusses the rise of urban populations, revolts, and “The Politics of Public Space.”

### NATURE AND SCIENCE

#### The Arnold Arboretum

[www.arboretum.harvard.edu](http://www.arboretum.harvard.edu); 617-524-1718

- Opening February 8

*Peters Hill 360: Photographs* by Meri Bond explores how changes in light influence nature throughout the seasons.

#### The Harvard-Smithsonian Center for Astrophysics

[www.cfa.harvard.edu/events/mon.html](http://www.cfa.harvard.edu/events/mon.html)  
617-495-7461; 60 Garden Street

- February 20, at 7:30 P.M.

“The Universe From Beginning to End” celebrates the fiftieth anniversary of the “Big Bang” afterglow. Guest speakers include Nobel Prize-winner Robert Wilson, who explains “The Discovery of the Cosmic Microwave Background.”

### THEATER

#### American Repertory Theater

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

617-547-8300

#### Loeb Drama Center

64 Brattle Street

- Through January 19

*The Heart of Robin Hood.* A new version of the classic tale in which the merry band of thieves steal from the rich but won't share a penny with the poor.

- Through January 5

*The Light Princess.* Based on the story by George MacDonald, the play highlights the all-important role of gravity.

### DANCE

<http://ofa.fas.harvard.edu/dance>

617-495-8683

Harvard Dance Center, 60 Garden Street

- February 7, at 7 P.M.

The Boston Ballet performs excerpts from its spring season.

### FILM

#### The Harvard Film Archive

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

617-495-4700

- January 10-26

*The Complete Andrei Tarkovsky.* Screenings include the Russian director's *Solaris*, *Stalker*, and *The Mirror*.

### MUSIC

#### Sanders Theatre

<http://ofa.fas.harvard.edu/boxoffice>

617-496-2222

- January 26, at 3 P.M.

Pianist Robert Levin performs Piano Sonata No. 2, by John Harbison, and “*Träume*” (“Dreams”), by Hans Peter Türk, among other works.

- February 1, at 8 P.M.

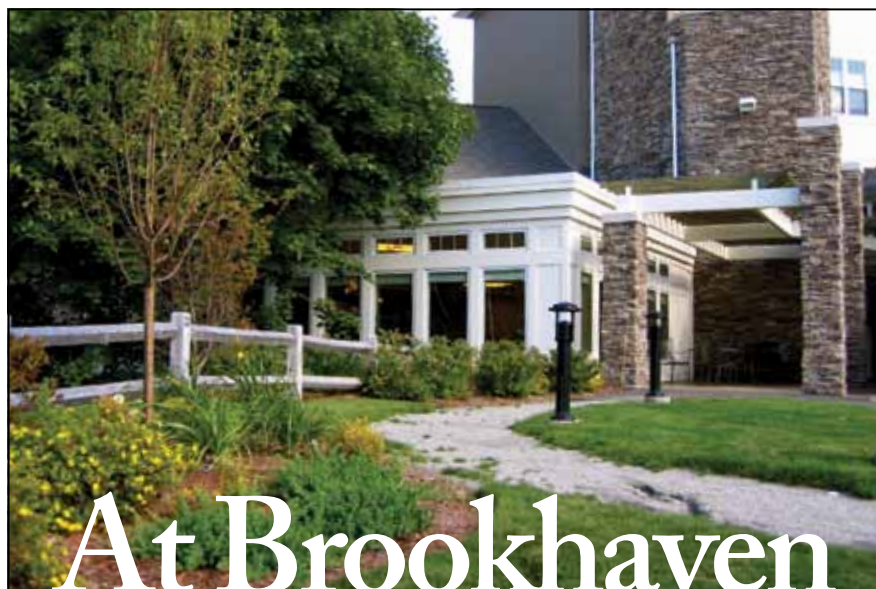
The Greater Boston High School Choral Festival features guest choirs and the *Harvard-Radcliffe Collegium Musicum*.

- February 28, at 8 P.M.

Left to right: A wintry scene by Meri Bond, at the Arnold Arboretum; detail from “The Roof Is on Fire,” 1994, by Suzanne Lacey, at Carpenter Center; “Border Monument No. 227,” 2009, by David Taylor, at the David Rockefeller Center for Latin American Studies

FROM LEFT TO RIGHT: MERI BOND/ARNOLD ARBORETUM; SUZANNE LACEY/THE HARVARD CARPENTER CENTER; DAVID TAYLOR/COURTESY OF JAMES KELLY CONTEMPORARY AND HARVARD ART MUSEUMS





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## NEW ENGLAND REGIONAL SECTION

The Junior Parents Weekend Concert with the *Radcliffe Choral Society* and *Harvard Glee Club*.

## EXHIBITIONS & EVENTS

### Carpenter Center for the Visual Arts

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

- Opening February 7 (with reception on February 6, 5:30-7:30 P.M.)

**Living as Form (The Nomadic Version)** examines the daily interactions between art and human culture, and includes new works by artists in Cambridge, Boston, and Providence.

### Harvard Art Museums

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

617-495-9400/9422.

The museum buildings are closed for renovation until the fall of 2014, but some special events are being held elsewhere. For details and registration, call 617-495-4544.

- Opening February 26

At the David Rockefeller Center for Latin American Studies, 1730 Cambridge Street **David Taylor: Working the Line.** The artist's multiyear project documents monuments along the U.S.-Mexican border, testaments to the impact of security forces, wall and fence construction, and the smuggling of drugs and humans.

### The Semitic Museum

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

617-495-4631

- February 4, at 6 P.M.

**The Sun Temple of Nefertiti: Sex and Death,** a lecture by Harvard Divinity School visiting assistant professor Jacquelyn Williamson.

### Peabody Museum of Archaeology and Ethnology

[www.peabody.harvard.edu](http://www.peabody.harvard.edu); 617-496-1027

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

### Harvard Museum of Natural History

[www.hmnh.harvard.edu](http://www.hmnh.harvard.edu); 617-495-3045

- Continuing: **Thoreau's Maine Woods: A Journey in Photographs** with Scot Miller commemorates the sesquicentennial of the naturalist's influential book.

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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**Cambridge...**Newly renovated 3-bedroom, 2.5-bath duplex condominium with parking in East Cambridge. Visit 21Sciarappa.com. \$750,000

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Andrew L. Cabot

## “Long, slow, and cool”

**Andrew L. Cabot, Ed.M. '09**  
Ipswich, Massachusetts  
Privateer Rum

**W**AY BEFORE teenagers mixed it with Coke, rum was the drink of choice in Colonial America. Families drank it and George Washington served the libation at his 1789 inauguration. By that date, millions of gallons of molasses from the Caribbean were being shipped to New England's harbors, mainly to be converted into alcohol at more than 100 major distilleries. Rum was also a daily ration, imbibed as grog, for

the British Navy, and played a more ignoble role as a form of currency in the slave trade.

Despite this long history, “rum is rarely considered a top-shelf spirit,” says Andrew Cabot, whose new company plans to change that. Privateer's two rums, silver (from sugar cane) and amber (from molasses), are made in a 6,600-square-foot distillery that looks like an airplane hangar on a rural dead-end road north of Boston. “We have the perfect maritime climate here that allows for a long, slow, and cool fermentation,” Cabot explains. “That climate, and subsequently the natural breathing cycle, is consistent with the making of a fine whiskey or Scotch.” Unlike many commercial rum producers,

his firm uses no additives—such as flavorings, coloring, sweeteners, or glycerol (which eases alcohol's firewater quotient)—and lets time take a toll.

The silver rum rests for four to six weeks in vats. The amber rum spends 18 months in 53-gallon oak barrels, from which periodic samples are taken in the first step of a painstakingly precise blending process (which the industry calls “batching”) and then is rebarreled, to let emerging flavors meet and marry. Batches are numbered and catalogued using tasting notes that are available on Privateer's website (<http://privateerrum.com>).

“We are about purity and transparency,” says the energetic Cabot.

With a background in marketing and managing computer software (most recently as president and CEO of Content Objects Inc. in Cambridge), he runs Privateer like a laboratory or classroom: “If your aspiration is to get better every day, then there is no area in which you won't experiment.” The results have been lauded, most notably in four-star ratings last March from the distilled-spirit expert F. Paul Pacult, founder of the *The Spirit Journal*. Privateer also develops its own followers. “I love the ones who call and ask me, ‘When are you going to use part of barrel #54 again?’” says Cabot, referring to “a batch



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with great flavor, and mouth and nose feel. Nice sherry tones. Brulée. Coffee. And just a pinch of brine.”

Along with his head distiller Maggie Campbell, a rare woman in the spirit industry, Cabot—who is working part-time on a master’s degree in gastronomy from Boston University—smells, swirls, and tastes every concoction. In the middle of the distillery is a horseshoe-shaped bar stocked with glassware—Campbell’s test tubes and beakers—along with dozens of bottles of cognacs, brandies, liqueurs, and rums from all over the world. Many were bought in the Caribbean, where Cabot spent two weeks visiting distilleries while building a vision for Privateer. “I realized the best rums were more often sitting in peoples’ desk drawers there,” he adds, “and not on pallets going to the U.S.”

In Ipswich, rum’s raw ingredients are delivered and blended in vats with water and a proprietary mix of yeasts; the fermentation lasts longer than industry standards to build a rich base flavor and body. The resulting liquid, about 6 percent of which is alcohol, is fed into the brass and copper still that resembles a giant saxophone merged with the Yellow Submarine at the Willy Wonka factory. Liquid can be seen sloshing about through glass portals, moving back and forth, from high to low, like a Slinky, and being propelled through tubes that separate the more desirable alcohol, “the sweeter stuff,” Cabot says, from the more volatile “stuff that smells like fingernail-polish remover.”

Cabot’s career has embraced many tangents; he has often taken breaks to work in completely different jobs and “come back at things with a fresh lens.” Because he is dyslexic, he has always had to focus hard to learn anything, loves to learn new things, and brings an intensity to any activity, he says. In 2001, he took a year off from the tech world to teach second grade at a Boston charter school, which later led him to explore the “challenges of mission-delivery in loosely coupled systems and organizations,” at the Harvard Graduate School of Education. He has always been a hands-on member of the boards of non-profits with an educational mission, such as Raising a Reader.

Meanwhile, in doing some genealogical



Francie Randolph

research (his father is John G.L. Cabot ’56, M.B.A. ’60), he found out that his sixth great-uncle, also named Andrew, was a merchant and rum-maker in Beverly, Massachusetts, who became a privateer during the American Revolution. Although his ancestor sold his distillery around the time that privateering became more profitable, Cabot was inspired by this family story. He began reading histories of and industry reports on the rum industry, and saw a business opportunity to create a refined rum. “I also loved the chance to intertwine the person and the product in the way craftsmanship demands of you,” he says. “In tech, you are always behind the curtain.”

As it happens, Privateer Rum is among a handful of New England rum distilleries established during the past six years. Just as in the Colonial era, each outfit has its distinct approach and expression. Some products are spicy and carry an earthy-raw undercurrent and a sharper swallow. Others can be almost fruity, with a hint of tropical mellow banana. Privateer’s rums tend to be complex—with flavors that morph in the mouth—and extremely smooth. “Rum’s so heterogeneous that it’s hard to even consider it as a single class of spirit,” Cabot concludes. In the end, “We want a bartender to taste our rum neat

and draw from this inspiration to create great cocktails, or use as a main ingredient—the same way a chef goes to the produce market and picks out an especially fine specimen of kohlrabi and decides to make a salad that night. We don’t want to be just an alcohol-delivery vehicle.”

## “I’d rather be free”

**Francie Randolph ’87, Ed.M. ’96**

Truro, Massachusetts

Sustainable CAPE—Center for Agricultural Preservation & Education

FOR YEARS, Francie Randolph lived in a Cambridge apartment, and tended a houseplant. Now ensconced on Cape Cod with her husband and two children, she cares for a 200-year-old farmhouse on three acres of land that are also home to apple and pear trees, two sheep, a beehive, and a dozen Buff Orpington chickens. The chickens roam the property, pecking at and fertilizing the ground, despite occasional run-ins with local hawks. “My theory has always been that I’d rather be free and die young,” says Randolph, “than safely penned up for a long life.”

This philosophy enables Randolph to cross-develop her various identities: visual artist, farmer, educator—and co-creator,





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## NEW ENGLAND REGIONAL SECTION

with two farmers, of the annual Truro Agricultural Fair. First held in 2009, the fair celebrates the community's farming and fishing roots and has already become an end-of-summer destination for many: more than 5,000 people attended last August. Randolph recalls broaching the idea for the fair one night at a cocktail party in town. "Everyone just lit up," she says. "Before I knew it I was before the selectmen and the project was generally green-lighted all the way through. Then hundreds of people came forward to help."

The day features only produce and other foods that are made, grown, or culled in Barnstable County: farmers and fishermen at booths also educate people on sustainable practices, from keeping bees and hens and preserving fruit to conserving water, composting, and coastal growing techniques. "You come and have fun," Randolph says, "but you leave with specific information about how to make changes in your own home to sustain your

local food system and environment."

Randolph is also an artist. She designed the Harvard course-catalog covers from 1993 until 2009 (when they were put online), and a limited edition of hand-bound books of J.K. Rowling's 2008 Commencement speech on the importance of imagination and failure (see "Inner Vision," July-August, 2010, page 24). She and her husband, Thomas A.D. Watson, a painter, both have studios on their property.

There she designed and continues to hone the fair's aesthetic, from an elegant poster and logo using a patinated chicken weather vane to clever twists on traditional fair events. The Barnyard Beauty Competition, for example, seeks the fairest fowl: people vote for the most beautiful chickens, ducks, and geese by shelling fava beans, and the "bean counters" record the tallies. There are also contests for pie-eating, longest cucumber, five identical green beans (picked from one crop), heaviest tomatoes, tallest sunflower, best-look-

ing dozen (eggs), and "strangest varietal." (Last year's winner was a "portulent purple potato.") The "Zucchini 500" features the ubiquitous summer vegetable turned into small cars (fair-goers come with their own or can design, decorate, and produce them on site) that race on two 28-foot-long tracks constructed by Randolph's friend August "Gus" Schumacher '61. This fair supporter and summer Cape Cod resident is a longtime food activist who won the James Beard Foundation's Leadership Award earlier this year and served as agricultural undersecretary in the Clinton administration. (To get a feel for the event and fair, visit [www.sustainablecape.org/press/videos-podcasts](http://www.sustainablecape.org/press/videos-podcasts).)

As the fair's popularity grew, so did Randolph's vision. The event now falls under the nonprofit umbrella organization Sustainable CAPE, which she founded and leads. The group focuses on teaching children that "food is directly linked to your body, your community, your world,"



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she says. “They are concentric circles.” It runs the Truro Educational Farmers’ Market and helped get local food served for a series of lunches at the Truro school, where it also plans to fund a “farmer-in-the-school” position, and grows gardens with students. Its “farm to school” program twakes students “out in the world so they can see where food comes from and how it is produced,” Randolph reports. That includes trips to oyster restoration grounds and cranberry bogs, and to forage in the wild, and time spent on fishing and lobster boats. In cooking classes at the school, she had a student who had never cracked an egg, and others who didn’t know that French fries were made from potatoes. “And this is on the Cape where we are surrounded by fields and land,” she adds. “We’re talking about food that composes our cellular structures, and people are just not connecting the dots that personal health comes from healthy food and a healthy environment.”

She wants to keep developing the Sustainable CAPE projects and replicate them elsewhere. “As an artist,” she says, “I am trying to get people to see things differently. Instead of a painting on the wall, the work is about showing people our fundamental connection to the agricultural world—and to each other.”

## “You get a potato, you cut it, you cook it”

**Anthony Ackil ’99**

**Boston**

**b.good**

**B**URGER KING may boast a monarch, and McDonald’s has Ronald. But b.good has Uncle Faris. “We grew up eating in my uncle’s kitchen and he would talk to us, tell us stories, and make real food,” says Anthony Ackil, who founded and runs the b.good fast-food restaurants with his childhood friend Jon Olinto. “He’d always end

our visits saying, ‘Be good,’ so we named the place for him.”

The story, with a photo of Faris looking especially avuncular, is up on the wall of every b.good, along with a rotating introduction to other mascots who embody b.good’s simple idea: “Make fast food ‘real’ by having it made by people,” says Ackil, “not in factories.” The menu offers familiar fare: beef, chicken, turkey, or veggie burgers on a bun, salads, French fries, shakes, and smoothies. But all of it is nicely seasoned, freshly made, and comes from regional vendors: the beef from Pineland Farms Natural Meats, in New Gloucester, Maine; fries from spuds grown at Swaz Potato Farms in Hatfield, Massachusetts; and shakes with ice cream from the Cambridge-based Toscanini’s. Diners can order the burgers in five versions, or add and subtract ingredients. (On a recent Harvard Square visit, we found the El Guapo chicken sandwich, made with thick slabs of bacon, a jalapeño sauce, lettuce, tomato,



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## NEW ENGLAND REGIONAL SECTION



**Jon Olinto and  
Anthony Ackil**

B.GOOD

and onion, to be delicious.)

Ackil and Olinto, who grew up in southeastern Massachusetts, were always fast-food fans. But when ingesting it in their early twenties began to make them feel a little sick, they noted a potentially lucrative hole in the market. "If I have kids, I won't ever take them to a McDonald's because it's not real food, and I think a lot of people feel the same way," Ackil explains. "Real food is: you get a potato, you cut it, you cook it. I know exactly where our beef comes from, and it isn't from 3,000 different cows across the country."

Beef burgers, according to *Forbes*, are a \$40-billion industry dominated by McDonald's, Wendy's, and Burger King. B.goods are often located on the same street, block, or strip as these behemoths, and sometimes not far from relative newcomers Tasty Burger (which also touts all-natural beef burgers and hot dogs and locally made buns) and Five Guys (reportedly the fastest-growing fast-food chain in America). But Ackil says b.good "is not competing with these chains because we're unique in the market," and beef burgers represent only about 20 percent of its sales.

Ackil has a doggedness about him, a thick skin he attributes to playing football and wrestling while at Harvard, where he made a lot of friends and was a government concentrator. After graduation, he worked in strategic consulting, but found it unchallenging. "And I didn't like having

a boss," he adds, shrugging. "I just didn't understand the concept—somebody telling me what to do every day." One night, when he was at a bar with Olinto, the two fell into their usual discussion about someday running a food business, this time concluding, "Now is the time." "I was 28. We didn't have any debt. No kids. No wives. I was living with my parents," Ackil explains. "We had no responsibilities."

About 18 months later, in 2009, they quit their jobs and leapt into the entrepreneurial world of restaurant chains, opening the first b.good ([www.bgood.com](http://www.bgood.com)) on Dartmouth Street in Boston. Now there are 10 corporate "units," as Ackil calls them, three franchise locations, and another 35 in development. "We're not joking around here," he says. "We want to be thousands of units—a national chain." So far, every New England state except Vermont has a b.good, as do Philadelphia and Toronto. Quality control is one obvious focus, and challenge, in scaling up the brand.

Real food, he notes, does not always equal local food. The goal is to find local vendors and farms that can supply the nearest eateries and adjust the menu accordingly. But most important is that he and Olinto know the people and farmers who raise and grow the food that is served. "We're taking it slow and choosing our partners carefully. Ultimately, we want people who can hustle, who want to be their own bosses and make a lot of money, and," Ackil adds, "who believe in our ideals." ▽

# Sehr Gut

German and Central European dishes shine in Somerville.



**T**HE CLASSIC *jägerschnitzel* (\$24) is typically served with a brown mushroom gravy. Done wrong, the dish is a salty, glutinous meal anchored by a strip of boot leather. At Bronwyn in Union Square, however, the pork cutlets are thicker than usual, crisped just right, and served with an airy cream sauce laced with smoky paprika and a sprinkling of honey-toasted walnuts. Sautéed mushrooms stand on their earthy own alongside sweetly sour shredded red cabbage cooked down soft with apples and lots of bacon.

Such refinements are no surprise coming from the owners, chef Tim Wiechmann and his wife, Bronwyn (for whom the restaurant is named). The couple first created Cambridge's T.W. Food, a purveyor of the clean, light, fresh fare coveted by svelte urbanites. By that measure, Bronwyn's food is heavier and rustic, offering more of a trip to the hinterlands.

Communal dining happens at long wooden tables parallel to the zinc-topped bar in the main room. Walls hold rough wooden planks and artifacts: a cowbell, lederhosen, and maps of the Austro-Hungarian empire. Carved chairs with velvet upholstery, more kingly than kitschy, add a touch of Gothic drama, as does lighting from iron chandeliers that belonged to Wiechmann's great-grandparents.

Family roots are reflected in the menu. Six kinds of sausages, all locally sourced and hand-cased, include those on the mini wurst plate (\$13): mellow, custardy *bierwurst* (the meat is emulsified, mixed with egg and bread, then boiled) and grilled *bratwurst* (veal and pork spiked with black pepper). Roasted potatoes, sauerkraut (slow-cooked

**Bronwyn is a great place to hunker down for a wintry meal of sausages, beer, pierogi, and the "giant pork knuckle" (inset).**



with Riesling), and a barbed-wire-sharp house mustard come on the side.

The soft "giant *haus bretzel*" (\$7) is a crowd-pleaser, but we also recommend pastry chef Keiko Tanaka's other excellent *brots*, which come in a basket for \$5: seeded *roggenbrot* (a dark, chunky rye), oat-honey challah, and soft onion-poppy rolls. Almost as tender is the potato knish flavored with shiitake mushrooms, leeks, and hazelnuts jazzed up with bits of blue cheese (\$10). The heftier, pan-fried potato *pierogi* (\$11) are paired with a spicy root-vegetable slaw.

Vegetables are scarce. The delicate cucumber salad has a vinegary punch. Or, as an entrée, try the robust vegan *bio-makt teller* (\$17): *roggenbrot* spread with hazelnut butter, poblano-spiced barley, roasted butternut squash and carrots, charred Brussels sprouts, cucumber salad, and sautéed mushrooms.

The *spätzle*, rolled bites

of egg noodles, might also appease vegetarians, although we found Bronwyn's version, smothered with Comté cheese, a bit too rich—and the \$19 price too high.

Desserts are \$8. Don't leave without tasting the hot raspberry-jelly donuts (*berliners*), rolled in sugar and served with chocolate dipping sauce. Lighter was the whipped-cream-topped *apfeltorte*, a deep pastry crust filled with slightly moist shredded apple cooked with raisins and cinnamon.

Lastly, a quick word on drinks. Bronwyn's has a wide range of carefully chosen beers and wines from Germany and Central Europe, and cocktails that reflect the regions' traditional use of berries, herbs, and orchard fruits. But diners should also feel free to end their meal with a nice

cup of what the menu calls "Karma coffee" that comes all the way from Sudbury, Massachusetts.

~N.P.B.

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JOHN HARVARD'S  
JOURNAL



Daw Than Than Sein, U Win Hlaing, and daughter Win Win Thu at their home in the Ayeyarwaddy River Delta village of Wakouktaw; Proximity Designs' irrigation equipment has helped them expand their farm and boost their income significantly.

## Sowing Seeds

*From supporting farmers to probing policy, Harvard people help Myanmar remake its future.*

AN EARLY-NOVEMBER WALK along an earthen path in Wakouktaw led around the edge of a paddy—the monsoon rice

heavy and ready for harvest—to the small, trig plot where U Win Hlaing and his wife, Daw Than Than Sein, have grown cash crops

for the past 22 years: glossy eggplants, beans trained to delicate bamboo poles, water spinach, herbs. Their Ayeyarwaddy River Delta village in Kungyangon township lies about 35 miles southwest of Yangon, Myanmar's largest city and commercial center: a couple of hours of rough driving on the country's notorious roads. But U Win Hlaing and Daw





**Debbie Aung Din Taylor and Jim Taylor have built a social enterprise devoted to improving rural farmers' lives—in some cases, literally by making their burdens lighter. Left, testing Proximity Designs' pumps and water baskets at its Yangon factory.**



Than Than Sein are doubly fortunate. Their farm is near the paved road and close enough to a town so that by rising at 3:30 A.M. she can market their produce directly, for higher prices than middlemen offer. And in a country where three-quarters of households lack electricity, they are among the rare recipients of government-supplied rooftop solar collectors, the power source for a few light bulbs in their bamboo dwelling.

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ing, U Win Hlaing shouldered a wooden yoke, climbed an embankment, clambered down a steep, muddy bank to the creek, filled two large sprinkling cans with water, and ascended to his rows of thirsty plants: 140 round trips each morning, repeated each afternoon, bearing several tons of water daily.

A few years ago, he learned about a new technology: a treadle-operated pump that can lift water from the creek and send it to a collapsible 250-gallon "water basket," made of PVC-impregnated vinyl. From there, hoses distribute it to the crops. On installment, he bought the pump (\$17) and basket (\$23). Now, with a few hours of work, he dispatches all the water he needs. Freed from exhausting hours of hauling water, he used that time and energy to double the area the family leases, to an acre; expand to three crops a year; and

diversify what they plant (adding cucumbers and beans). Their income, he said, has risen fivefold, to \$1,500 a year.

Beyond expansion, that income funds the elemental security that eludes the poor, in Myanmar and elsewhere, who somehow subsist on \$1 per day. The family can now buy six to eight bags of rice (a year's supply), rather than having to purchase it day by day, and can even invest: purchasing rice at low harvest prices, and selling later, when the market has bid up its value. They can afford to support their son Pyi Sone Phyto Aung, age 16, now a monk, and to educate their younger son, a sixth-grader, paying for books and a uniform; their daughter, Win Win Thu, age 21, born in leaner times, had to leave school after fourth grade. If their progress continues, the family hopes to buy its own land. In the meantime, they share delicious eggplant salad, from their own field, cooked over an open fire behind their home.

EVERY STEP of the way, that irrigation equipment is the tangible handiwork of Proximity Designs, an acclaimed social enterprise, based in Yangon, founded a decade ago by Debbie Aung Din Taylor and Jim Taylor, both M.P.A. '90. Each element in the organization's identity is meaningful. Its approach is predicated on discovering villagers' most pressing needs first-hand—on proximity to the 70 percent of Myanmar's perhaps 55 million people (no one is certain: the last census was three decades ago) whose livelihood is agriculture.

The resulting solutions—Proximity's locally adapted pumps and irrigation lines, and, of late, durable solar lighting, at world-low prices—emerge both from an in-house design laboratory and from collaborations with Stanford's "Design for Extreme Affordability" course and with firms focused on creating products and services for the world's poor. Irrigation products are manufactured on rudimentary assembly lines and readied for shipping in a clean, ventilated four-story factory in northeastern Yangon—despite the need to source parts from nearby suppliers whose facilities might generously be called Dickensian. (Todd Murphy, Proximity's manufacturing manager, and Alissa Murphy, the design-team manager, are both engineers with medical-device backgrounds—and Alissa, Stanford-trained, took the affordability course.) From the Yangon offices and factory through its

township field offices, Proximity's staff—nearly all indigenous—numbers nearly 400 members now; about half its revenues are earned from sales, Jim Taylor says, and half are “philanthropic capital.”

Distribution is village-centric, too, reaching farm families through a network of Proximity staff, market-town shops, community-based organizations, and rural agents. (For many agents, Proximity product-training trips during the monsoon season are their first exposure to Yangon—or any city.)

As a social enterprise, not a charitable or aid entity, Proximity considers those it serves *customers*—people (as Jim Taylor emphatically put it) who are owed *empathy*, not sympathy, and who expect a return on their investment and a say about the value they receive. In an economy that has since the 1962 military coup starved Burma (as the country was then known) of investment, infrastructure, innovation (witness those yokes and watering cans), and even rudimentary seasonal financing for seed and fertilizer, Proximity Designs sells income-boosting products and provides credit and agricultural advisory services to farmers cut off from every one of those essentials.

Proximity intends to replicate U Win Hlaing's story, multiplying it village by village and changing thousands of lives in Myanmar's countryside. Thoroughly businesslike, it maintains open, Silicon Valley-style offices on New University Avenue (east of Yangon University's largely closed campus, the American Embassy, and the house where the National League for Democracy's Daw Aung San Suu Kyi was kept under arrest for 15 years between 1989 and late 2010). There and on its website, it keeps a running count of families helped each month. Cumulatively, the data collected from impact assessments tally more than 180,000 households using Proximity's products or services, and some 133,000 product or crop loans. Debbie Taylor notes that 740 irrigation products were sold in U Win Hlaing's township during the last fiscal year.

Alongside those metrics, the Taylors and their staff throughout Myanmar remain focused on the compelling needs of millions of potential customers. Of those yokes cutting into farmers' shoulders, Debbie Taylor recalled a customer telling her, “My grandfather died of a stroke carrying those sprinkling cans. My father died carrying



sprinkling cans. My sons won't *touch* a sprinkling can.”

FOR ALL the Taylors' strategic vision and business discipline—setting up shop in 2004 as the Myanmar outpost of International Development Enterprises (now iDE), a nonprofit aimed at alleviating rural poverty through appropriate technologies; then adapting those technologies and their operations to the local context as Proximity Designs in 2008—reality intervened to change their course. The horrific interruption was Cyclone Nargis's violent course across the delta that May 2, killing 138,000 people and sweeping away the homes, crops, and draft animals of many of more than two million villagers in the most devastated townships.

As staff members reported on the catastrophe (canals were too choked with corpses to navigate), Proximity became a de facto disaster-relief organization. Prototype water baskets were rushed into production to hold potable water (most of which is collected from roofs and channeled to enormous ceramic storage vessels beside each home—suddenly vanished); tarps were distributed for impromptu shelter. Proximity also became a conduit for international aid, focusing on food and, particularly, replacement seed, fertilizer, and tillers in time for the July rice planting.

Two cyclone-relief developments have shaped Proximity's subsequent strategy. First, it worked with community-based

**Like the Taylors, the Ash Center's David Dapice and Thomas Vallely have for decades worked on Asian development and policy reform in challenging contexts.**

organizations to distribute relief equitably and transparently to rural households. Second, recognizing the need for support for farmers during the offseason, and for landless laborers, Proximity directed donor funds to small-scale infrastructure (a Myanmar equivalent to the fiscal stimulus then being applied in the recession-wracked developed world). By paying villagers to build secure pathways, safer bridges, and canalside jetties, the projects—the residents' own priorities—boosted the economy while bettering future conditions by easing access to schools, markets, and shipping. Proximity's emerging focus on services (seasonal \$125 crop loans and other rural credit, agricultural advice), and its use of those community organizations as sales channels, derive from the improvised responses to Nargis.

ANOTHER DOZEN MILES from Yangon, in Dedaye Township, a wide canal intersects the road. From there, it is a 40-minute ride by motorized boat (a luxury for most villagers, who must propel themselves) to the shaded landing for A Phaung Gyi. Around an open-sided community hall, finger canals excavated in all directions are banked by heaped-up soil on which banana and coconut-palm orchards rise, screening the





**Proximity Designs sources parts from local workshops, like this one in northeastern Yangon. A shop in Kungyangon township displays Proximity pumps for sale.**

U Soe Htet, an elected village leader, moderates the conversation. He talks about how 150 farming households (the other 220

are landless, a surprisingly high proportion and a sign of economic stress) shared seed, fertilizer, and common tillers distributed by Proximity after the cyclone. Other speakers describe subsisting as farm laborers three months a year, and fishing, crabbing, and gathering food from nature. The village is too remote for commuting to casual day jobs elsewhere—so people are migrating in search of work in Yangon.

As roosters crow and the ubiquitous dogs bark, the talk turns to credit. Farmers have used six cycles of crop loans: repayment is nearly universal, Debbie Taylor

scattered houses from the sun.

A kilometer-long footpath (the embankment for the community's rice paddies), built in 1983 but subject to monsoon flooding, has been reinforced and raised for year-round use as a post-Nargis Proximity project. At the next major canal, where the crossing was once a single bam-

boo log, dangerous to traverse, Proximity funds supported a new concrete bridge, strong enough for motorized cycles to use, safe enough for children to get to school unassisted. After a narrated walk along the path, members of the three villages involved gather at the hall, its floor covered by a sturdy U.S. AID tarp, graciously topped with a woven mat for visiting guests. Over fresh coconut milk, tea, cans of Shark energy drink, bananas, tangerines, baked goods, salads, and cucumbers,



## THE HARVARD CAMPAIGN

### "The Entrepreneurs of Ideas"

**During** the final week of October, three academic units unveiled their goals within the \$6.5-billion Harvard Campaign. Complete details are available at <http://harvardmagazine.com-capital-campaign>; highlights are summarized here.

**Harvard School of Public Health (HSPH)** disclosed its \$450-million campaign on October 24; \$167 million—37 percent of its goal—has already been pledged or received. The fundraising comes amid challenging financial times: in fiscal year 2013, HSPH derived 71 percent of its income from sponsored research (principally from the National Institutes of Health), and just 14 percent from its endowment—less than any other school—even as federal research funding has fallen sharply amid sequestration budget cuts.

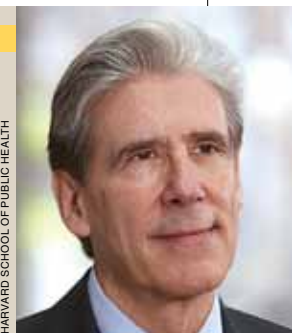
The school outlined its priorities within four themes: *old and new pandemics* (from AIDS and malaria to obesity and heart disease); *harmful physical and social environments* (from respiratory illness and certain

cancers to gun violence and suicide); *poverty and humanitarian crises* (preventable deaths and injuries across the globe); and *failing health systems* (impediments to effective, affordable healthcare and preventive health services). Slightly more than half the campaign will underwrite research and innovation (\$226 million); the remaining funds are sought for endowed professorships (\$64 million), student financial aid (\$60 million), infrastructure improvements (\$52 million), and educational innovation (\$48 million). A recently completed curricular review was discussed in its "Second Century Symposium" on November 1; the school plans wide changes in teaching and its degree programs (see <http://harvardmagazine.com/2013/11/century>).

During the campaign launch, which coincided with HSPH centennial celebrations, President Drew Faust and Dean Julio Frenk pointed to the 30-year increase in U.S. life expectancy during the twentieth century—25 years of which are attributed to public-health initiatives. The school be-

stowed three, one-time Centennial Medals and an inaugural Next Generation Award (recipients included Bill and Chelsea Clinton). Celebrations continued with a leadership summit on October 25, culminating in a panel of ministerial-level public-health officials representing four continents, reflecting the school's role in advancing what Frenk called "bountiful ideas that have created a healthier world for millions of people everywhere."

Introducing the **Faculty of Arts and Sciences'** (FAS) campaign in Sanders Theatre on October 26, dean Michael D. Smith highlighted changes in *teaching and learning*—a \$150-million component of his faculty's \$2.5-billion fundraising goal (toward which \$1 billion has been given or pledged, 40 percent of the goal). That priority encompasses technologically assisted pedagogy (Smith has championed and is a board member of edX and serves on the Har-



**Julio Frenk**

HARVARD SCHOOL OF PUBLIC HEALTH

**Debbie Taylor and residents of A Phaung Gyi and surrounding villages discuss credit, solar lights—and an alarming pest preying on the ripening rice crop.**

says, because borrowers know they will need access to credit again for the next season's planting. Can unsecured loans be made available for other purposes? villagers ask. That is the great unsolved problem in developing-country rural credit, she notes: the small loans cannot be effectively underwritten, but perhaps technology could help; small equipment or livestock could serve as collateral; and the community-based organizations could become involved both in securing the credit and servicing collections. Proximity Finance and other entities are exploring such issues around the world.

Like 90 percent of Myanmar's rural households, these villagers are *far* off the grid, and beyond the reach of the solar-panel program. How many people have acquired Proximity-distributed solar lights (created and manufactured by San Francisco-based d.light, another social en-



terprise shaped by the Stanford extreme-affordability design course) since they became available last year? A big show of

hands ensues, and a chorus of enthusiastic endorsements. The lights—a hockey-puck-style unit retailing for \$10.50 (pay-

vardX leadership committee), course development, reconfigured classrooms, teacher training, and more.

Other priorities will serve to shore up FAS's finances, as well as enable some new initiatives. Among the significant goals undergirding current needs are: *undergraduate financial aid* (\$600 million, to help pay for the significant increases in scholarship support during the past decade); *House renewal* (\$400 million toward the huge costs of the renovations, already under way) and *the student experience* (another \$100 million, uses unspecified); and *faculty and the scholarly enterprise* (\$600 million, about half of which would endow existing professorships; remaining funds would pay for a very limited number of new positions, graduate-student fellowships, new research initiatives and start-up support for junior-faculty members and newly tenured professors, and the libraries and other academic programs).

Forward-looking initiatives, including teaching and learning (listed above), encompass *decadal discretionary resources* (\$250 million in annual current-use gifts from the Harvard College Fund, Graduate

School of Arts and Sciences Fund, and the Harvard College Parents Fund) and *the School of Engineering and Applied Sciences* (SEAS; \$450 million, meant to support 20 additional professorships and their associated research, plus endowments for 10 existing faculty positions; teaching support, some of which overlaps Smith's FAS-wide learning goal; research and innovation funds; and graduate-student fellowships).

Given that the University is separately raising the money (perhaps as much as several hundred million dollars, if donors can be found, to reduce reliance on debt financing) to build the Allston science facility where much of the SEAS faculty will be housed in coming years—its scope and program are being determined now, in tandem with the fundraising—the University's newest school in many ways emerges as the defining priority of the entire Harvard Campaign.

The **Radcliffe Institute for Advanced Study** (RIAS) launched its \$70-million campaign (\$26 million, some 37 percent, is pledged or in hand) in Radcliffe Yard on October 28. Dean Lizabeth Cohen described

five campaign priorities, beginning with the institute's *capacity to invest in experiment*: "Just as venture capital invests in the entrepreneurs of industry," she said, "so we invest in the entrepreneurs of ideas."

Other priorities include *diversifying programs and expanding global reach* (in part by digitizing the Schlesinger Library's collections to give more scholars around the world access to its unparalleled resources on women's history); *educating more students via collaborative research* (by enlarging the oversubscribed program that pairs as many as 100 Harvard undergraduates with Radcliffe fellows each year); *"advanc[ing] our impact across Harvard,"* in Cohen's words (by offering more exploratory seminars and workshops involving faculty members, for "multidisciplinary conversations"); and *"sharing transformative knowledge with the public"* (beyond already successful library outreach, webcasts of institute lectures, and so on).

"All of this happens," the dean told the attendees, "because you believe in the importance of advanced study—of stretching beyond the expected to the barely imagined."



ALYSSA ROSENBERG



**Most of Myanmar lacks electricity. A duck farmer in A Phaung Gyi improvised this diesel lamp before Proximity distributed low-cost solar lights, sold on installment.**

able in several monthly installments), a larger hand-held light, and a sort of standing lantern—dispel the darkness in place of thin candles (a continuous expense, a real fire danger in bamboo and palm-frond

structures, and incompatible with mosquito nets) or even more costly diesel fuel. The lights have replaced diesel generators for threshing after dark, people report—a cost saving of 6,000 to 7,000 kyat (about \$7) per night. A duck farmer says that his fowl, which are calmed by light after sunset, are better served by solar light than by the diesel burners fashioned from repurposed Shark beverage cans, or candles costing 50 cents nightly. Compared to inverters running off car batteries (which themselves need recharging in town), solar fixtures are also better for charging cell phones.

Debbie Taylor is asked if Proximity can provide bigger systems—to run a television, so the villagers could watch the news, soccer, and popular South Korean soap operas? She confides that household-sized systems are under development, but TV-scaled units are still beyond the horizon—as is the village-wide financing they will likely require. Of the passion for television, one speaker says, “We want to feel connected.”

Then the conversation takes an unexpected turn. What can be done about a sudden infestation of palm-sized snails that are devouring the rice crop? The news disquiets Taylor. Myanmar lacks public farm-extension services, and Proximity’s few dozen agronomic agents (who provided critical help when a new plant pathogen spread after Nargis) are spread elsewhere across the country. The farmers explain that they have plucked as many as 20 large baskets of the snails per acre of rice in a single evening; the pests destroy the plants in as little as two days. Alarming, they have spread to five nearby villages.

Proximity’s photographer takes pictures of the snails to share with its expert farm advisers. A smart-phone app under development (anticipating deployment of mobile-phone infrastructure in Myanmar during the next two years—“to extend traditional agricultural extension,” as Jim Taylor put it) aims at addressing just this sort of pest crisis quickly and cheaply, Debbie Taylor notes—part of its larger evolution from products to services. But today, any solution lies long boat rides and drives away, with the staff in Yangon or farther afield. In the meantime, the farmers’ only defense is trapping or plucking off the snails by hand.

EVEN AS Proximity makes such village-level discoveries, and enables individual farm households to become more productive, it is engaging the larger policy issues that face every aspect of contemporary Myanmar.

When the generals took over, they suppressed both democracy and the aspirations of the ethnic groups who comprise one-third or more of the population for some federal sharing of governance and resources. The military progressively appropriated most economic activity. (As *The New Yorker*’s Evan Osnos ’98 reported in a dispatch from the 2012 elections, in a nation where per capita cell-phone owner-

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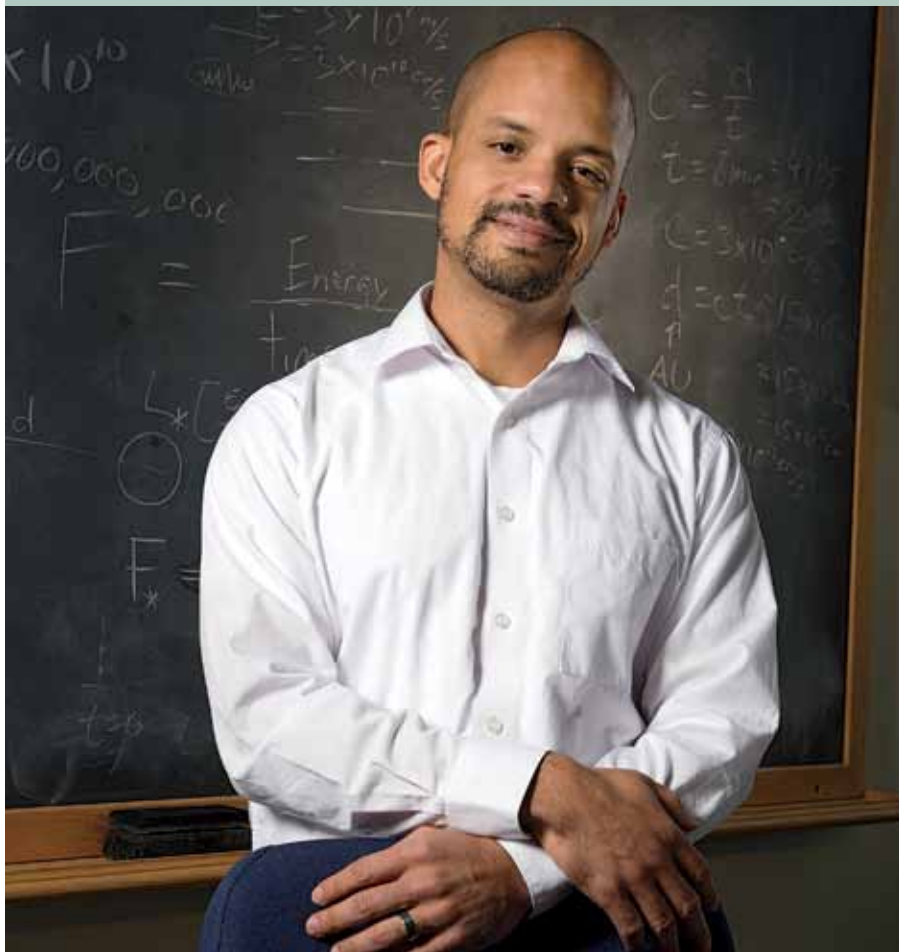


ship trailed *North Korea's*, Senior General Than Shwe, the ruler from 1992 to 2010, “once considered spending a billion dollars to buy Manchester United as a gift to his grandson, a soccer fan.”) Some of the ethnic areas, in turn, are not so much governed as run by armed militias, which exact funds from smuggling, tolls, and other “distributions.” Countrywide, powerful elites have enriched themselves by exploiting natural resources (what economists call the “commodities curse”) that, properly shared, could pay for Myanmar’s desperately needed development.

The Taylors, running an apolitical social enterprise, are perhaps uniquely poised to proceed down both paths at once: working with individual farm households under extremely challenging circumstances *and* raising policymakers’ sights as they encourage nascent civic life and the return of private enterprise in a place that has effectively had neither for decades. Debbie, Burmese by birth, was educated around the world as her father, a forester, undertook assignments for the United Nations Food and Agriculture Organization. After she graduated from Middlebury College and Jim from the University of Washington, they met in 1978 while working on rural health clinics and urban revitalization in the Mississippi Delta. From there, married, they moved to Cambodia in 1985 as country directors for the Mennonite Central Committee: two of the first six Americans in Cambodia helping it begin to right itself after the Khmer Rouge holocaust. As they tried to rebuild shattered health systems and irrigation, and to launch rural industries, they came into contact with policy analyst Thomas Vallely, then Vietnam program director for the Harvard Institute for International Development (HIID, a development-advisory service)—and realized the value of an education in policymaking.

Following their Kennedy School stint, they redeployed to Indonesia for seven years, where both were economic policy advisers—and where Debbie began engaging with Myanmar under the auspices of the United Nations Development Program (UNDP, sometimes with HIID economist David Dapice) and later the World Bank. During several subsequent years in California, Jim earned an M.B.A. and worked in business and as an entrepreneur, and Debbie focused on being a soccer mom to their two children—while continuing to

## HARVARD PORTRAIT



### John Asher Johnson

**John Asher Johnson**, his wife, Erin Johnson, and their young sons Owen and Marcus meandered by car from Caltech to Cambridgeport last summer—a mere flick of an eye for the new professor of astronomy, who studies exoplanets, light years away. (Some 800 exoplanets are known, as many are being confirmed, and there are thought to be billions to trillions.) An enthusiastic teacher, Johnson outlines his field using the “Exoplanets Explained” video, in the PhD TV series on YouTube: the voices are his and his graduate students’, happily distinguishing Doppler-effect, radial-velocity planet detection from direct imaging, star transits, gravitational microlensing, and other techniques. All are in use at Harvard’s exoplanet research group, which he calls “unique in astronomy.” At Caltech, he was the team; here, colleagues include professors David Charbonneau (in whose office Johnson is camping out during a sabbatical year) and Dimitar Sasselov, lecturer David Latham, and others. Because Harvard teaching opportunities are innovative and diverse, he says, in Cambridge, “I can be a university professor in the fullest sense,” building on the nonhierarchical ethos he established at his “ExoLab” in Pasadena. When he is not playing basketball, bicycling, building Legos with the boys, or preparing to teach the introductory stellar and planetary astronomy course this spring, Johnson thinks about deploying future observational instruments on Earth and in orbit. He aims for “unambiguous detection of life signatures outside our solar system within our lifetimes.” Unlike other astronomical objects, he has written, planets “inspire a subtle emotional curiosity...because they alone can be thought of as places, not things.”

visit her increasingly isolated homeland for the UNDP and World Bank. In 2003, the couple decided they had “the emotional energy for one more country,” Debbie Taylor says—and moved their family to Myanmar the next year.

The Nargis recovery efforts made clear just how precarious families’ finances actually were, in an economy that provided

minimal credit, if any—forcing farmers to use inferior seed, forgo fertilizer, or resort to moneylenders (where available) who charge usurious monthly interest rates of 8 to 10 percent. The systemic causes of rural poverty loomed large.

In response, since 2009, drawing on the relationships the Taylors established two decades earlier, Proximity, in part with

funding from the Royal Norwegian Government, has engaged development experts at the Kennedy School’s Ash Center for Democratic Governance and Innovation—themselves steeped in frontier environments throughout Asia—to examine the most pressing questions. In a series of 16 papers so far, available online in English and Burmese,

**Kennedy School dean David Ellwood and Debbie Taylor at a Myanmar Peace Center forum in Yangon last October**

they have studied technical topics such as the scarcity of crop loans and the country’s then-ruinously overvalued exchange rate (effectively an export tax on rice-growers and manufacturers). Given the political opening-up during the past three years—Daw Aung San Suu Kyi’s release from house arrest; the National League for Democracy’s recognition as a political party and sweeping victory in limited 2012 parliamentary elections; relaxation of international sanctions; President Barack Obama’s visit—the research has broadened, at the request of policymakers working through the quasi-governmental Myanmar Peace Center in Yangon (Bill Clinton and Tony Blair both visited in November). Recent papers have addressed peaceful engagement with the ethnic groups, following civil wars dating as far back as 1948; governance; exploitation of valuable natural resources; and a more equitable relationship with China, Myanmar’s most important neighbor, investor, and customer (for jade, natural gas, teak, and, prospectively, hydroelectric power).

Dapice, an Ash Center affiliate who is



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also on the Tufts faculty, and Valley, now senior adviser for mainland Southeast Asia, bluntly summarized the challenge in a paper published last March: “Fifty years of military rule, poor policies, and sporadic conflict have left Myanmar in the bottom half of the bottom billion people in the world.” Rising higher will not be easy: in the recent World Bank “doing business” index, Myanmar ranked 182 out of 189 economies—below Zimbabwe and Haiti, and above only such iconic disasters as the Congo, Eritrea, and South Sudan. The country’s problems extend beyond “reform” to transforming its elite-dominated political economy and addressing the challenges of nation- and state-building.

When Dapice, conducting Proximity-Ash Center research, needed to understand precisely how farmers could afford to plant, or why they could not (the national agricultural bank lending limit in 2009 was 8,000 kyat per acre, less than a tenth the cost to sow and fertilize rice), Debbie Taylor arranged detailed conversations with the growers. He is, she says, an extraordinary “detective” economist, able

**After Cyclone Nargis, aid funds distributed by Proximity boosted the economy and infrastructure, like this new, safer bridge in A Phaung Gyi.**

to collect information and to build a macroeconomic perspective where reliable data are nonexistent—a classic “muddy waters” economist (a high compliment). Dapice and Valley have challenged the seemingly inflated official reports of Myanmar’s economic growth, and pierced the secrecy surrounding the lucrative, largely off-the-books jade trade. When they have consulted with officials—initially to gain access for research, subsequently to gauge the policy options—the Taylors, experienced in analysis and attuned to Myanmar, have been able to supply context and to make contacts across the political and governmental spectrum.

Valley and Dapice have engaged other Harvard experts, too. José A. Gómez-Ibáñez, Bok professor of urban planning



and public policy at the Graduate School of Design and the Kennedy School, reviewed Yangon’s physical development. Dwight H. Perkins, Burbank professor of political economy emeritus and former director of HIID, assessed industrial policy.

Perkins, perhaps the dean of Asian-development experts, recently summarized his half-century of work in *East Asian Development: Foundations and Strategies* (Harvard University Press). While ex-



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plaining the processes of sustained high growth in much of the region, the book has almost nothing to say about the two counterexamples: North Korea and Myanmar. Perkins notes that even China, after its Maoist disasters, and Vietnam, a rigid party state, effected real economic change and sustained, rapid growth that have lifted hundreds of millions of people out of poverty. But they began their turn to the market with party-built infrastructure, administrative systems, large (if inefficient) enterprises, and education in place, and relative equality. Myanmar has *none* of these attributes.

Yet Perkins maintains that if political reform progresses, Myanmar, too, could start the process of fast “catch-up” growth, beginning with export-oriented industries fueled by foreign investment and gains in agriculture of the sort Proximity Designs enables. With the right policies, outlined in his April 2012 paper for Proximity, Perkins envisions growth of perhaps 8 percent per year, doubling incomes in the coming decade. Getting those results depends on peace—and on building indigenous expertise. Now, he says, everyone in

Myanmar is “starting from near tabula rasa in terms of knowledge about how to do this.” Therein may lie an opportunity for further Harvard-assembled expertise.

In October, Kennedy School dean David Ellwood; Ash Center director Anthony Saich, who is Daewoo professor of international affairs; Valley; and the center’s Vietnam program director Benjamin Wilkinson traveled in Myanmar. With Proximity, they visited villages on foot and by ox cart, Ellwood recalls. They met with government officials and other parties. Although much is unresolved pending the 2015 national elections, the dean notes, Kennedy School experts might work to bring together members of the opposing sides in some of the state and ethnic conflicts that have divided the country for so long—deepening research on the issues and resources available to bridge them, training participants in negotiating and governance skills, and building the conditions for political dialogue.

Saich and the school have long been involved in training officials from China and Vietnam, and now from Indonesia, too, with exchanges between each nation and Cambridge. Myanmar’s fierce internal conflicts and its deteriorated educational institutions may preclude launching formal, academically based programs immediately. But this winter, Valley and Dapice

foresee further research with Proximity on economic and policy problems in Rakhine State, where Buddhist attacks on Muslims have left villages and mosques in smoking ruins and sent tens of thousands to refugee camps. In the near future, Valley hopes experts from Harvard, Vietnam, and elsewhere can offer training programs to help Myanmar participants learn how some of their Asian neighbors have fruitfully connected economic and political reforms.

MEANWHILE, Proximity Designs continues to deploy its farm-focused products and services in rural households and villages across Myanmar’s challenging geography. Su Mon, who directs the knowledge and social-impact team, quantifying the effect of farmers’ use of Proximity’s offerings, leads a visit a few hundred miles north of the delta “rice bowl.” (The trip pales in comparison to her own journey, from Danubyu village in the delta to Yangon University of Foreign Languages, undergraduate study at the College of Saint Elizabeth, in New Jersey, and a master’s degree in international development from Georgetown’s School of Foreign Service, before her return to Myanmar.)

Here, in the central Dry Zone, farmers struggle to produce crops with one-eighth the delta’s annual rainfall, or even less: their ox teams pull carts along sandy tracks, alongside cactus hedgerows.

In the hills east of Bagan—the flourishing kingdom where Theravada Buddhism became ascendant from the eleventh to the thirteenth centuries, leaving a vast plain of temples and monuments, today’s tourist attraction—Proximity’s Farm Advisory Services is establishing a presence in Nyaung-U township. Yarzar Naing



**Hundreds of miles north of the delta, farmers in Myanmar’s Dry Zone, like these in Kangyikone village, grow peanuts as a cash crop—and rely on oxen for power. Proximity advisers are introducing practices like “green manure” plantings to enrich the soil. The sign details an infrastructure-aid project, managed by Proximity, to restore the village’s drinking-water pond.**



JOHN ROSENBERG (3)



Win, an agronomist trained in Myanmar, points out a demonstration windbreak that protects a field of lentils and cattle forage from the scorching winds, helps to retain critical moisture, and promises a source of future firewood. Proximity paid local farmers 2,000 kyat, the going rate for a day's work, to plant the seedlings three years earlier.

Past fields fringed with palms (a source of food, sugar, roofing materials, and sap fermentable into liquor), a modest valley descends down a dirt road lined with agaves toward Kangyikone village. While the delta rebuilt from Cyclone Nargis's flood surge, the Dry Zone cruelly suffered an extended drought, so here, too, Proximity extended aid funds for infrastructure projects. Villagers built a trap for silt and dug out and lined the pond beyond that provides their drinking water during the first part of the dry season—reducing by a month the period during which they have to push barrel-mounted carts up the road to buy water from the nearest pumped well. In an area where family income averages perhaps \$500 to \$700 a year, working on the project earned each household an extra \$36 in wages.

Inside the monastery at the village center, U Thu Nanda, the abbot, offers apples, tangerines, water, pastries, and peanuts—the local crop—to accompany conversation. Given demand from the three villages that share the water, the first question asked concerns the potential to enlarge the pond's capacity. During the past three seasons, Yarzar Naing Win has introduced the practice of planting a “green manure” crop to enrich the soil and retain moisture between peanut harvests. It is not an easy sell: the technique requires an extra five days of cattle-powered plowing and seeding during a normally fallow period after the harvest, when the farmers cherish their rest, too. Yarzar Naing Win illustrates the process with a simple video on his tablet—something farmers can see, without having to travel to another village to observe.

Yet those who have ad-

## Yesterday's News

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

**1924** With more than a thousand freshmen enrolled in the College and the Engineering School combined, President Lowell warns in his annual report that Harvard will have to shrink the size of future classes or reduce services to its students until the number of qualified teachers increases.

**1939** “The Undergraduate Week,” by William R. Frye '40, reports that Harvard's four youngest freshmen “will have to go to bed early if a newly revived Cambridge ordinance is enforced, for it provides that persons who have not passed their sixteenth birthday must be off the streets before 9:30 P.M.”

**1964** Asserting that “This program for [dining-hall conversation] tables doesn't mean only intellectual and exotic interests should be represented,” senior James J. Gaffney and 29 other Quincy House residents organize an American sports table; their first guest speaker is a scout for the Boston Celtics.

At Radcliffe, the 40-year-old “fire ropes” stored in the dormitories to provide “last-resort egress” have been replaced with “modern safety features” such as sprinklers, fire doors, and ladders.

**1989** Debate ensues after the demolition of the pseudo-Colonial, blue-and-white Quincy Square Gulf gas station at the intersection of Massachusetts Avenue and Harvard Street. While some protest the building's destruction, others praise the tentative plans for a new hotel (for guests of the University) scheduled to be erected in its place. (That hotel, in turn, is now being converted into swing-space accommodations for those undergraduates displaced by the rolling renovation of the Harvard Houses.)







**U Myat Thein, an entrepreneurial early adopter of new agricultural technologies, raises corn using Proximity Designs' low-cost, gravity-fed drip-irrigation lines.**

opted the technique are enthusiastic. A walk through the modest village passes carts full of peanuts awaiting hand-picking from the attached plants. If the rainfall is plentiful and well-timed, says one farmer, U Pawka, he can harvest 50 large baskets of peanuts in the shell from an enriched acre—twice the yield from traditional cultivation. Sold for 700 kyats per basket in the market town, 10 miles distant, a successful crop brings in about \$35



Visit [www.harvardmag.com/extras](http://www.harvardmag.com/extras) to see additional photographs from Myanmar.

per acre. Landowning families' parcels average eight to 10 acres; perhaps 10 households till larger plots. But most households are landless—explaining the migration of many families to more promising parts of the country, and to Thailand and Malaysia.

And far to the south, where Ayeyarwaddy delta rice paddies suddenly seem to provide a lush life compared to the harsh constraints of the Dry Zone, Proximity Designs' business of boosting incomes, farmer by farmer, also continues apace. U Win Hlaing accompanies visitors as they walk from his precise rows of eggplants and greens to U Myat Thein's one-acre cornfield. As he shows his tube well and generator (and as ears of corn cook inside his home for his guests), U Myat Thein, a

village sales agent for Proximity products, says the corn crop brings in more income than 10 acres of rice.

The returns have justified, and been enabled by, Proximity's newest product, drip irrigation: hoses that run down each crop row, delivering water through tiny tubes to the roots of each plant. Unlike the foot-powered pumps and water baskets, this is the state-of-the-art technology for hot-climate agriculture in the developed world.

## Fiscal Portrait

THE UNIVERSITY'S annual financial report for fiscal year 2013 (ended last June 30), published in November, reveals a nearly 5 percent growth in operating revenue, to just more than \$4.21 billion; a greater increase in expenses—up 6 percent, to \$4.25 billion; and, therefore, a wider deficit of \$34 million (compared to a negligible deficit in fiscal 2012).

The nearly \$200-million gain in revenue principally reflects a larger distribution from the endowment (\$77 million), increased giving for current use (\$49 million, presumably reflecting the gathering force of The Harvard Campaign), and higher tuition income (\$29 million, primarily from graduate- and professional-degree programs). Total funding for sponsored research rose 1 percent, to \$845 million, as federal monies (77 percent of the total) shrank 2 percent and other

Deploying it in Myanmar took exacting design to effect gravity-fed distribution of the water, given the pervasive absence of power. Getting it adopted is in some ways even more challenging: in many farmers' eyes, the costly system (\$36 per quarter-acre) seemingly cannot deliver enough water to work, especially compared to twice-daily soakings from a sprinkling can or hose.

As U Myat Thein talks, U Win Hlaing picks up one of the connector tubes from a bucket, turns it over in his hand, eyes the tiny opening, and then puts it up to his mouth. He blows through the tube, feels the air come out into his open palm, gives it another thorough looking-over, and then gently places it back in the bucket. Thus does technology transfer proceed: come next season, Proximity can likely log another sale, and another farm family's income increased, in Kungyangon township.

—JOHN S. ROSENBERG

For more information, see [www.proximitydesigns.org](http://www.proximitydesigns.org). The Ash Center's Myanmar program is described at [www.ash.harvard.edu/Home/Programs/Institute-for-Asia/Myanmar-Program](http://www.ash.harvard.edu/Home/Programs/Institute-for-Asia/Myanmar-Program). The "research" link there provides access to all of the papers published by the scholars who have examined the country's economy, agriculture, governance, and policy matters.

sources increased 17 percent.

Harvard's spending in fiscal 2013 was driven by costs other than salaries, wages, and employee benefits—in contrast to the prior year (see "Sober Finances," January-February 2013, page 47). Compensation costs, which continue to account for about half of operating expense, rose 4 percent, with salaries and wages up 4 percent. Employee benefits rose 6 percent—in line with the growth in fiscal 2012 after accounting for a one-time adjustment.

But non-compensation expense increased 7 percent, including costs for a number of "strategic initiatives" listed in the report: the edX online collaboration, development of Allston properties, and the capital campaign itself. Some one-time items apparently increased these expenses, which were, however, also decreased by \$19 million compared to fiscal 2012, reflecting lower interest expense as Harvard's debt has been reduced from \$6.3 billion to

## Nobelists

In October, Richards professor of chemistry emeritus Martin Karplus '51 shared the Nobel Prize in chemistry for developing models of large molecules, like proteins; for a report on the science involved, see <http://harvardmagazine.com/2013/10/karplus>. And alumnus James E. Rothman, Ph.D. '76, now Wallace professor of biomedical sciences at Yale, where he chairs the department of cell biology and is founding director of a nanobiology institute, shared the Nobel Prize in Physiology or Medicine. His research is described at <http://harvardmagazine.com/2013/10/rothman>.

## Rhodes Sextet, Solo Marshall

Five seniors and a recent graduate have won Rhodes Scholarships for study at Oxford University this fall. The undergraduates are Elizabeth H. Byrne, a concentrator in human developmental and regenerative biology; Alexander J. Diaz (psychology); Aurora C. Griffin (classics); Andrew S. Lea (history and science); and Paolo P. Singer (economics). Katherine E. Warren '13 concentrated in anthropology. Harvard's newest Marshall Scholar, Brandon Liu '14 (computer science), will attend the School of Oriental and African Studies in London and Cambridge University.

## Duke Derivative?

Organized efforts to market the Harvard men's basketball team to student fans (preseason participatory "Crimson madness" events at Lavietes, for example) have now spawned "Crimson Crazies" T-shirts—derivative, surely, of Duke's celebrated "Cameron Crazies," named for that team's storied arena. Harvard coach Tommy Amaker played for and was assistant and associate head coach of the Blue Devils, so he knows his crazies. In light of the other Duke tradition, Krzyzewskiville (the undergraduate

# Brevia



**THE CORPORATION RECONFIGURED:** The two longest-serving members of the Harvard Corporation, the University's senior governing board, have announced that they will

conclude their service at the end of the academic year. Both Robert D. Reischauer '63 (top left), senior fellow since mid 2010, and Robert E. Rubin '60, LL.D. '01 (bottom left), were elected in 2002. Their departures represent the final step in implementing the governance reforms initiated in 2009, as term limits—the presumption that fellows would serve one or two six-year terms—were adopted. Attorney William F. Lee '72 succeeds Reischauer as senior fellow. For a full report, see <http://harvardmagazine.com/2013/10/step-down>.

queue for games, named after Coach K.), is a knock-off Amaker's Army next?

## Financial-aid Fallout

As The Harvard Campaign pursues \$1 billion or more to undergird financial aid, budget pressures are forcing other institutions to cut back on pre-recession aid commitments. Cornell from 2009 through 2012 charged parents nothing where family incomes were less than \$75,000 (and limited aid-package loans to \$3,000 for incomes

up to \$120,000); it reduced that zero-cost ceiling to \$60,000 this academic year (and raised the loan amount to \$5,000 for families with incomes from \$75,000 to \$120,000).

The University of Virginia has trimmed its Access UVa program, begun in 2004, which provided full scholarships for students from families with incomes up to \$47,000. The cost has risen from \$11.5 million to \$40.2 million through 2012, so the university has now phased in a loan component: up to \$28,000 during a student's four years.

## Nine-figure Fundraising

Even as Harvard sets a record campaign goal, other schools continue to pursue and receive large gifts. The University of Michigan announced a \$4-billion fund drive, the largest by a

public institution. Real-estate developer Stephen M. Ross, who owns the Miami Dolphins, gave Michigan, his alma mater, \$200 million for the business school and athletics, raising his total gifts to \$313 million; he chairs the campaign....New York University launched an effort to raise \$1 billion for financial aid....Phil Knight, co-founder and chairman of Nike, Inc.—an alumnus of the University of Oregon and Stanford Graduate School of Business (whose new campus was funded with his naming gift)—and Penny Knight offered a \$500-million challenge to Oregon Health and Science University, to stimulate cancer-research funding, bringing their support for OHSU to \$725 million....Weill Cornell Medical College received a campaign-kickoff gift of \$100 million from Sanford I. Weill and Joan Weill; their gifts to the college and university total more than \$600 million....Former Boston developer and owner of the Los Angeles Dodgers Frank McCourt gave Georgetown, his alma mater, \$100 million to create a public-policy school....Credit-card executive T. Denny Sanford gave the University of California at San Diego \$100 million for stem-cell research, atop an earlier \$30-million gift.

## Nota Bene

**MEDICAL MEMBERSHIP.** Seven professors



were among the 70 members newly elected to the Institute of Medicine in October: Katrina A. Armstrong, Jackson professor of clinical medicine; Judy E. Garber, professor of medicine; Ashish K. Jha, professor of health policy and management and associate professor of medicine; Michelle M. Mello, professor of law and public health; David J. Mooney, Pinkas Family professor of bioengineering; Mark A. Schuster, Berenberg professor of pediatrics; and Christopher A. Walsh, Bullard professor of pediatrics and neurology.

**CENTERED ON MEDICINE.** Harvard Medical School has established a new academic department of neurosurgery, recognizing it as a specialty distinct from general surgery. It is led by Robert Martuza, Sweet professor of neuroscience and chief of neurosurgery at Massachusetts General Hospital....Separately, Dana-Farber Cancer Institute, Children's Hospital, and the Broad Institute established a joint center for cancer precision medicine, aimed at personal therapies for patients with advanced cancers.

**UPPING THE ONLINE ANTE.** Coursera, the for-profit online learning company, announced a \$20-million round of venture-capital financing, bringing the total of such funding since mid 2013 to \$63 million. HarvardX, the University's edX online organization, has announced AlumniX, a repackaging of online course content for individual and alumni club use.

**RINK RENAMED.** Harvard Athletics announced that Bright Hockey Center has been renamed Bright-Landry Hockey Center in recognition of gifts from the

**UNIVERSITY PROFESSORSHIP.** Historian of music Carolyn Abbate, coauthor of the recent *A History of Opera: The Last Four Hundred Years*, has been appointed Buttenwieser University Professor, Harvard's highest faculty honor. She succeeds Stanley Hoffmann, the distinguished historian and scholar of international relations, who retired this past June (see a profile, "Le Professeur," July-August 2007, page 32). Abbate joined the faculty in 2005 as Peabody professor of music, but then moved to the University of Pennsylvania in 2008. She rejoined the faculty in 2013.

late C. Kevin Landry '66 and his family, including his wife, Barrie Landry, and their daughters, H. Gwinn Landry '93, Ed. M. '01, and Jennifer B. Landry Le '99. Construction now under way will add 20,000 square feet between the facility and Gordon Track; there will be new locker rooms, updated concession and "hospitality" areas, workout facilities, and coaches' offices. The Landrys previously endowed the women's ice hockey coaching position (see "To Russia, with Gloves," page 36).

**JAPANESE ART.** The Harvard Art Museums have been promised a gift of 300 works of art—principally screens and hanging scrolls from the Edo (1615-1868) and Meiji (1868-1912) periods. The works were collected by Robert '61 and Betsy Feinberg, who will also fund the study center within the Sackler Museum when the renovated Fogg complex opens next fall.

**MISCELLANY.** Lane MacDonald '88, formerly managing director of public markets, has been appointed managing director for private equity at Harvard Management Company (HMC), which invests the endowment. Private equity, one of the largest categories of invested assets, has become increasingly competitive, yielding returns below historic results and re-



STEPHANIE MITCHELL/HARVARD PUBLIC AFFAIRS AND COMMUNICATIONS

cent expectations....David H. Petraeus, retired four-star Army general and former director of the Central Intelligence Agency, has joined Harvard Kennedy School's Belfer Center for Science and International Affairs as a non-resident senior fellow....The Faculty of Arts and Sciences has announced that Cabot Science Library and the adjacent Science Center atrium will be redesigned for digital learning and enhanced student social space....The Parker Quartet will join the department of music as both Blodgett artists-in-residence and as teaching faculty this fall, succeeding the current resident artists, the Chiara Quartet....For its September 27-29 celebration of 60 years of alumnae, Harvard Law School managed to attract a law-firm or business sponsor for all but a few of its panel discussions—with the Harvard Law School Association sponsoring the rest. The Friday evening event was the "Wachtell, Lipton, Rosen & Katz Plenary Dinner & Celebration 60 Awards."...The inaugural, University-wide report of giving, launched to coincide with The Harvard Campaign, identifies four gifts, all previously disclosed, of \$25 million or more during 2011-2012—together totaling \$235 million. A dozen gifts (two anonymous) were listed in the "\$10 million and above" category.

**WINTHROP AWAITS.** Faculty of Arts and Sciences dean Michael D. Smith has announced that Winthrop House will be the next undergraduate residence renovated, from June 2016 to the start of the fall semester in the following year. Quincy's Stone Hall, the first project undertaken, welcomed students this past semester; Leverett's McKinlock Hall is under construction; and Dunster, the first House scheduled to be entirely renovated, will be vacated for the work after Commencement this May.



JON CHASE/HARVARD PUBLIC AFFAIRS AND COMMUNICATIONS

\$5.7 billion during the past two years (and, where possible, the cost of debt outstanding trimmed by refinancing). Adjusting for that savings, non-compensation expense rose a robust 8 percent. In the report's footnoted functional classification of operating expenses, the cost of the libraries (one of the major operations being consolidated, as noted in the introductory letter by Daniel S. Shore, vice president for finance and chief financial officer, and James F. Rothenberg, treasurer) decreased by 3 percent, to \$230 million: below the fiscal 2011 level. The institutional-support category (including general administration, fundraising and development, and other costs, including some of those one-time items not detailed) expanded \$77 million, or 12 percent, to \$734 million.

Among other noteworthy items:

Beyond its operating budget, Harvard is spending a *lot* on capital projects, including the art museums, the Business School's Tata Hall, and the undergraduate House renovation (a total of \$404 million in fiscal 2013, up 19 percent), with much more in prospect as the campaign underwrites further business school building, the Allston science complex and other projects recently approved in the institutional master plan, and so on.

Accrued retirement obligations decreased by \$302 million in fiscal 2013, driven principally by postretirement health benefits. That change reflects the recent rise in interest rates, different assumptions about future healthcare costs, and changes in the retiree medical plan. Further changes in retiree health benefits, effective January 1, 2014, affecting nonunion employees with more than five years to eligibility for coverage, will reduce the University's share of the premium cost for the coverage, and to varying degrees, increase the number of years of service to attain the maximum subsidy. For employees hired after that date, the minimum years of service and the age to qualify for coverage both increase; the number of years of service to attain the maximum subsidy rises (by a decade); and the University will cap the growth in its contribution to insurance premiums at 3 percent annually from 2020. In the aggregate, these represent potentially large reductions in Harvard's future liability for retiree healthcare.

Tending to past business, Harvard spent \$345 million during the year to get out of

the last of the interest-rate swap agreements it put in place a decade ago to help finance and build a vast Allston research campus—plans later radically downsized and pushed back. According to the University's figures, the cash costs incurred in undoing these swaps (intended to protect against *rising* interest rates, they yielded enormous losses and demands for collateral when interest rates *declined* following the financial crisis in 2008) now total \$1.255 billion. The remaining interest-rate exchange agreements shown in the financial-statement footnotes pertain to debt outstanding, and are a part of normal management of interest costs.

Looking to the future, total giving (including the current-use gifts cited above) climbed to \$792 million from \$650 million in fiscal 2012. Pledges receivable, another indicator of the fundraising campaign, rose to \$1.24 billion at the end of fiscal 2013, up from \$909 million the prior year.

Characterizing the year, Shore said of higher education generally, "There are continuing challenges for the sector" to which Harvard is not immune. This is the third year of essentially break-even results. (That includes taking into account the 2011 and 2012 reclassification of the 0.5 percent "administrative assessment" on the endowment as *operating* revenue, rather than a separate capital item—a change that bet-

tered reported results for fiscal 2011 by \$129 million compared to the previously reported figure, rising with higher endowment distributions in the subsequent years. See "An Allston Accounting Adjustment," January-February 2013, page 48.)

He pointed to "pent-up spending aspirations" in the face of continued pressure on revenues from tuition, sponsored research, and endowment investment returns. Indeed, the University would apparently be happy if sponsored support from all sources remained *level* in the current fiscal year. Reflecting the Corporation's spending rules based on investment results over time, budgeted distributions from the endowment to support academic operations, up 5 percent in fiscal 2013, are scheduled to increase just 2 percent this year—a significant constraint for deans.

Hence the importance of embracing "innovative revenue sources," as Shore and Rothenberg wrote in their letter. The campaign is the largest such opportunity at hand, and deans have a clear incentive to work with donors to pledge and accelerate payment on gifts for endowment, so they can expand distributions beyond the meager budgeted number. Technology transfer from inventions in Harvard laboratories is another. And at some point, in some way, collecting revenue from the edX online courses will likely figure in the mix.

## THE UNDERGRADUATE

# Goodbye, L.A.

by NOAH B. PISNER '14

**M**Y YOUNGER BROTHER and I were raking grass off the driveway when the mailman arrived with my rejection letter from Harvard. It came in a parchment-yellow envelope—business size—bundled in the crease of a tractor catalog addressed to *Our favorite neighbor*.

I hadn't anticipated a letter, having already received an e-mail with the very same, exciting news of my non-achievement one week earlier. Thinking, for the

moment, that the stewards in admissions had changed their mind, or that perhaps they wanted to say they were "very, very sorry" again, I thought it better that I double-check this newly arrived hard copy. With careful fingers, I held the envelope up to the sun and squinted through to the boldface text: I am very sorry to inform you....

"Oh they're just rubbing it in," my brother told me.

Not getting into Harvard as a senior in



high school was more disheartening than devastating, more mocking than moribund, for I'd never actually planned on going to an Ivy. "I'm just applying to Harvard for kicks and gigs," I would tell my friends and family. And yet, as tends to happen post-rejection, I couldn't quite shake the feeling that I was somehow inadequate, that the neighbor's snotty-nosed harp prodigy who had gotten into Yale was somehow better than I was. Ah well, at least the rejection gave me the peace of mind to do what I had been planning all along: go to film school.

"Film, huh?" my teachers would ask, muzzling their groans through pursed lips. Having kept my ambitions of directing and screenwriting from most people, this was a common response; after all, the valedictorian doesn't usually go to film school, does he? Given my teachers' worried expressions, I reassured them that I'd do it properly, that I'd go to school for it, that I was, in fact, talented, that I'd already been accepted to the very best film schools in the world, including the best of the best at the University of Southern California, so there was no need to worry. With their paralyzed blessing and a "no" from Harvard behind me, I could finally notify USC. I could finally commit to a college—for one year, anyway.

Transferring—not necessarily transferring to Harvard, just transferring in general—hadn't occurred to me until a red-eye flight, heading home to Virginia after USC's midsummer freshman pre-orientation. I sat by a screenwriter with a wine stain on his collar, who told me the horrible secret about Los Angeles.

"No one reads in Los Angeles," he said.

I scribbled the fact on the corner of my book, committing it to print and memory. What did he mean they don't read? How's a city full of filmmakers supposed to make movies without books? I had brought a duffel bag full of novels with me to orientation, mostly hardcovers, stuffed between two pairs of jeans and an old Frisbee. I in-

double, maybe triple, my narrative intake. But would I be able to in a place so apparently unliterary as L.A.? I wondered. How do Didion and Ellroy get by? I recalled something else Hornby once wrote: "I can exclusively reveal that if you sit by a swimming pool in L.A., wearing swimming shorts and reading [a book], then Hollywood starlets leave you alone." The

observation was supposed to be a joke, of course, but now it terrified me; moving to L.A. terrified me. One of my professors said he felt the same way when he relocated to Los Angeles from the Northeast, like nothing was real.

"Give it a few years," he said.

By January I was asking the same professor for a recommendation letter to transfer. It was still a precarious thought at the time—never for sure, always reversible—but it was something I'd been thinking about. I thought about how transferring meant abandoning my film career—or at least putting it on pause. I thought about how it would entail facing all the told-you-so's who'd haughtily bitten their thumbs at my decision to go to film school in the first place. I thought about how I'd have to justify myself to everyone

who asked: If filmmaking is my passion, my calling, my *raison d'être*, the thing I do well, the thing that drives me mad, the thing that keeps me sane, the thing I'd wrestle the devil for, then why in the hell would I want to abandon it? Because I wasn't ready for it.

I arrived at USC as starry-eyed as the rest of the film kids, but the more time I spent there, the more I realized that I was



sisted upon the extra weight, having recently read an essay by Nick Hornby that said that Charles Dickens invented 13,000 characters in his lifetime. That's one a day, every day for his entire working life, or a small town. Hornby said he could do so because he read so voraciously, which to me meant that if I was ever going to be as good a filmmaker as Dickens was a fictionist, I was going to need at least to

forfeiting my undergraduate education in favor of a glib professional program. I wasn't ready for my filmmaking career to start. I wasn't even sure if it was the career I wanted. Perhaps it is; I still don't know. The only thing I could be certain of was my uncertainty. Either way I wasn't going to put a consigning "career decision" in the dumb, sentimental hands of my 18-year-old self.


I sent out seven transfer applications in February 2011, and on May 6, 2011, 10 days before the end of my freshman year at USC, I was accepted to Harvard. I had again applied for kicks and gigs—doubly so this time, knowing that transferring was near impossible: in 2008 and 2009, the College hadn't accepted *any* transfer students. (Interestingly, for those two years, it was the only "Top 50" four-year college in the country, other than Princeton, that didn't have a transfer program; Princeton still doesn't.) But 13 of us were accepted my year, from a pool of 1,486 applicants (an acceptance rate of 0.87 percent, which, it turns out, was roughly one-tenth the rate at which I was first rejected).

It's strange to think about, with graduation only six months away: what did the admissions officers see in me that they didn't see in the other 1,473 applicants? Have I done what they hoped I would do? Do they regret their choice in the same way I regretted USC? Will it be too cheeky for me to hang my Harvard rejection letter next to my Harvard diploma, as if to say, "Behold my second chance!"? I'm not sure what I did in the one year I was at USC that made me a more viable candidate for Harvard, but whatever it was, I'm glad as hell I did it.

Don't get me wrong; being a transfer student at Harvard is no cakewalk. The housing system floats and isolates those who know no one. For my first semester I socialized almost exclusively with the other transfers—one junior and a dozen sophomores—many of whom I remain close to today. My transfer background was also for the longest time a crutch in all introductions: "My name is Noah and I'm a transfer student...yes, Harvard takes transfers...USC...not South Carolina...." I caught a break socially when, at the start of my

junior year, I was able to move from Dunster to Winthrop, where another transfer and I were "adopted" by a blocking group we'd gradually grown close to. I joined the *Crimson*, the *Advocate*. I did everything a Harvard student is supposed to do.

These days I seldom feel like a transfer. Lacking only the awkward run-ins with freshman-year hook-ups and a working knowledge of Yard dorms, I feel much like everyone else—perhaps, though, with a lighter step and a bit more perspective. Now and then, someone still mistakes me as being from California. More often, someone cursing the Cambridge winters will ask me why I'd ever leave the Los Angeles sunshine, the California girls, the downtown parties, Trojan football, film school. Only then do I recollect, and joke, "Dude, I know I messed up big time, right?" Truth is, though, I prefer it here. I prefer the occasional overcast, the kettlesful of split-pea soup in the dining halls, the underlit dorm parties that end at 2 A.M. on Fridays, the dozen and a half novels I've checked out of Lamont for "pleasure." For God knows what reason, I



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**HARVARD**  
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prefer this place; I'm cohesive here.

Do I miss USC? Perhaps perfunctorily, in its parts and pieces: my friends, certainly; the USC Song Girls, their red and gold costumes falling just below the buttocks, tapping and beckoning as the Trojan band belts out John Williams; the rows of football players in pearl jerseys; the glamorous girls with their calico skirts and Vuitton bags and blond hair that rises to a slight peak and then falls in sunflower petals;

the clean-cut boys in their pleated pants and unfaded black jeans, the rose-tinted Vuarnets over each and every wealthy fiz-zog, oblivious to the fact that their city is only a refraction of America brought gently down to earth. Sure, few people there actually read books, but at least the place was ripe with friends and characters. (Dickens would have a field day, anyway.)

I've only visited the school once since I left—for a few weeks last J-term. It was fun

to go back, of course, but what was more satisfying was to guess at the life I would've lived had I stayed. I'd have joined a fraternity and wasted time. Certainly, I'd have kept on with the film stuff and most likely have felt perpetually limited. I'd be happy, I imagine. I hope I'd still be reading. ▢

*Berta Greenwald Ledecy Undergraduate Fellow  
Noah Pisner '14 is about to plunge into Great Expectations.*

## SPORTS

# Over the Moon

*Seven straight wins against Yale, and a shared Ivy title*

IT TOOK A VICTORY in The Game, coupled with a Dartmouth upset of Princeton, to cut Harvard in for a share of the Ivy League championship, but that's how the 2013 football season shook out. With the Princeton-Dartmouth game still in progress, head coach Tim Murphy was asked at a post-Yale news conference about his team's chances of sharing the title. "At this point that's almost superfluous," he replied. He wanted only to discuss the toughness and character of a Crimson team

that had just dispatched Yale, 34-7, extending Harvard's winning streak in the venerable series to seven games. Said Murphy, "I don't know if there's ever been a team that we got more out of."

An hour later, in a Hanover snowstorm, Dartmouth finished off Princeton, 28-24, consigning the Tigers to their only league loss and depriving them of their first outright Ivy title since 1995. Harvard followers, queuing up to get out of Yale Bowl's parking lots, were over the moon.

With identical records (6-1 Ivy, 9-1 overall), Harvard and Princeton finished at the top of the Ivy standings. Dartmouth took third place, Yale, Brown, and Pennsylvania tied for fourth, and Cornell and Columbia brought up the rear.

Harvard's only defeat of the season was a tense, triple-overtime loss to Princeton, in a late-October contest that looked in retrospect like a playoff for the league championship. The game went into overtime after Harvard had tied the score, 35-35, with three minutes to play. The teams matched points in two overtime periods, but the Crimson offense faltered in the third session and could manage only a field goal. The three-pointer was then trumped by a six-yard touchdown pass from Quinn Epperly, Princeton's superhero quarterback, to receiver Roman Wilson, who made a leaping catch in the end zone with just one foot in bounds. The catch was legal, and it gave the Tigers a 51-48 win. Epperly had thrown five touchdown passes in regulation.

"Our kids played so hard that they willed the thing into overtime," Murphy said afterward. "In the end, [Princeton] just made one more play than we did."

Three other games were also decided

**Harvard followers stormed the field at Yale Bowl to join players celebrating the Crimson's seventh straight victory over the Blue.**



**"Superfan" Bill Markus '60 waving the Little Red Flag at Yale Bowl. Crimson loyalists have taken the flag to 124 Yale games since 1884; on Markus's watch, Harvard is now 12-1.**

SARA BETHELL



**On Harvard's first series of The Game, tailback Paul Stanton Jr. took a handoff from quarterback Conner Hempel, cut to the sideline, and sprinted 25 yards for a touchdown. Stanton would score three more times in the opening half, tying a Harvard-Yale record set in 1915.**

in the final minute of action. The earliest was a triple-overtime win over Holy Cross, with sophomore tailback Paul Stanton Jr. bolting 17 yards to pull out a 41-35 decision. In week seven, reserve placekicker Andrew Flesher's 23-yard field goal gave Harvard a 24-21 victory over Dartmouth with 48 seconds remaining. Two weeks later, the defensive unit held off a late Pennsylvania drive, preserving a 38-30 win with 16 seconds to play.

Harvard had shut out Penn in the opening half, building a stunning 38-0 lead in the game's first 35 minutes. Crimson teams hadn't scored so many points on the Quakers for more than three decades. With the game apparently in hand, Murphy rested a number of his starters, some of them nursing injuries. Penn's offense then came to life, mounting four scoring drives in a 19-minute interval and cutting a seemingly insuperable Harvard lead to just eight points. "Obviously, we pulled the starters too soon," Murphy would say later. In the final minute, alert defensive play halted a fifth Penn drive 20 yards from the Harvard goal line.

At Yale Bowl a week later, the starters got a full 60 minutes of playing time. The Game was a showpiece for the Crimson defense, which blunted all but two of Yale's drives at midfield. One vital defensive play came on Yale's second drive of the game, after a 15-yard pass reception that would have given the Blue a first down at the 50-yard line. Harvard cornerback Norman Hayes knocked the ball from the receiver's hands, and fellow corner D.J. Monroe fell on it. "That was the biggest play of the game," Yale coach Tony Reno said later. "We had a key third down converted, ball at midfield, the momentum was going our way."

On the other side of the ball, the game was a showpiece for back Paul Stanton. He scored four first-half touchdowns, tying a Harvard-Yale record set in 1915 by Eddie Mahan '16. Mahan scored his touchdowns on short-yardage runs. Stanton's first and last scores came on a 25-yard breakaway and a two-yard rush. He scored the other two touchdowns on passes of 21 and 18



yards from junior quarterback Conner Hempel.

With both teams employing no-huddle offenses, the tempo was brisk. Harvard led at the half, 28-0, prompting thousands of Yale partisans to head for the parking lots. The Crimson added six points on second-half field goals of 19 and 48 yards from senior David Mothander. The second was the longest of his career—and the longest in Harvard-Yale annals.

Stanton finished the game with 118 yards rushing on 27 carries, along with four pass receptions for 40 yards. His single-season total of 17 touchdowns has been surpassed only by the redoubtable Clifton Dawson '07, who scored 18 touchdowns in 2004 and 22 in 2006.

Hempel directed the offense with authority, completing 19 of 26 passes for 209 yards and two touchdowns. A resourceful scrambler, he picked up 57 yards rushing on 10 carries. His longest passes of the day went to senior tight end Cam Brate, a first team all-Ivy selection in 2012, who had missed the Dartmouth and Columbia games because of a leg injury. A 36-yard catch-and-run set up

a Stanton score at the start of the second quarter, and a 25-yard pass play ignited the Crimson's next scoring drive.

In 20 seasons at Harvard, coach Murphy has now beaten Yale 15 times. Since 2001, only one of his teams has placed lower than second in the Ivy standings. Seven have won or shared Ivy titles, two have gone undefeated, and six have posted records of 9-1 or better. With an overall record of 137-62, Murphy has the most wins of any coach in Harvard history.

#### A 9-1 Season

at San Diego	W	42-20
Brown	W	41-23
at Holy Cross	W	41-35
at Cornell	W	34-24
Lafayette	W	35-16
Princeton	L	51-48
Dartmouth	W	24-21
at Columbia	W	34-0
Pennsylvania	W	38-30
at Yale	W	34-7

**TIDBITS:** The 2013 H-Y game was the 600th to be played in the 99-year-old Yale Bowl. Harvard hasn't lost there since 1999.... Since the formalization of Ivy League play in 1956, the Crimson leads the Blue, 32-24-1. Harvard has come out on top in 12 of the teams' last 13 engagements....More than 50

local and regional Harvard Clubs, as far afield as London and Johannesburg, hosted viewings of NBC Sports Network's telecast of The Game.

Big numbers: In the Princeton game, the Ivy League's top-scoring teams generated almost 1,000 yards in total offense





**In 20 seasons as head coach of football, Tim Murphy has seen 15 Crimson teams defeat Yale.**

season's opener at the University of San Diego. He also threw four touchdown passes against Princeton. Hempel sat out three games with a knee injury, but in the seven he started, he accounted for 20 touchdowns (15 passing, five on foot).

**Versatility:** Senior Ricky Zorn was the

team's top receiver, with 50 catches for the season. A former quarterback, Zorn got the ball on a reverse in the Dartmouth game and threw a 32-yard scoring pass to senior receiver Andrew Berg.

**Banged up:** Injuries sidelined six offensive starters, four defensive starters, and all-Ivy placekicker David Mothander for part or all of the season....Mothander missed four midseason games after straining a leg muscle in practice. He completed a stellar career with 27 field goals and 158 points-after for a total of 239 points, a new Harvard kicking record.

**All-Ivies:** Linebacker and captain Josh Boyd, tight end Cam Brate, and defensive end Zach Hodges were unanimous selections for the all-Ivy first team. Brate was also a unanimous first-team choice in 2012. Also named to the first team were offensive lineman Nick Easton, defensive tackle Nnamdi Obukwelu, and defensive backs Norman Hayes and Brian Owusu.... Hodges, who led the league in quarterback sacks (6.5) and ranked second in tackles for loss (11.5), won the Crocker Award as the team's most valuable player and was short-listed for the Ivy League's Defensive Player of the Year trophy, to be awarded in December....Six Harvard players were named to the all-Ivy second team, and two received honorable mentions.

**Captain-elect:** Norman Hayes, of Tucker, Georgia, and Eliot House, will captain the 2014 Crimson team. Hayes was credited with 56 tackles, three forced fumbles, and two interceptions in the season just past.

**Sustainability:** Harvard's seven-game winning streak eclipses what had been the longest streak in the H-Y series, a string of six shutouts posted by Yale from 1902 to 1907. How long will the current streak last? "Statistically, this is unsustainable," said coach Murphy at his postgame news conference. "Yale is coming back." Time will tell. ~"CLEAT"

and combined for a total of 99 points—the most scored in any Harvard game since 1891, when the Crimson crushed Wesleyan, 124-0.

**Penn's comeback:** Had the Quakers' 30-point rally produced one more touchdown, it would have been historic. The biggest comeback on record came in 2006, when Michigan State rallied for 35 consecutive points in what ended as a 41-38 loss to Northwestern.

**Well-armed:** Junior Conner Hempel won the quarterbacking assignment in September and made an auspicious debut, throwing four touchdown passes in the

## To Russia, with Gloves

*Katey Stone coaches the Olympics-bound U.S. icewomen.*

THE HARVARD PIPELINE to the Winter Olympics this February goes straight through Bedford, Massachusetts. That's where the U.S. women's national hockey team set up its training facility: 25 athletes, including five who have played at Harvard, took up residence there in September to train at Edge Sports Center in preparation for the Sochi Games. The Harvard candidates are Julie Chu '06, Michelle Picard '15, Josephine Pucci '13, Kate Buesser '11, and Lyndsey Fry '14; the mentor in charge of shaping these athletes into the 21 players of the Olympic squad (to be announced January 1) is Landry Family head coach for women's ice hockey Katey Stone. Though she has been in charge at Harvard for 19 years and has won more games than any other coach in the history of Division I women's hockey, she calls this moment

"the pinnacle" of her career.

Since 1994, the nerve center of Harvard's women's hockey program has been a windowless cubby of an office tucked under the stands at the Bright-Landry Hockey Center. When Stone arrived as the sport's fourth coach, she renovated an old corner locker room, bringing in a comfortable couch and chair covered in crimson-and-white check, and scattering table lamps around to give the room a homey feel. "Her office was just awesome," says Union College coach Claudia Asano Barcomb '99, a former Harvard captain and assistant coach, "because it's on the way to the locker room and it was always warm and welcoming. The door was always open."

Stone was a coaching staff of one when she began her Harvard career. She recruited players first at the hockey-rich prep

schools, where she had built a network during prior coaching stints at Tabor, Northfield Mount Hermon, and Exeter, as well as during her own stellar lacrosse and hockey career at the University of New Hampshire. From the start, she looked for more than talent. "Within the Harvard [admissions] standards, which have increased every single year I've been [here]," she says, "I went after character: kids who were willing to work their tails off, with no guarantee of what that actually meant, to be a part of something that was special. With a locker room filled with great character and energy—to me, the sky's the limit."

In Stone's first season, the nascent Crimson surprised Northeastern, the era's dominant team, by winning the Beanpot. There followed three lean, learning years. Then came 1998-99, a magical 33-1 run to a national championship, and Harvard hasn't had a losing season since. Soon

enough, word-of-mouth became Stone's top recruiter.

Her remarkable 402-171-35 record includes nine NCAA tournament appearances with three consecutive trips to the championship game (2003, 2004, 2005), six ECAC regular-season titles, five ECAC tournament championships, nine Ivy League titles, and 10 Beanpots. She has coached nine Olympians, six Kazmaier Award winners, and 21 All-Americans. (Taking over behind the bench at Harvard this year, while Stone is on leave, is interim head coach Maura Crowell, assistant coach for the Crimson for the last three years.)

The 47-year-old Stone is the first woman to coach the women's Olympic team. "It was an easy decision," reports Reagan Carey, director of women's hockey for USA Hockey. Stone, she says, was chosen not because she is a woman, but strictly on the basis of her accomplishments: "She's right for the job."

STONE WAS BORN into a family of coaches; her father was the longtime football and baseball coach and athletic director at Taft School in Watertown, Connecticut, and her three older siblings are all coaches, too. The Stones lived on campus, an endless playing field for Katey, who ran from one sport to the next as fast as she could. "She was just a fireball," says her older sister.

"She's strong; she has confidence in what needs to be done as head coach," says Carey. "And she's competitive, whether it's on the ice getting the team together or off the ice in a friendly game of whatever." "Whatever" includes the word game Taboo: Lauren McAuliffe '04 remembers an endless round played at the back of the team bus because Stone refused to quit until her team was winning. The teams Stone put together for bowling competitions always won, too.

**Katey Stone (shown above at the Edge Sports Center in Bedford, Massachusetts) diagrams a play for her athletes.**



Harvard women's basketball coach Kathy Delaney-Smith, a friend and tennis partner, respects the composure Stone maintains while competing so intensely. "Katey is one of those athletes who can play any sport," she says. "Golf is really her first love, but she's a great tennis player. When we compete, it might bother her a bit if I win because I'm almost 20 years older, but she keeps it very balanced and very in perspective."

"She's a demanding coach, and I say that in the best way," says three-time Olympian Julie Chu. "She sets really high standards and expectations for the players and makes sure that every day, we're trying to live up to those standards. The reason our teams have been so successful

and continue to be successful at Harvard is because she really pushes and gets the most out of her players and really cares not only about the on-ice portion, but also about how she develops us as people off the ice."

The United States won the inaugural women's hockey Olympic gold medal in 1998, but Canada has claimed the last three. For the Americans, leaving Sochi with anything but gold will be a colossal letdown. Yet Stone says, "I firmly understand we could do everything right and win, and we could do everything right and maybe not. But that's the chance you have to take."

Her cozy office at Harvard is gone now, swept away in building renovations, but Stone will be back. "We have a goal—a gold medal," she says, "but we don't have a personal agenda in this. I'm going to go back to Harvard and be just as happy as I was before I left. We're here because we want this to be the best experience these women have ever had in their lives and, hopefully, we'll help them get what they want."

—BARBARA MATSON



*Barbara Matson '75 is a freelance writer in Dedham, Massachusetts.*



# Disrupted Lives

Sociologist Matthew Desmond studies eviction and the lives of America's poor.

by Elizabeth Gudrais | Photographs by Michael Kienitz

**T**HE SHERIFFS announced their arrival with a loud knock. If nobody was inside, they'd have to kick the door in—but at this house, someone was home.

The second-floor apartment was home to Danielle Shaw and her partner, Jerry Allen. On this Wednesday morning in August, Shaw and Allen were at home with young relatives, the children enjoying the last days of summer break.

Then the eviction squad arrived: two Milwaukee County deputy sheriffs and five movers, assigned to get the tenants out as quickly as possible. They were accompanied by Matthew Desmond, assistant professor of sociology and of social studies, who studies poverty, housing, and eviction as a force in the lives of the poor.

As Desmond looked on, the deputies swept into the apartment and briskly outlined the process. The couple could choose to put their belongings in storage at the moving company's warehouse—and pay a fee to retrieve them—or the movers would leave everything on the curb.

The eviction did not come as a surprise—Shaw and Allen had begun packing, and the living room was already piled high with boxes—but the timing did. Allen protested that upon receiving the eviction notice, he had called the landlord, who said they would have 8 to 10 days before actually having to leave; this was only day six. The deputies explained that once an eviction order is issued, it can be enforced immediately; any delay is due to a backlog of cases.

After phoning a friend to ask for storage space at his house until they found a place to live, Allen left to rent a trailer. In their bedroom, Shaw made phone calls to friends and relatives, explaining that they were being forced out earlier than expected. "I don't see how they get to just put our stuff out," she told one. "We have nowhere to go." After hanging up, she sat down on the bed, her expression heavy with despair.

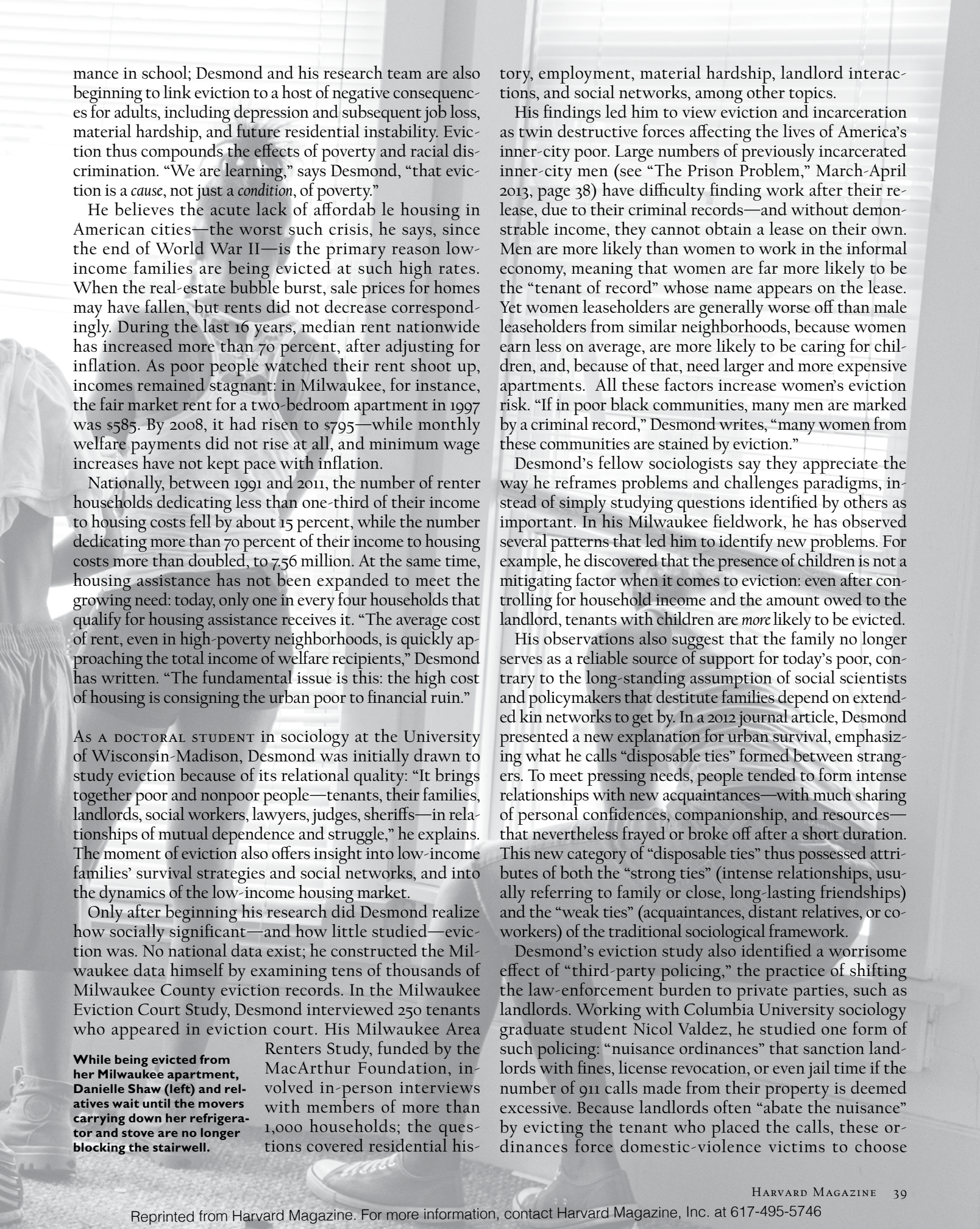
Desmond's research has revealed just how common eviction is in the lives of poor people, particularly for residents of the segregated inner city. Analyzing court records of formal evictions, he found that in Milwaukee's majority-black neighborhoods, 1 in 14 renting households is evicted each year—and even this proportion significantly underestimates the number of families whose lives are disrupted by involuntary displacement. That's because formal evictions can be expensive for landlords—in addition to lawyers' fees, they must pay court costs and an hourly charge for the eviction squad—so they often work out agreements with tenants, sometimes even paying them cash to move out.

Desmond also met landlords who used more adversarial means, cutting off electricity or even removing the front door of a tenant in arrears so that the unit would be condemned and the tenant forced to move out.

These sorts of forced relocations take place off the books. So Desmond collected new survey data from more than a thousand Milwaukee renters to try and capture *all* involuntary displacements and gain a more comprehensive picture. Working with sociology graduate student Tracey Shollenberger, he found that the most recent move for almost one in eight Milwaukee renters was an eviction or other involuntary relocation; the ratio rises to one in seven for black renters, and fully one in four for Hispanic renters.

Many who are evicted end up in shelters or even on the street. When they do find housing, a record of eviction often means they are limited to decrepit units in unsafe neighborhoods. This transient existence is known to affect children's emotional well-being and their perfor-





mance in school; Desmond and his research team are also beginning to link eviction to a host of negative consequences for adults, including depression and subsequent job loss, material hardship, and future residential instability. Eviction thus compounds the effects of poverty and racial discrimination. “We are learning,” says Desmond, “that eviction is a *cause*, not just a *condition*, of poverty.”

He believes the acute lack of affordable housing in American cities—the worst such crisis, he says, since the end of World War II—is the primary reason low-income families are being evicted at such high rates. When the real-estate bubble burst, sale prices for homes may have fallen, but rents did not decrease correspondingly. During the last 16 years, median rent nationwide has increased more than 70 percent, after adjusting for inflation. As poor people watched their rent shoot up, incomes remained stagnant: in Milwaukee, for instance, the fair market rent for a two-bedroom apartment in 1997 was \$585. By 2008, it had risen to \$795—while monthly welfare payments did not rise at all, and minimum wage increases have not kept pace with inflation.

Nationally, between 1991 and 2011, the number of renter households dedicating less than one-third of their income to housing costs fell by about 15 percent, while the number dedicating more than 70 percent of their income to housing costs more than doubled, to 756 million. At the same time, housing assistance has not been expanded to meet the growing need: today, only one in every four households that qualify for housing assistance receives it. “The average cost of rent, even in high-poverty neighborhoods, is quickly approaching the total income of welfare recipients,” Desmond has written. “The fundamental issue is this: the high cost of housing is consigning the urban poor to financial ruin.”

As a doctoral student in sociology at the University of Wisconsin-Madison, Desmond was initially drawn to study eviction because of its relational quality: “It brings together poor and nonpoor people—tenants, their families, landlords, social workers, lawyers, judges, sheriffs—in relationships of mutual dependence and struggle,” he explains. The moment of eviction also offers insight into low-income families’ survival strategies and social networks, and into the dynamics of the low-income housing market.

Only after beginning his research did Desmond realize how socially significant—and how little studied—eviction was. No national data exist; he constructed the Milwaukee data himself by examining tens of thousands of Milwaukee County eviction records. In the Milwaukee Eviction Court Study, Desmond interviewed 250 tenants who appeared in eviction court. His Milwaukee Area

Renters Study, funded by the MacArthur Foundation, involved in-person interviews with members of more than 1,000 households; the questions covered residential his-

tory, employment, material hardship, landlord interactions, and social networks, among other topics.

His findings led him to view eviction and incarceration as twin destructive forces affecting the lives of America’s inner-city poor. Large numbers of previously incarcerated inner-city men (see “The Prison Problem,” March-April 2013, page 38) have difficulty finding work after their release, due to their criminal records—and without demonstrable income, they cannot obtain a lease on their own. Men are more likely than women to work in the informal economy, meaning that women are far more likely to be the “tenant of record” whose name appears on the lease. Yet women leaseholders are generally worse off than male leaseholders from similar neighborhoods, because women earn less on average, are more likely to be caring for children, and, because of that, need larger and more expensive apartments. All these factors increase women’s eviction risk. “If in poor black communities, many men are marked by a criminal record,” Desmond writes, “many women from these communities are stained by eviction.”

Desmond’s fellow sociologists say they appreciate the way he reframes problems and challenges paradigms, instead of simply studying questions identified by others as important. In his Milwaukee fieldwork, he has observed several patterns that led him to identify new problems. For example, he discovered that the presence of children is not a mitigating factor when it comes to eviction: even after controlling for household income and the amount owed to the landlord, tenants with children are *more* likely to be evicted.

His observations also suggest that the family no longer serves as a reliable source of support for today’s poor, contrary to the long-standing assumption of social scientists and policymakers that destitute families depend on extended kin networks to get by. In a 2012 journal article, Desmond presented a new explanation for urban survival, emphasizing what he calls “disposable ties” formed between strangers. To meet pressing needs, people tended to form intense relationships with new acquaintances—with much sharing of personal confidences, companionship, and resources—that nevertheless frayed or broke off after a short duration. This new category of “disposable ties” thus possessed attributes of both the “strong ties” (intense relationships, usually referring to family or close, long-lasting friendships) and the “weak ties” (acquaintances, distant relatives, or co-workers) of the traditional sociological framework.

Desmond’s eviction study also identified a worrisome effect of “third-party policing,” the practice of shifting the law-enforcement burden to private parties, such as landlords. Working with Columbia University sociology graduate student Nicol Valdez, he studied one form of such policing: “nuisance ordinances” that sanction landlords with fines, license revocation, or even jail time if the number of 911 calls made from their property is deemed excessive. Because landlords often “abate the nuisance” by evicting the tenant who placed the calls, these ordinances force domestic-violence victims to choose

**While being evicted from her Milwaukee apartment, Danielle Shaw (left) and relatives wait until the movers carrying down her refrigerator and stove are no longer blocking the stairwell.**



between their immediate physical safety and keeping their apartments. After he published a paper on this topic, the American Civil Liberties Union, working with a Pennsylvania woman evicted after being attacked more than once by her boyfriend, filed a lawsuit (now pending) challenging the legality of such ordinances.

ALTHOUGH Desmond's Milwaukee research is a mixed-methods endeavor involving multiple datasets and a team of research assistants and collaborators, the study began with ethnography, that old-fashioned practice of immersing oneself in a community and recording detailed observations of everyday life. He spent four months in 2008 living in a trailer park on Milwaukee's south side, a poor, predominantly white neighborhood near the airport, and nine months living in a rooming house in a poor, predominantly black neighborhood on the city's north side. (The 2010 U.S. census listed Milwaukee as second only to Detroit among the nation's most segregated cities.) Through this work, he learned about what led to eviction, its aftermath, its context, and what it meant in people's lives. He writes: "I sat beside families at eviction court; helped them move; followed them into shelters and abandoned houses; watched their children; ate with them; slept at their houses; attended church, counseling sessions, Alcoholics Anonymous meetings, and Child Protective Services appointments with them; joined them at births and funerals; and generally embedded myself as deeply as possible into their lives."

This intimate view of life in poor neighborhoods informed the way Desmond designed his surveys. It also allowed him to study eviction at the ground level: observing, for instance, which tenants landlords work with and which they throw out. On several occasions, he saw one tenant being evicted while another owing the same amount (or even more) was granted extra time to pay or the chance to work out a special arrangement with the landlord. The eviction decision, he learned, cannot be reduced to simple arithmetic involving how much someone owes; tenants' gender, race, family status, and style of interacting with the landlord also come into play.

On that Wednesday in August, confusion was the common thread among the three households that were evicted. (Six others had either moved out already or been granted more time). In one case, a woman who worked two jobs (as a school-bus driver and manager at McDonald's) said she paid her rent on time but the checks were returned to her uncashed after the bank foreclosed on her landlord. She was forced to leave with her two children—including a two-month-old baby. In another, an eviction order was issued when a hospitalized tenant missed a court date because she was recovering from a stroke. She had even been to court the day before the eviction actually occurred, and had been misinformed by her landlord's attorney that the situation was resolved and that she would be allowed to stay.

Danielle Shaw and Jerry Allen also felt misled. The previous December, before moving in, they had told their landlord that their "money situation was going to be up and down," reflecting their job situations. Both Shaw, 21, and Allen, 20, had occasional employment (she with a temp agency, he with a building-demolition crew), but were looking for steadier work. Shaw said the landlord told her when she signed the lease, "It doesn't matter if the rent is late—just pay the late fee." But when they did fall behind, he initiated eviction proceedings.



Desmond has seen dozens of cases where tenants don't know their rights, don't understand the process, and are given conflicting or inaccurate information. In eviction proceedings, most landlords have legal representation, while most tenants do not. For this reason, he advocates increasing access to free legal counsel for tenants.

Very often, his policy suggestions are grounded in trends turned up by his ethnographic research. After observing case after case in which a relatively small unplanned expense led to a missed rent payment and, ultimately, eviction, he also supports the idea of one-time grants for families experiencing temporary financial hardship. (He writes, for example, of one woman evicted from the trailer park who fell behind in her rent after paying her gas bill because she wanted to be able to take hot showers.) With examples like this, he aims to show that every day, poor people are forced to make choices among items that middle-class Americans take for granted, and sometimes must even choose between basic needs, because they can't afford them all in the same month.

Through his books, articles, and newspaper op-ed essays, he tries to get readers to reexamine how they think about poverty and issues of race. One important point he stresses is that poverty is not innate or permanent, but rather, is influenced by social structures and relationships, such as that between landlord and tenant. "A lot of people talk about poverty like it's a permanent state of being," he says, "like the poor are a plant variety." Instead, he says, poverty is a process that involves a victim, a system that produces poverty, and people who benefit from that



**Above left: Yolanda Matte, Danielle Shaw's grandmother, was among those evicted that day. Above: Matthew Desmond at the Milwaukee trailer park where he lived while conducting fieldwork for his doctoral dissertation. Right: A deputy sheriff supervises as an evicted tenant carries belongings to the curb.**

system—and he challenges each of us to recognize our role.

By all accounts, Desmond is a versatile sociologist, skilled at quantitative analysis, social theory, and the practice of ethnography. He considers these three methods equally important in influencing social-policy debates to acknowledge problems and move toward solutions. But his colleagues say his talent as a writer, above all, sets him apart. With a style that Eric Klinenberg, a sociologist at New York University, calls “deceptively simple but devastatingly sharp,” Desmond presents the poor in their full and complex humanity, with the hope that his words will motivate action or shift views.

DESMOND'S FIRST BOOK, *On the Fireline*, is an ethnography of wildland firefighters, a familiar population for him: an Arizona native, he spent three summers during college on a firefighting crew, then returned in 2003 to work a fourth season while conducting research for his master's thesis in sociology.

Whether he is writing about race and poverty or about firefighting, Desmond's prose displays a lyrical quality and keen observation. For inspiration, he looks not only to other ethnographers, but also to fiction writers—for instance, in this description of the sound of a wildfire: “*Giocoso* eighth notes of staccato crack-



les, hisses, and pops skip unevenly across the five treble clef lines while a whole-note rumble—guttural, a continual clearing of the throat—stretches across measures on the lowest ledger.” Or this description of an experienced firefighter driving a truck: “Leaning on the oversized steering wheel, his body tilts and pauses with the engine as if flesh and steel were one.”

The book examines why men (the ranks of wildland firefighters are almost exclusively male) choose to enter such a risky profession, and how their upbringing socializes them to under-



estimate just how dangerous it is. The reader is a fly on the wall of the fire station, party to camaraderie and discipline as well as lewd talk and practical jokes.

Desmond also explains how these interactions illustrate the unspoken values and unwritten rules of firefighter culture. And his analysis of this culture—both formal training and social inculcation—leads him to conclude that the U.S. Forest Service could better prevent deaths and promote firefighters' safety by focusing more on teamwork and less on individual responsibility. (He repeated this recommendation in a *New York Times* op-ed this past July after a wildfire killed 19 firefighters in Arizona.)

It seems natural that Desmond would gain the firefighters' trust with relative ease; after all, he was one of them. But what about getting poor families in the inner city to open up to him, given the social and racial divisions in American society? Gaining entry requires a good dose of humility and a high tolerance for rejection, Desmond notes, but ethnography, he says, comes with far greater challenges, such as noticing the right things, knowing how to interpret what one sees, and remaining comfortable with confusion instead of rushing to impose order.

During graduate school, Desmond and his wife, Tessa Lowinske Desmond (now program administrator and academic adviser for the Committee on Ethnicity, Migration, Rights at Harvard), lived in a low-income, predominantly black neighborhood in Madison, so "it was not a huge leap" for him to move into poor neighborhoods in Milwaukee for his fieldwork, he notes. Still, reminders that he was an outsider sometimes surfaced at unexpected moments, revealing how complicated and challenging it is to recognize and discard one's own implicit biases. One New Year's Eve, he was sharing a meal of chicken wings with fellow tenants at the rooming house. Without giving it a second thought, Desmond asked the woman who had prepared the food if she had a paper towel. The woman and her husband responded with friendly ridicule, remarking on the cost of paper towels and saying he should be content, as they were, to lick his fingers to clean them off.

Desmond sometimes uses a recorder; at other times, he takes detailed notes and fills in more detail at the end of the day. (His ethnographic work in Milwaukee generated more than 4,000 single-spaced pages of notes.) In between research sessions, he hones his craft by looking around instead of staring at his phone while walking to work or taking public transportation. "I dictate observations in my head—observations about storefronts and walking styles and perfume, about little stirring moments," he explains. "I also force myself to talk with a lot of strangers. Sometimes I'm in the mood, and sometimes I'm not....It's a challenge; I have to work at it."

Although his ethnographic observations eventually feed into scholarly articles about sociological concepts, Desmond has learned that he must sometimes set aside his academic training and just listen while conducting ethnographic research. "That buzzing inner monologue, Jacob Riis and Daniel Bell and [Pierre] Bourdieu all chattering away inside my head, often would draw me inward, hindering my ability to remain alert to the heat of life at play right in front of me," he said in a talk for fellow sociologists. Being a good ethnographer, he said, "means telling Bourdieu to hush for a minute."

The skills that make a good ethnographer are not just different, "but opposite, and even antithetical," to some of the other skills required of an academic, he notes. To do both, one must switch



from being outgoing and gregarious to working in solitude; from listening and observing with an open mind to generating insightful conclusions in one's own mind. Having "shed our scholarly skin," he says, "we must climb back into it when the season for analysis and writing arrives." But the insights generated through fieldwork make this awkward transition worthwhile.

DESMOND'S OWN COLLEGE STUDIES motivated him to confront poverty and racial injustice. The eldest of three children of a Christian preacher and prison chaplain father and a mother who worked with children with disabilities, he enrolled at Arizona State intending to study law. While majoring in communication and justice studies—an interdisciplinary program that combined history, sociology, political science, and law—he recalls that readings about poverty, inequality, and issues of race "blew my mind." Determined to understand these problems more deeply, he set his sights on graduate school.

At Harvard, he teaches a graduate course on ethnographic fieldwork and a junior social-studies tutorial, "The American Ghetto," that guides undergraduates in conducting fieldwork in low-income Boston neighborhoods. He spent his first year and a half at Harvard as a Junior Fellow, working on his book about eviction and on *The Racial Order*, a volume written with Wisconsin sociologist Mustafa Emirbayer, Ph.D. '89, his dissertation adviser, that aims to put forth a comprehensive theory for the field of race studies.

This is a companion volume to *Racial Domination, Racial Progress* (2010), a college textbook in which Desmond and Emirbayer use stark facts (and often blistering language) to demonstrate the persistence of racial inequality in the United States. They aimed to create a "non-textbook textbook," one that "does not reduce one of today's most sociologically complicated, emotionally charged, and politically frustrating topics to a collection of bold-faced terms and facts you memorize for the midterm."

Desmond notes that the book is used at a variety of institutions in all regions of the country, and beyond. He hopes that his work



**Above left: The Milwaukee warehouse of Eagle Moving and Storage Company, where evicted renters can pay to store their belongings. Above: Katherine Faulkner was evicted from her apartment after missing a court date while she was in the hospital recovering from a stroke. Right: Desmond catches up with Kendall Belle (known as “Woo”). The two were roommates while Desmond did his fieldwork.**

will ripple beyond academia to affect American society, in part by opening the minds of college students.

ON THAT WEDNESDAY IN AUGUST, after the eviction squad wrapped up for the day, Desmond stopped in at a local homeless shelter to see his former roommate, Kendall Belle, who goes by the nickname “Woo.”

Woo’s fortunes had been up and down since his days living with Desmond in the rooming house. Things had been going well—he’d been engaged to be married and had invited Desmond to serve as his best man—but then he was jailed for delinquent child-support payments, and his fiancée left him. Around the same time, he stepped on a nail; Woo thought the wound was healing, but diabetes had caused decreased sensation in the injured foot, and when he visited a doctor to get clearance to go back to work, he learned that the wound was so badly infected that his leg would need to be amputated.

Desmond had visited a few weeks earlier, just after Woo’s surgery, bringing clothing and other items Woo needed and helping him reinstate his cell phone service. While conducting fieldwork, Desmond mostly resisted the urge to intervene. Still, with a deep level of involvement in people’s lives, “friendships are a natural result,” he says. Immersing oneself in a community leads to relationships and reciprocity. Desmond occasionally offered help, as any friend would; he notes that he was also the recipient of much generosity during his fieldwork in Milwaukee (especially remarkable considering the financial hardships affecting most of the people he met).

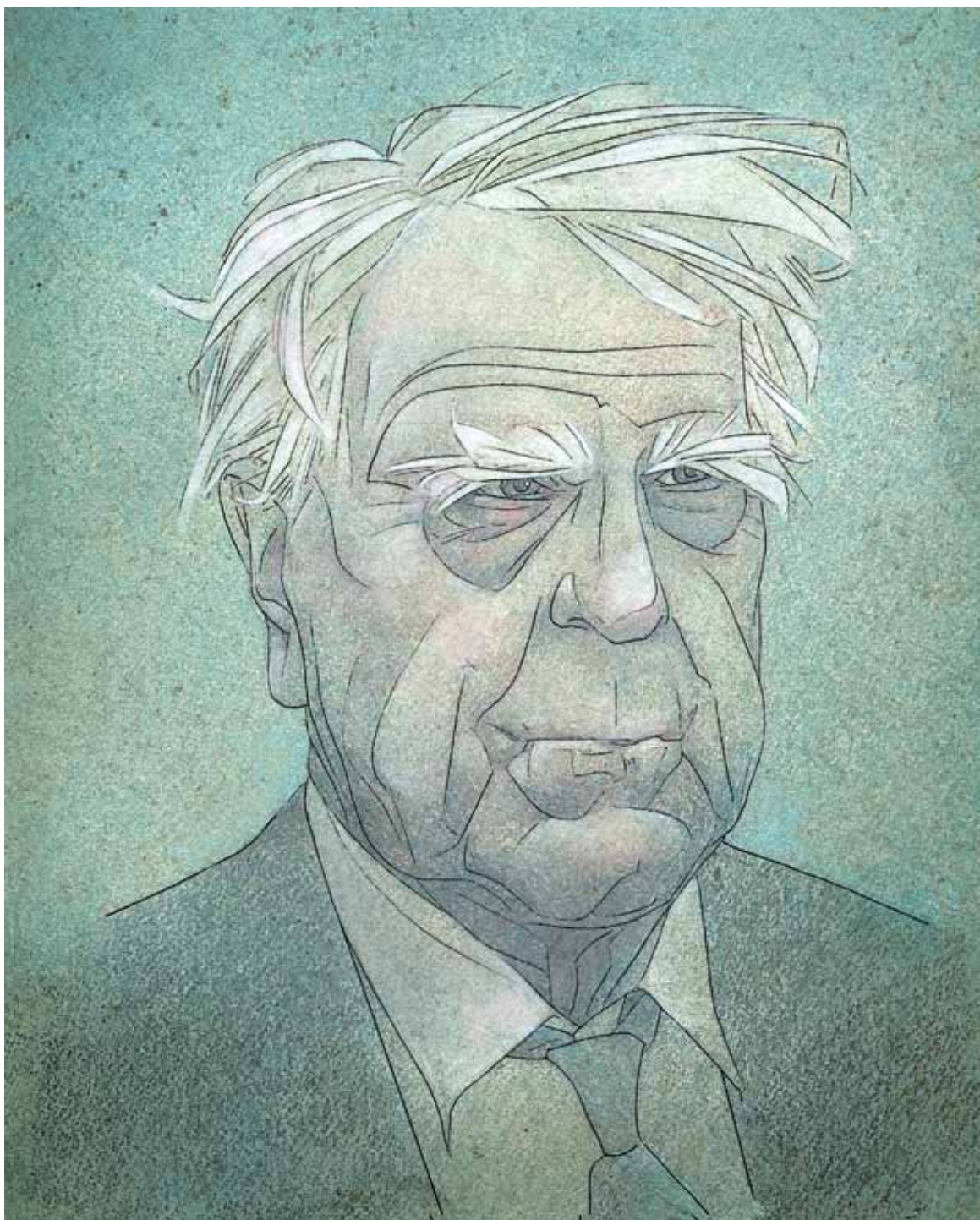
As the sun began to set, Desmond sat on the cement outside the shelter, talking and laughing with his old friend. Woo would



soon be fitted with a prosthesis, and was determined to walk again by Christmas. Next, he would confront the challenges of finding work and housing. For now, though, he had a bed in the shelter; many of the Milwaukee residents evicted that week would not be so fortunate. ▢

*Contributing editor Elizabeth Gudrais '01 is a freelance writer living in Madison, Wisconsin. Her last feature article profiled sociologist Bruce Western and his research on incarceration.*





# Extracting the Woodchuck

Robert Frost's "doubleness,"  
revealed in his letters—and poems

by ADAM KIRSCH

**I**T'S NOT OFTEN that a poet is famous enough to become the target of character assassination 50 years after his death. But in November 2013, a half-century after Robert Frost died, *Harper's Magazine* published a withering attack on his legend, in the form of a short story by Joyce

poems, "Stopping By Woods on a Snowy Evening"—describes the attempt of a young woman, Evangeline Fife, to interview the aging Frost in 1951. But the Frost on display here is so odious that

Carol Oates. The story, "Lovely, Dark, Deep"—its title drawn ironically from one of Frost's most famous

the interview soon turns into a confrontation, then an inquisition. After commenting nastily on the poet's physical appearance—"his torso sagged against his shirt like a great udder"—Oates gives us a Frost who makes lecherous comments, and lies about his past, and trashes other poets, and fails as a father and husband, and displays an overall arrogance and meanness that make him entirely loathsome. The story ends with Frost collapsed on the ground, almost murdered by his interviewer's contempt.

Oates's story appears so entirely hostile to Frost that the reader starts to wonder about its real meaning. Does Oates, in fact, want us to share Fife's anger at the old poet? Are all the accusations she hurls meant to be taken at face value? Or is this episode, perhaps, a dramatization of the cruel and inhumane ways that posterity treats great writers, especially when it comes time to write their biographies? After all, it was none other than Joyce Carol Oates who wrote critically, in 1988, about the rise of "pathography," a variety of literary biography "whose motifs are dysfunction and disasters, illnesses and pratfalls, failed marriages and failed careers, alcoholism and breakdowns and outrageous conduct." Such an approach to a writer's life, Oates observed in *The New York Times Book Review*, can answer every question except the most important one: "How did so distinguished a body of work emerge from so undistinguished a life?"

And as a leading example of such pathography, Oates cited the three-volume biography of Frost, class of 1901, Litt.D. '37, by Lawrence Thompson, which she described as a work of "true malevolence." Indeed, Thompson's biography of Frost has become notorious as an example of what can happen when a biographer turns completely against his or her subject. Thompson was Frost's hand-picked, authorized biographer, but as he came to know his subject over the decades he took to write the book, he came to see Frost in much the same way that Evangeline Fife sees him in Oates's story: as a monster of egotism, who inflicted harm on his friends and family. Jay Parini, whose own biography of the poet, *Robert Frost: A Life*, was written in part as a corrective to Thompson, described the Frost who emerges in the Thompson biography as "a selfish, egomaniacal, dour, cruel, and angry man."

Thompson's portrait of Frost was like a bomb dropped on the poet's legend. The critic David Bromwich, writing about the last volume of Thompson's biography in 1977, said that after reading it, "one feels that to stand in the same room with a man about whom one knew a quarter of the things one now knows about Frost would be more than one could bear." But biography could do so much damage only because that legend was itself so imposing, and so carefully tended. Starting in the 1910s, around the time he turned forty, Robert Frost became the most famous American poet—and not just the most famous, but the best-loved, the one who seemed to embody all that America liked most about itself. At a time when modern poetry was growing increasingly arcane, here was a poet who wrote in straightforward language about ordinary New England farmers and laborers—a democrat in form and substance.

On a thousand podiums, Frost helped to create the image of a homespun American sage, reading his poems and delivering himself of crafty jokes and wise sayings. You can see this performance in action in *The Collected Prose of Robert Frost*, a volume in the continuing Harvard University Press (HUP) edition of Frost's complete work. Once he became famous, Frost did not write much prose, and many of the items in the book are lectures or occasional remarks. But one

exception is a baseball article published in *Sports Illustrated*, a description of the All-Star Game that Frost attended in 1956:

Americans would rather watch a game than play a game. Statement true or false? Why, as to these thousands here today to watch the game and not play it, probably not one man-jack but has himself played the game in his athletic years and got himself so full of bodily memories of the experience (what we farmers used to call kinesthetic images) that he can hardly sit still. We didn't burst into cheers immediately, but an exclamation swept the crowd as if we felt it all over in our muscles when Boyer at third made the two impossible catches, one a stab at a grounder and the other a leap at a line drive that may have saved the day for the National League.

Here is the poet as common man, immersing himself in the crowd—note that inclusive "we"—and reveling in the American pastime. (Just try to imagine T.S. Eliot, A.B. 1910, A.M. '11, Litt.D. '47, writing about, or even attending, the All-Star Game.) Yet as always with Frost, this folksy statement contains a little sting in the tail, an escape hatch. When he writes about "what we farmers used to call kinesthetic images," he means us to register the contrast between the technical word and the presumed simplicity of the countryside. Frost, though he may have run a farm, is clearly more than a farmer; he is, just below the surface, a freethinker, an intellectual. That is why reading him rightly means being alert to Frost's sly subversions of his own image. He hid himself in his legend in just the same way that the animal hides in his poem "A Drumlin Woodchuck":

My own strategic retreat  
Is where two rocks almost meet,  
And still more secure and snug,  
A two-door burrow I dug.

With those in mind at my back  
I can sit forth exposed to attack,  
As one who shrewdly pretends  
That he and the world are friends.

To coax the poet out of his retreat takes tact and caution; it means reading him not as a prosecutor but as an interpreter. That is why HUP's new edition of Frost's letters, edited by Donald Sheehy, Mark Richardson, and Robert Faggen, Ph.D. '88, is so valuable. Collections of Frost's letters to individual correspondents have been published in the past, but this edition—projected to fill three volumes—is the first to give us the complete letters in chronological order, including hundreds never available before. Like the previous volumes in the press's pioneering Frost edition—the *Collected Prose* and the enigmatic but revealing *Notebooks*—*The Letters of Robert Frost* helps readers cut through biographical opinion, pro or con, and form their own theories about who Frost was and what drove him. And the first volume, covering the years 1886 to 1920, to be published this February, is likely to be the most revealing of all, because it covers the crucial first half of Frost's long life—the years in which he transformed himself from an unknown New Hampshire farmer and schoolteacher into America's leading poet.

Frost is so closely identified with New England that it comes as a surprise to learn that, in fact, he spent the first decade of his life a continent away, in San Francisco. He liked to point out that his father came from an old New England family, while his mother was a



first-generation American, an immigrant from Scotland; this gave him access to two kinds of typical American experience. Frost's father died in 1885, when the boy was just 11 years old, and this crisis led the family to move back east, to be near their Frost relatives. But they did not move to what we typically think of as Frost country, the rural areas "North of Boston"—to use the title of his second book of poems—that he would make famous in his verse. Rather, it was in the industrial town of Lawrence, Massachusetts, that Frost went to high school, graduating at the top of his class.

No one looking at the course of Frost's life during the next 20 years, however, could have predicted that he would go on to great things. He started at Dartmouth, but dropped out after less than a semester: "I wasn't suited for that place," he explained. He proved no more suited to Harvard, where he was given special permission to enroll at the relatively advanced age of 23, in 1897. This time he lasted three semesters before deciding, once again, that college was not for him: "They could not make a student of me here, but they gave it their best," he recalled later in life. Matters weren't helped when he showed some of his poems to his English A instructor, only to be told that they were no good.

Thanks to an inheritance from his grandfather, Frost was in no danger of poverty. With family money, he bought a farm in Derry, New Hampshire, where he farmed with indifferent success, and then spent several years as a teacher at the Pinkerton Academy. Few if any of his neighbors had an inkling of his literary ambitions: in worldly terms, he must have looked directionless, even a failure. Yet Frost was a great Emersonian—in a

Frost trusted himself enough to know what experiences and environments would nourish him as an artist, and which would thwart him.

late essay, he writes of having grown up "under the auspices of Emerson"—and all the while he was practicing his own quiet version of self-reliance. "There comes a time in every man's education when he arrives at the conviction that envy is ignorance; that imitation is suicide; that he must take himself for better, for worse, as his portion," Emerson wrote in "Self-Reliance." In that spirit, Frost trusted himself enough to know what experiences and environments would nourish him as an artist, and which would thwart him. Like *Bartleby*, he had the courage to "prefer not to"—not to go to college, not to make a career—no matter what the world might make of his refusals. "Cut and run away from every care: that is the rule," he wrote a friend in 1917. "Nothing else will do."

That Frost thought of himself as an artist from the very beginning, long before the world recognized him as such, is made clear from his early letters. His most important correspondent in the 1890s was Susan Hayes Ward, a New York editor who encouraged Frost by being the first to publish one of his poems—"My Butterfly," in 1894. On this slender basis, Frost began to treat her as a confidant, and what he had to confide was his "inflexible ambition." ("It is only a matter of time now when I shall throw off the mask and declare myself for literateur mean it poverty or riches,"

he insists at the age of 20. Nor does Frost try to conceal the magnitude of his self-confidence: "my natural attitude is one of enthusiasm verging on egotism," he tells Ward, "and thus I always confuse myself trying to be modest.")

Until he reached the age of 37, however, modest is exactly the word to describe Frost's literary career. New York editors displayed no interest in his work—"my poetry...didn't seem to make head as fast as I could wish with the public," he writes in 1912—and there is something almost desperate in the way he clings to Susan Ward as his one acquaintance in the literary world. All of this made it only more impressive when, in August 1912, Frost suddenly decided to move himself and his family—his wife, Elinor, and four children—to England. He knew no one in London, and had no concrete reason to think that he would find any more success there than he had at home. But again, his instinct of self-reliance allowed him to act with a seemingly unjustified confidence: "My soul inclines to go apart by itself again and devise poetry," he tells Ward.

It was a great gamble, and the letters show how quickly it paid off. Within months, Frost had made the acquaintance of leading English poets, and was validated as a poet himself. "I was only too childishly happy in being allowed to make one for a moment in a company in which I hadn't to be ashamed of writing verse," he tells the poet F.S. Flint in January 1913. Before the year was out, his first book, *A Boy's Will*, had appeared in England, to be followed in 1914 by *North of Boston*—a book of New England eclogues written mostly in Old England. The acclaim these books received in London—thanks in part to Ezra Pound, that great scout of poetic talent—echoed back to New York, and Henry Holt took on Frost as an author, starting a relationship that would last the rest of his life. No less important was the beginning of Frost's deep friendship with the English poet Edward Thomas, whom he would later describe—after Thomas was killed in World War I—as "the only brother I ever had."

By the time Frost returned to America in February 1915, his life had changed forever. Practically as soon as he was off the boat, the same editors who used to ignore him now clamored to publish him and celebrate him. He became friends with leading literary figures like Amy Lowell, a poet and propagandist for Modernism, and Louis Untermeyer, a prominent editor and anthologist. In 1916, almost 20 years after he had dropped out of Harvard, he was invited to deliver the Phi Beta Kappa poem at Harvard's Commencement—a perfect emblem of his reversal of fortune, and a justification for his unconventional career. In a letter to Untermeyer in May 1916, Frost described himself jokily but quite accurately: "Chief occupation (according to Who's Who) pursuit of glory; most noticeable trait, patience in the pursuit of glory."

When it finally came, however, glory came to Frost in such a rush that it forced the drumlin woodchuck back into its burrow. Only this time, instead of hiding in obscurity, Frost had to find a way to hide his true self in the glare of publicity. You can see this transformation taking place in the *Letters*. The openness to new friendships and experiences that characterizes his English period gives way, very quickly, to a kind of wary artificiality, as Frost gets used to playing the role of the great writer. Frost's letters to Edward Thomas are tender and self-revealing; his letters to Louis

Untermeyer are antic and impersonal, full of put-on voices and literary gossip.

Notably, the Frost who had previously been indifferent to money now becomes quite sharp in demanding lecture fees and teaching salaries. Bargaining with the president of Amherst College, who had offered him the first of what would become a series of lucrative sinecures at American campuses, Frost writes: "It is the hard fate of the unworldly to have to be more worldly than the worldly sometimes to make up for the other times when they are less worldly." It is clear that he sees money as an index of esteem, and that his years of obscurity left him with a bottomless thirst for recognition.

IN HIS EARLY FORTIES, then, two paths began to diverge for Robert Frost; but unlike the speaker of his famous poem, he did not choose just one. Instead, he became simultaneously the public man, performing as himself in lectures and readings, and the private artist, committed to the fundamentally antisocial life of poetry. In fact, this kind of doubleness, this suggestion of concealed depths, is key to the power of Frost's work.

On one level, it is no wonder that his poems—so apparently plainspoken, so easy to read, if not always to fully understand—are staples of the high-school curriculum. Where "The Waste Land" requires pages of footnotes, and even then refuses to come completely into focus, Frost's "Stopping by Woods on a Snowy Evening"—written in the same year Eliot's masterpiece was published, 1922—seems as straightforward as a Currier and Ives print. We can see the snowy woods, the farmhouse, the horse who "gives his harness bells a shake." The poem would be almost banal, were it not for the famous repetition at the end:

The woods are lovely, dark, and deep,  
But I have promises to keep,  
And miles to go before I sleep,  
And miles to go before I sleep.

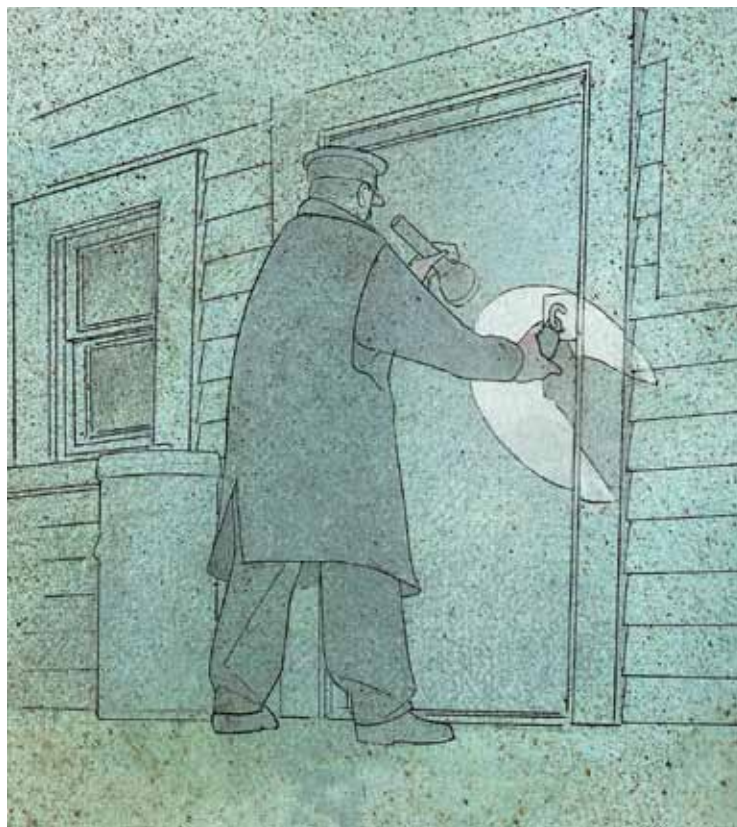
The repeated line changes the poem from a country vignette into something much stranger and richer. It becomes a kind of death-wish, an expression of longing for a sleep that is at the same time oblivion—the oblivion promised by the woods, so dark and deep that a man might enter them and never be found again. This is nowhere explicit, yet the tone of that last line makes it impossible to miss—a perfect demonstration of Frost's central poetic principle, that the sound of a sentence matters more to its meaning than the individual words.

The idea of disappearing into the woods, the trope of flight and oblivion, marks Frost's poetry from the very beginning. Just look at the first poem in *A Boy's Will*, his debut book. "Into My Own" shows Frost already longing for a flight that is a kind of death:

One of my wishes is that those dark trees,  
So old and firm they scarcely show the breeze,  
Were not, as 'twere, the merest mask of gloom,  
But stretched away unto the edge of doom.

I should not be withheld but that some day  
Into their vastness I should steal away,  
Fearless of ever finding open land,  
Or highway where the slow wheel pours the sand.

For this poet, disappearance is self-discovery: at the conclusion of the poem, he writes that running away into the woods would leave him "Only more sure of all I thought was true." Frost be-



comes himself fully only by acknowledging the deep pull toward "doom" that is part of his poetic inspiration. And in fact, the more closely one reads Frost's poetry, the more incredible it becomes that he was ever taken as an anodyne Yankee poet, or that his profound bleakness should be considered suitable reading for children. Many of his best poems abound with images of death, disappearance, suicide, loneliness, and futility.

The critic Lionel Trilling put his finger on the essence of Frost's art when, at a dinner celebrating the poet's eighty-fifth birthday in 1959, he made a famous speech describing Frost as "a terrifying poet." Americans, Trilling said, tended to regard Frost as "virtually a symbol of America...not unlike an articulate...Bald Eagle," when in fact his genius lay in "the representation of the terrible actualities of life." When these remarks were reported in the press, they caused an extraordinary controversy, as readers wrote in to defend the Frost they loved against the seeming perversity of a meddling highbrow critic.

Yet Trilling turned out to be a truer friend of Frost's poetry than such readers knew. After all, once the legend of the benevolent Frost melted away under the harsh light of biography, or "pathography," all that remained to keep the interest of posterity was Frost the artist. And the artist had already confessed, in surprisingly direct terms, to all the turmoil and grief that became a scandal to the public. Indeed, in almost every case, surprise at an artist's personal flaws is a sign that he or she has been misread. Could it have been a guiltless person who wrote "Acquainted with the Night"?

I have been one acquainted with the night.  
I have walked out in rain—and back in rain.  
I have outwalked the furthest city light.

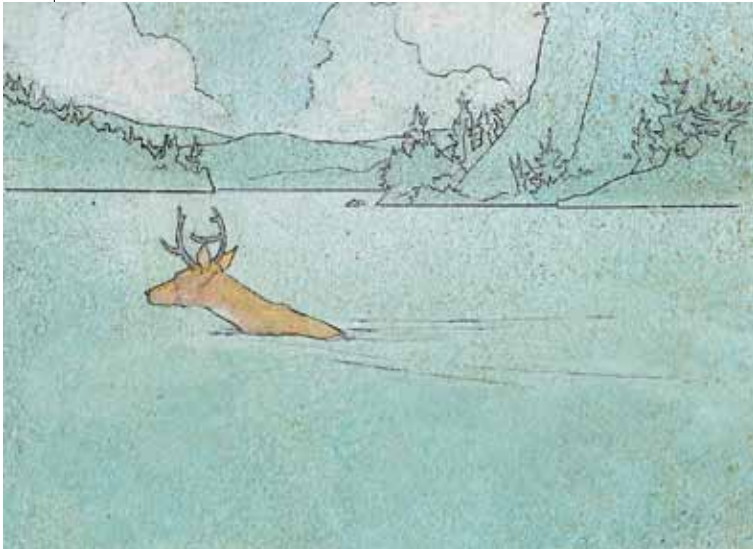


I have looked down the saddest city lane.  
I have passed by the watchman on his beat  
And dropped my eyes, unwilling to explain.

But the darkness of Frost's poetry is not merely personal, and certainly not confessional, in the way that later poets like Robert Lowell '39 and John Berryman would be. Those poets believed in putting down the facts of their lives on the page—each published a poem which included his home address—and they found their motto in Lowell's famous line from his poem "Epilogue": "Yet why not say what happened?"

Frost, on the other hand, believed that experience had to be transformed into metaphor in order to make poetry. "People say, 'Why don't you say what you mean?'" he writes in "Education by Poetry," a 1931 essay, anticipating Lowell's question by decades. But in Frost's view, speaking in metaphor—saying one thing in terms of another thing—was not just the principle of poetry; it was at the heart of all speech. "We like to talk in parables and in hints and in indirections—whether from diffidence or some other instinct." And he goes even further, suggesting that "metaphor [is] the whole of thinking." What philosophy and poetry have in common, Frost writes, is "the attempt to say matter in terms of spirit, or spirit in terms of matter, to make the final unity."

The belief that matter is but a metaphor for spirit was the essence of American transcendentalism, and Frost often feels like the last of the Transcendentalists, a late descendant of Ralph Waldo Emerson. Indeed, in his Emerson essay, he makes the connection explicit: "I owe more to Emerson than anyone else for troubled thoughts about



freedom." The key word here, however, is "troubled." For the union of spirit and matter that Emerson believed in was for Frost rather a source of doubts and questions: the attempt to "make the final unity," he wrote, was "the greatest attempt that ever failed."

Some of Frost's most famous poems deal with that failure—moments when the universe, rather than reflecting us back to ourselves, seems to confront us with its absolute otherness, its refusal to serve as metaphor. That is what happens in "The Most of It," where the poet, longing to hear some "counter-love, original response" from the natural world, is given only an uninterpretable sign:

And nothing ever came of what he cried  
Unless it was the embodiment that crashed

In the cliff's talus on the other side,  
And then in the far-distant water splashed,  
But after a time allowed for it to swim,  
Instead of proving human when it neared  
And someone else additional to him,  
As a great buck it powerfully appeared,  
Pushing the crumpled water up ahead,  
And landed pouring like a waterfall,  
And stumbled through the rocks with horny tread,  
And forced the underbrush—and that was all.

What is it that appears as a great buck? Certainly not the "counter-love" the poet hoped for, since this is a show of brute strength, without speech or meaning. And yet Frost speaks of it as an "embodiment," that is, as a metaphor—of something, though we can't say exactly what. This sense of baffled understanding, of nearly but not quite grasping the world's meaning, is one of the constant themes of Frost's verse. It can be found even in so seemingly pastoral and innocent a poem as "Birches," where the image of a boy rising to the top of a tree and then bending back down to earth becomes a metaphor for almost reaching the Godhead that human beings can never quite experience.

There is only one sphere in which metaphor is able to function, where spirit can be said in terms of matter, and that is poetry itself. That is why poetry, for Frost as for Emerson, is the essence of language, without which it is impossible to think at all. "The metaphor whose manage we are best taught in poetry—that is all there is of thinking. It may not seem far for the mind to go but it is the mind's furthest," Frost writes. Poetry, speech, metaphor, are the ways human beings transform the brute materiality of the world into meaning. The reason we still love Robert Frost, and owe him gratitude, is not that he was a good father or husband or an admirable man. After all, most of us are not admirable, and almost no one goes through life without inflicting some harm. It is, rather, because he was able, like only a handful of American writers before or after him, to work the transformation he describes in his poem "The Aim Was Song":

Before man came to blow it right  
The wind once blew itself untaught,  
And did its loudest day and night  
In any rough place where it caught.

Man came to tell it what was wrong:  
It hadn't found the place to blow;  
It blew too hard—the aim was song.  
And listen—how it ought to go!

He took a little in his mouth,  
And held it long enough for north  
To be converted into south,  
And then by measure blew it forth.

By measure. It was word and note,  
The wind the wind had meant to be—  
A little through the lips and throat.  
The aim was song—the wind could see.



Contributing editor Adam Kirsch '97 addresses both the great American poet and the Great American Novel in this issue (see page 66).



# THE WAY OF THE BLOCKBUSTER

In entertainment, big bets on likely winners rule.

by CRAIG LAMBERT

**I**n 2006, Chris Anderson, then editor of *Wired* magazine, published *The Long Tail: Why the Future of Business is Selling Less of More*. He argued that the Internet era was changing markets. Take books, the original niche of Amazon.com. As an online vendor, Amazon can stock far more titles than any brick-and-mortar bookstore—so instead of cashing in on 50 bestsellers, Amazon could prosper by selling a few copies each of 100,000 different titles. We are moving away, said Anderson, from a demand curve focused on the “head” of a statistical distribution—where there are many occurrences of one value (“mega-hits”)—and toward the “long tail” of the distribution, where there are many different values, but only a few occurrences of each one.

Hence, he projected, Amazon would tap a goldmine of existing assets, as older “backlist” books continued selling for years. Netflix would cash in on movie studios’ vaults—never mind the current box-office smash. The profusion of cable- and satellite-TV channels would make a thousand niche programs bloom in a million living rooms, not just a couple dozen crowd-pleasers atop the Nielsen ratings. A new, far more diversified era of entertainment was at hand.

Yet, today, movie studios are still making \$200-million new films; book publishers are still paying huge advances for potential bestsellers; and Amazon and Netflix, instead of focusing only on backlists and vaults, are investing millions of dollars in original programming. How can this be?

The answer comes in *Blockbusters: Hit-Making, Risk-Taking, and the Big Business of Entertainment*, the new book by Anita Elberse, Filene

professor of business administration. Elberse (el-BER-see) spent 10 years interviewing and observing film, television, publishing, and sports executives to distill the most profitable strategy for these high-profile, unpredictable marketplaces. She even spent time with star performers like Lady Gaga, Jay-Z, and LeBron James. Her conclusion is the opposite of Anderson’s. The most profitable business strategy, she says, is not the “long tail,” but its converse: blockbusters like *Star Wars*, *Avatar*, *Friends*, the *Harry Potter* series, and sports superstars like Tom Brady.

Strategically, the blockbuster approach involves “making disproportionately big investments in a few products designed to appeal to mass audiences,” Elberse explains. “Smart executives bet heavily on a few likely winners. That’s where the big payoffs come from.” Her book opens its case with a pair of contrasting stories that are almost media-industry parables.

In the film business, many consider the 1975 movie *Jaws* the first big summer blockbuster. But no studio pursued a consistent strategy of shooting for blockbusters until Alan Horn, M.B.A. ’71, became president and CEO of Warner Brothers in 1999. A central figure in *Blockbusters*, Horn began making a handful of big bets on “event movies” each year. “In the movie business, the product is the same price to the consumer regardless of the cost of manufacturing it—whether its production budget is \$15 million or \$150 million,” he told her. “So it may be counterintuitive to spend more



money. But in the end, it is all about getting people to come to the theater. The idea was that movies with greater production value should be more appealing to prospective moviegoers.”

“Production value” means star actors and special effects. Reaching moviegoers also means big advertising and marketing budgets. All these things drive up costs, so a studio can afford only a few “event movies” per year. But Horn’s big bets for Warner Brothers—the *Harry Potter* series, *The Dark Knight*, *The Hangover* and its sequel, *Ocean’s Eleven* and its two sequels, *Sherlock Holmes*—drew huge audiences. By 2011, Warner became the first movie studio to surpass \$1 billion in domestic box-office receipts for 11 consecutive years. “Alan was the first person in the film industry to show that this resource-allocation strategy worked,” says Elberse.

Meanwhile, Jeff Zucker ’86 put a contrasting plan into place as CEO at NBC Universal. In 2007 he led a push to cut the television network’s programming costs: a policy of “managing for margins instead of ratings.” Zucker installed colleague Ben Silverman as co-chair of NBC Entertainment. Silverman began cutting back on expensive dramatic content, instead acquiring rights to more reasonably priced properties; eschewing star actors and prominent TV producers, who commanded hefty fees; and authorizing fewer costly pilots for new series. The result was that by 2010, NBC was no longer the top-rated TV network, but had fallen to fourth place behind ABC, CBS, and Fox, and “was farther behind on all the metrics that mattered,” writes Elberse, “including, by all accounts, the profit margins Zucker and Silverman had sought most.” Zucker was asked to leave his job in 2010. Elberse concludes that his “managing for margins” strategy “had disastrous results.”

## The Unique Nature of Show Business

ENTERTAINMENT IS CLEARLY a risky, high-stakes game with both enormous payoffs and calamitous failures that play out in an environment of maddening uncertainty.

Certain characteristics distinguish entertainment from other industries. First, “creative products such as films and television shows are generally relatively expensive to produce, but very cheap to reproduce,” writes Elberse. For makers of Cadillacs or cornflakes, selling more units means *making* more units and hence, even with economies of scale, higher manufacturing costs. In contrast, making the first copy of a movie can cost tens or even hundreds of millions of dollars, but subsequent prints for theatrical release cost only a few thousand dollars apiece—with DVDs drastically less and Netflix distribution cheaper still. Similar economics apply to hardcover, paperback, and e-books. The sharp disjunction between costs of production and *reproduction* means that “hit products are disproportionately profitable.” Elberse writes that “the more copies are sold, the more the production costs can be divided over those copies.” (Pharmaceutical and software businesses show a similar disjunction between costs of production and reproduction, with a similar result: a high value placed on big “hits” like Lipitor and Facebook.)

Second, creative products are what economists call “experience goods.” The vendor is not selling an object or providing a known service, but instead offering an experience. (With live performances, it’s also an evanescent experience: unsold seats at a concert today—like those on an airline flight—are worthless tomorrow.) *Consumer Reports* cannot test a new film in a lab, like a new dishwasher, and evaluate its performance for moviegoers. That makes

it harder for customers to know in advance if the “experience” for sale is one they’d like to have, so critics and word-of-mouth comments from other consumers play major roles in marketing, and subjective judgments rule. There are few, if any, “objective” claims to high quality, and customers disagree on what is good, so their choices reflect tastes, not verifiable differences in quality.

Third, entertainment products—films, books, television—are essentially priced uniformly, as Alan Horn recognized. A movie ticket is \$10, for a hit or a bomb. Book prices vary within a narrow range. The basic commercial approach of attracting customers with lower prices, discounts, sales, and coupons doesn’t apply. The market turns on differences in quality.

Finally, and most important, consumer demand for entertainment products is unpredictable. Entertainment is not a basic need like food or shelter, nor even a secondary need like furniture or transportation. Seeing a movie, hearing a song, or watching a basketball game is completely optional. There are algorithms to forecast how many tubes of Colgate toothpaste will sell next year, but trying to estimate the gross receipts of a hip-hop song or feature film is a crapshoot. In Hollywood, as screenwriter William Goldman famously said, “Nobody knows anything.”

Consider the 1998 film *Beloved*, starring Oprah Winfrey, based on Nobel Prize-winner Toni Morrison’s eponymous 1987 novel and directed by Oscar-winner Jonathan Demme—a team that sounds like a recipe for success. Yet *Beloved* flopped resoundingly: produced for \$80 million, it sold only \$23 million in tickets. After its anemic opening, *The New York Times* quoted Joe Roth, chairman of Walt Disney Studios, which released the film, saying, “All there is, is pain.”

These special characteristics of entertainment make creators and vendors feel their marketplace is much like a minefield—it is hard to know where to step, and a misstep could trigger a catastrophe like *Beloved*. Yet this minefield also conceals enormous treasure chests belowground. Given the essential unpredictability, even irrationality, of the market, entertainment executives rely on several tactics in an attempt to bring its unruly elements under control.

## Taming the Media Jungle

A NEW FILM, book, or television show is much like a new-product release: Job One is to get the public to pay attention to something it has never heard of, so the rollout often connects the new release to something people *have* heard of. This explains Hollywood’s weakness for sequels and for movies based on television series, from *Get Smart* to *Sex and the City*. “Copycat” programming offers executives the security blanket of proven winners—thus a hit like Fox Television’s *American Idol* (itself cloned from the British series *Pop Idol*) inevitably spawned a rash of other talent shows, like NBC’s *The Voice*.

In addition, when Horn was running Warner Brothers, “many of the studio’s event films were based on properties that had established their value in other domains,” Elberse writes. *Harry Potter* was a juggernaut in book form before becoming one in the movies. The *Batman* comic-book series gave birth to *The Dark Knight*, and the Marvel comic-book empire of superheroes like *Spider-Man*, *The Hulk*, *Iron Man*, and *Thor* has proved a fountainhead of hit-film characters. From a business perspective, “bankable” movies stars like Julia Roberts, Johnny Depp, or George Clooney func-

tion in much the way Harry Potter and Superman do: providing a known, well-liked persona.

Big names, whether real or fictional, are essentially *brand* names, and branding is one way to bring familiarity and repeatability to the volatility of the marketplace. Brand names can also generate multiple streams of revenue. “Those behemoth movies throw off all kinds of ancillary businesses,” says Lucy Fisher ’71, formerly vice chair of Columbia TriStar Motion Picture Group. She is now co-head of Red Wagon Entertainment, a motion-picture production company in Los Angeles; its most recent blockbuster was the 2013 version of *The Great Gatsby*. “There are amusement-park rides, toys, clothes merchandising, sequels, spinoffs, songs—things that go on past the life of the original film,” Fisher elaborates. “Movies like *Brokeback Mountain* or *Slumdog Millionaire*—which might once have been referred to as ‘wonderful movies’—in the business are now referred to as ‘one-offs.’”

Perhaps no entertainment realm takes greater care in building a brand name than professional sports: fan loyalty reliably builds repeat business. “The NFL is blockbuster content,” Elberse says. “It’s the most sought-after content we have in this country. Four of the five highest-rated television shows [in the United States] *ever* are Super Bowls. NFL fans spend an average of 9.5 hours per week on games and related content. That gives the league enormous power when it comes to negotiating contracts with television networks.”

Elberse has studied American football and basketball and European soccer, and found that selling pro sports has much in common with selling movies, TV shows, or books. Look at the Real Madrid soccer club—the world’s richest, with annual revenues of \$693 million and a valuation of \$3.3 billion. Like Hollywood studios, Real Madrid attracts fan interest by engaging superstars—such as Cristiano Ronaldo, the Portuguese forward the club acquired from Manchester United for a record \$131.6 million in 2009. “We think of ourselves as content producers,” a Real Madrid executive told Elberse, “and we think of our product—the match—as a movie.” As she puts it: “It might not have Tom Cruise in it, but they do have Cristiano Ronaldo starring. Real Madrid is fully aware that they can learn a lot from the way that Hollywood studios manage their business.”

In team sports, “the measure of success is *winning*,” says Bart Waldman ’70, executive vice president for legal and governmental affairs and general counsel for the Seattle Mariners baseball team. “Winning brings fans, television audience, and everything else that makes our business model work. Bringing in a superstar who adds panache and some glitz but doesn’t change the win/loss picture doesn’t move the needle the way winning does. It really depends on whether your team is poised to take advantage of what that superstar brings. In baseball, the marginal value of each victory increases as you approach or surpass 90 wins—the number that typically puts you in the playoff picture. A superstar who adds five wins, taking you from 75 to 80 wins, doesn’t add much value by himself. But the same superstar who takes you from 90 to 95 wins probably puts you in postseason play, adding a ton of value.”

So loyal fans and superstars can help. Another way to hedge big bets is to back them with mighty advertising and marketing campaigns. “You want to use your distribution and marketing power to *make* a hit,” Elberse says. “Advertise a lot to make sure that everyone is aware of it, and leverage your distribution power to make it easy for the public to obtain—get your film on lots of

screens, get your book on a bookstore display table. The blockbuster strategy is trying to take away the uncertainty.” In movies, “if you’ve already spent \$200 million to produce a film, it’s easier to say, ‘Let’s spend another \$100 million to advertise it.’”

*Blockbusters* offers data to show that advertising event movies is disproportionately cheap compared to smaller-budget films. In 2010, for example, Warner’s top three movies consumed a third of the studio’s production budget, but only 22 percent of its \$700-million advertising budget. “In marketing, we call it ‘breaking through the clutter,’” Elberse says. “It’s about getting the customer to say, ‘If I see only one movie this weekend, or buy only one book, *this* is the one it has to be.’ It becomes a self-fulfilling prophecy.”

The Internet amplifies opportunities for global blockbusters, perhaps especially for products like movies, music, and sports that offer an essentially visual, auditory, and/or nonverbal appeal. Social media like Facebook, YouTube, and Twitter help create international sensations like the South Korean singer-rapper-dancer Psy, whose viral “Gangnam Style” video has attracted a record 1.8 billion views on YouTube since 2012. “With global markets opening up,” Elberse predicts, “we’ll have even bigger superstars.”

No performer has better exploited electronic communications than Lady Gaga. Her spectacular visual presentations, including colored wigs and extraordinary, even outlandish, makeup and attire, clicked in combination with her music to “break through the clutter” in a dazzling way. “Lady Gaga is a star because she was just unattainable—this fashion icon who is unlike any of us,” Elberse explains. “For every occasion, she was dressing up extensively—in the first few years, you never saw Lady Gaga in regular clothes. Many people had no idea what she looked like.”

Even with Internet support, however, superstardom—and entertainment-marketing success—depends on more than a virtual presence. In 2011, eight million different songs sold at least one copy. “But people don’t realize that about one-third of these songs sold *exactly* one copy,” she says. “Few understand how thin the tail is, how concentrated these markets are. There is an enormous amount of content that gets no demand at all.” It’s cheap to post homemade movies, self-published books, and garage recordings, but the global audience is simply not congregating to view, read, and hear these grassroots products.

Superstars and blockbusters now form an essential part of the entertainment complex. Ironically, they may even make possible many of the industry’s less popular, more experimental releases. Take Steven Soderbergh, who has directed Hollywood hits like *Traffic*, *Erin Brockovich*, and *Ocean’s Eleven* and its sequels, as well as smaller vehicles such as *Che*, *Syriana*, and *Sex, Lies, and Videotape*. “We would not know who Steven Soderbergh is without his blockbusters,” Elberse says. “Without them, I don’t think he could get the financing to make his riskier films. And I enjoy all his films, so I’m grateful for that. Of course I understand concerns about the diversity of content, and the fact that certain elements people like are disappearing. But overall I’m not that pessimistic. It’s not a hobby, it’s a business. At the end of the day, the Hollywood studios have to make money to survive another year, to put out more great products.” ▽

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



# Ann Petry

Brief life of a celebrity-averse novelist: 1908-1997

by FARAH JASMINE GRIFFIN

UNLIKE MANY ASPIRING ARTISTS who move to New York, Ann (Lane) Petry did not come in search of celebrity or fame. She left her hometown of Old Saybrook, Connecticut, for Harlem in 1938 to join her new husband, George, to escape the expectations of her middle-class family, and to pursue her literary ambitions. Yet in less than a decade, she would become the most successful black woman writer of her day. The 1946 publication of her first novel, *The Street*, gained her widespread (and ultimately unwanted) attention as a writer and cultural figure.

The youngest daughter of a pharmacist father and entrepreneurial mother, Petry was herself a professional pharmacist who began writing short stories while working in her father's store. When she abandoned the family business for New York, she quickly found work as a journalist. Her early years in Harlem were fueled by involvement in progressive political causes and membership in a community of activists, labor leaders, visual artists, actors, and writers. Despite working closely with self-identified Communists, Petry never affiliated with the party and resisted efforts to enlist her as a fellow traveler. She maintained her distance, and managed to be quite a loner in the midst of the city's crowd.

Harlem inspired Petry. The legendary black neighborhood provided the imagery, drama, incidents, and language for a body of work that included journalism, essays, and short stories, as well as the novel. Her fiction of the period features ordinary, law-abiding, working-class African-American protagonists: most start off devoted to hard work and driven by middle-class aspirations, with a strong belief in the American Dream. But as they are thwarted at every turn by individual and institutional racism and, in the women's cases, by violent sexism, they end up resigned, filled with despair, and often engaged in destructive, sometimes violent, acts.

Lutie Johnson, the protagonist of *The Street*, is a beautiful single mother who strives to leave domestic service for more lucrative employment. Her idea of success is inspired by Benjamin Franklin's autobiography, an Italian immigrant shopkeeper, and her wealthy white employers, all of whom encourage her to work, save money, and create a better life for her child in this "best country in the world." But these mentors fail to warn her of the pitfalls and obstacles that await her as a working-class black woman. She is under surveillance by a predatory neighbor, stalked by her building's superintendent, and watched, cultivated, and trapped like prey by a white man who owns her apartment building as well as the club where she hopes to work. She has nowhere to run, nowhere to hide.

*The Street* became the first novel by a black American woman to sell more than a million copies. It was widely reviewed, published in several paperback editions, and translated into French, Spanish,

Japanese, and Portuguese. Its author appeared on magazine covers and in a glossy feature article in *Ebony* magazine.

But as her literary celebrity grew and as the specter of a second Red Scare began to rise, Petry and her husband returned to Old Saybrook in 1947, purchased a home, and avoided publicity except as it related directly to her writing. Some of this insistence on privacy no doubt came from a desire to protect herself. Her New York years had been filled with leftist friends and colleagues; she despised the anticommunist fervor that swept the nation in the 1950s and openly supported Paul Robeson, whose life and career it destroyed. Petry's third, and most ambitious, novel, *The Narrows*, published in 1953, set in a small Connecticut town, articulates her disdain for McCarthyism, which "hunts" both "Communists and Negroes."

Yet Petry's retreat from public life was also nurtured by her own sensibilities. She refused to reveal her personal life to reporters and scholars alike, believing that she had to choose between becoming a "celebrity" or a "writer"—concepts fundamentally incompatible in her mind. She described the hoopla that followed publication of *The Street* as turning her into "public property"; time and again, the phrase pops up in her personal papers and in conversations revealed by her only child, Elisabeth. As late as 1996, a half-century after the novel appeared, she told a radio interviewer, "Continuous public exposure, though it may make you a 'personality,' can diminish you as a person. To be a willing accomplice to the invasion of your own privacy puts a low price on its worth. The creative processes are, or should be, essentially secret, and although naked flesh is now an open commodity, the naked spirit should have sanctuary." She so feared the possibility of exposure that she destroyed much of her own writing, including letters and journals.

Born of generations of black New Englanders, many of them property- and business-owners, Petry could have seen property ownership as the only avenue to ensure independence and autonomy. She had lived, after all, in a Harlem populated and energized by black people, but not owned by them. For Petry self-ownership, including the right to privacy, was a priority of those—like black people and women—who had legally been the property of others. Self-ownership was a personal, political, even a spiritual necessity. It was an effort to reclaim herself, to reserve space for the creation of her work, and an effort to ensure that the work be valued and judged on its own terms. ▢

Farah Jasmine Griffin '85, BF '97, is Ransford professor of English and comparative literature and African-American studies at Columbia and the author most recently of *Harlem Nocturne: Women Artists and Progressive Politics during World War II* (Basic Civitas).

PORTRAIT BY EDNA GUY; BACKGROUND PHOTOGRAPH BY HENRY D. HAMMOND/FREDERIC LEWIS/ARCHIVE PHOTOS/GETTY IMAGES







# Popular Science

In the Internet era,  
research moves from  
professionals' labs to  
amateurs' homes

by Katherine Xue

**F**OR THOUSANDS of ordinary people around the world, one of biology's hardest problems is just a game. Both scientists and supercomputers have long struggled to predict the three-dimensional structures of the biological molecules called proteins. These structures are crucial to understanding proteins' roles in fundamental cellular processes and disease, but predicting them is no easy task—which is why some researchers have turned to laypeople for help.

In theory, a protein's structure should be calculable from the molecule's underlying chemistry: from its initial state as a linear chain of chemical building blocks called amino acids, each protein is thought to fold into its most stable possible configuration. But there are infinite structural possibilities for any given amino-acid chain, and a computer, searching through them, faces a daunting challenge.

In the early 2000s, David Baker '84, a biochemistry professor at the University of Washington (UW), Seattle, launched a project called Rosetta@home to outsource the critical scientific work of

protein structure prediction from supercomputers to thousands of idle home computers. An algorithm, Rosetta, sifted through the many possibilities while a screensaver showing the various protein-folding permutations kept users updated on its progress.

Then something unexpected happened. Before long, "People started writing in, saying, 'I can see where it would fit better this way,'" Baker told the journal *Nature* in 2010. With that, the Baker lab and researchers from UW's computer-science department began exploring a second possibility: making it possible for those frustrated Rosetta@home hosts to fold proteins on their own. The scientists designed an interface that let users move amino acids with the click of a mouse, and they embedded tools with names like "wiggle" and "shake" that could adjust entire regions of a protein at once. The result was Foldit, a game that let nonprofessionals try their hands at protein-folding problems that had stymied supercomputers.

In 2008, the developers released the game and invited ordinary citizens to play.

FOLDIT IS PART of a growing trend toward *citizen science*: enabling ordinary people, often without formal training, to contribute to scientific research in their spare time. The range of involvement varies. Some citizen scientists donate idle time on their home computers for use in solving problems large in scale (the search for intergalactic objects, as in Einstein@home) or small (folding proteins). Other projects encourage participants to contribute small bits of data about themselves or their environments. The Great Sunflower Project, for instance, provides a platform for logging and sharing observations of pollinators like bees and wasps. Still other efforts enlist laypeople to tag and analyze images: Eyewire, for example, a game developed by Sebastian Seung '86, Ph.D. '90, a professor of computational neuroscience at MIT, involves participants in mapping neurons in the brain.

"There's a good, long history of people in orthodox scientific domains enrolling members of the public," says Sheila Jasanoff, Pforzheimer professor of science and technology studies at Harvard Kennedy School. In the eighteenth and nineteenth centuries, amateur naturalists like England's Gilbert White played an important role in cataloging local flora and fauna. Active lay communities still exist in fields like astronomy and ornithology, she notes, and frequently, citizen science simply organizes what people already do.

But the Internet and mobile phones now connect more people than ever before, changing how scientists and citizens interact. Today's citizen science is born from and reinforces other shifts in the digital world—"big data," open access, and mobile-phone technology foremost among them—and borrows heavily from aspects of Internet culture: forums, gaming, and social media, to name just a few. For example, the platform eBird, hosted by the Cornell Lab of Ornithology, functions like a Facebook for birders, allowing users around the globe to log their observations and compare their "life lists" of species sighted with those of others. Foldit, by contrast, has players compete in teams to win challenges and climb leaderboards.

There are as many varieties of citizen science as there are of science. In some fields, researchers look to citizen volunteers for help sifting through the deluge of information from microscopes, satellites, and telescopes. In other fields—like ornithology, where lay observations posted on eBird contribute to detailed maps of bird migrations—analytic capabilities have outstripped the available data, and scientists are asking citizens to gather more. Professionals may work side-by-side with small groups of dedicated amateurs in field experiments; alternatively, tens of thousands of citizen scientists participate from the comfort of their own homes, often in moments of boredom and procrastination.

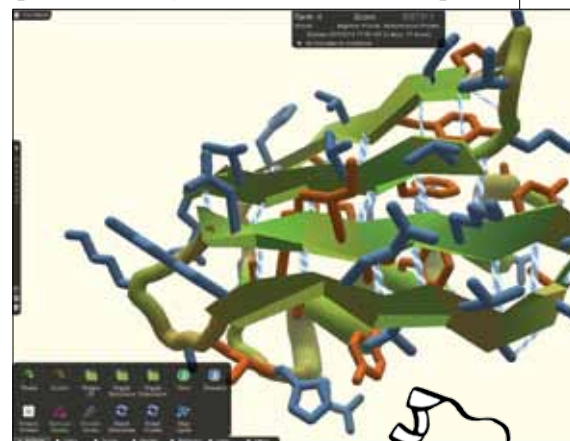
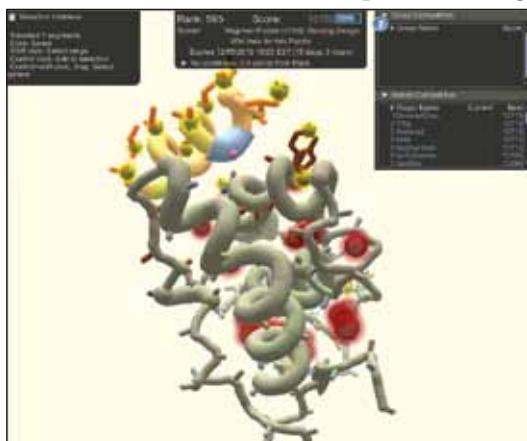
"The common thread that runs through citizen science is that everyday people, who are not trained scientists, can contribute to science and be directly involved, that they understand basic research questions and want to help scientists answer those ques-

tions," says Laura Germine, Ph.D. '12, a postdoctoral researcher at Massachusetts General Hospital (MGH). She developed the website Test My Brain, which hosts psychological studies that have gathered more than 850,000 participants in the past five years (see page 57).

Yet for most scientists and laymen, that concept remains foreign. What, exactly, can untrained laypeople contribute to an endeavor as rarefied as scientific research?

Based on Baker's work, the answer seems to be: a lot. In the five years since Foldit (fold.it) was launched, its more than 300,000 registered players (about 2,000 are active, playing more than once a week) can take credit for remarkable achievements. In one three-week challenge, they produced a near-exact model for a protein whose structure had eluded scientists for more than a decade. In another instance, they successfully redesigned an existing protein to increase its efficiency more than eighteenfold. Player strategies, in turn, have been studied by researchers seeking to improve computer algorithms, and Foldit now is challenging its users to design proteins that have never existed in nature. Foldit players—most of whom have little to no biochemistry background and who play the game in their spare time—are authors on four scientific papers, and their gameplay has contributed to several more.

The premise behind Foldit is that all human beings have advanced spatial-reasoning capabilities far beyond those of current comput-



**In the game Foldit, players compete to build stable configurations of the biological molecules called proteins.**

ers, making protein-folding a visual and almost intuitive endeavor. As one top-ranked Foldit player told *Nature* in 2010, "It's essentially a 3-D jigsaw puzzle." "When you've got it right," another player said, "you see your protein moving and changing shape, and your score rushes up. Your own player name rushes up through the ranks, and the adrenaline starts."

In online challenges, an amino-acid sequence or partially folded protein is released to the entire Foldit community, and players work, usually in teams, to achieve the most stable configuration in the weeks or months allotted, swapping tips and frustrations in chat rooms and message boards. For the most part, Foldit seems like any other gaming community—apart from such objectives as "Hide the hydrophobics" and puzzles titled "Unsolved chicken anemia virus protein" and "Scorpion toxin."



"Expert hydrogen bonding!" the program commends after a particularly successful move. "+396."

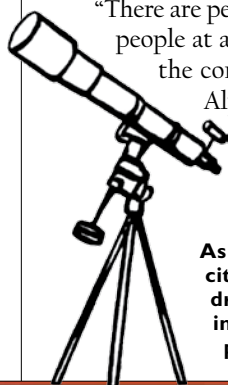
"People are really smart," notes Baker, who occasionally does Skype calls with players to answer questions or discuss improvements to the game. "The ones who get really into Foldit look at Wikipedia, and they learn a lot. The conversations you have with someone who has no scientific background at all, but has been playing Foldit for a while, are pretty high-level." The lab's Foldit support team regularly interacts with players through scientist chats and message boards. "I think it's pretty critical to be responsive," Baker says.

## Citizen Computers

THE 2007 launch of the citizen-science project Galaxy Zoo was met with immediate success: a site crash. Spurred by the enormous number of images captured by telescopes each day, astronomers from Johns Hopkins University and, in England, the University of Portsmouth and the University of Oxford had developed a website to involve amateurs in classifying galaxies based on shape—and the turnout stunned them. Initial traffic was 20 times what they had hoped for, and within 24 hours, online participants were tagging more than 60,000 images an hour. More than 150,000 people contributed more than 50 million classifications in the project's first year.

"There are people who believe that computers are better than people at any task, if you're just smart enough to program the computer properly," says professor of astronomy Alyssa Goodman. "In truth, for nearly all pattern-recognition tasks, evolution has made the human brain very, very good—still better than any computer program." Indeed, Galaxy Zoo

**As part of the Milky Way Project, hosted by citizen-science platform Zooniverse, participants draw ellipses to identify interstellar "bubbles" in telescope images; the regions are thought to promote star formation.**



represents a growing class of citizen-science projects that ask interested members of the public to do what computers still cannot. The citizen classifications, though useful, are not always ends in themselves. "There are tasks where, if you have a lot of *people* looking at data, then that trains the computer," Goodman continues. "Then, the computer can do better than if you just tell it to find the solution."

The new field of *human computation* aims to guide this integration of man and machine, combining inputs to tackle problems that neither humans nor computers can solve alone. Classically, computers have used entirely automated operations, but human computation involves tasks like image recognition or text analysis, where the exact process can be difficult to define through traditional programming commands. Rather than explicitly coding the characteristics of a galaxy, for instance, researchers are developing machine-learning methods that enable computers to infer the appropriate patterns from human-generated training sets.

"Astronomy is rapidly moving toward the regime where we're going to have more data than we have any hope of manually looking at," says Chris Beaumont, a software engineer at the Harvard-Smithsonian Center for Astrophysics. For his dissertation, he worked with Goodman to study interstellar "bubbles," areas thought to be hotbeds of star formation. These bubbles, like galaxy shapes, are hard for computers to detect, but in an effort called the Milky Way Project, hosted by the citizen-science platform Zooniverse (an expansion of the original Galaxy Zoo effort; [www.zooniverse.org](http://www.zooniverse.org)), more than 35,000 citizen scientists identified more than 5,000 bubbles in images from the National Aeronautics and Space Administration's Spitzer Space Telescope.

Beaumont has used these contributions to build more sophisticated algorithms for bubble identification that will cut down on the need for human input: for instance, a computer might screen large datasets and present lay volunteers and experts with only the most ambiguous cases. "If you're looking for something that's rarer, or if you're looking through a much larger dataset, there aren't enough people in the world to do what you need to do," he says.

Moreover, after "learning" from so many amateur identifications, the algorithm can also distinguish between typical and suspicious lay contributions, providing a means to check users' reliability and more accurately make use of data from citizen scientists. As Beaumont says, "We need to learn how to combine computers and humans to scale up to big data."

## Citizen Naturalists

HUMAN COMPUTATION frequently taps into a phenomenon called *crowdsourcing*: small contributions from a large base of users—in this case, citizens—can collectively accomplish huge tasks impossible for a small, dedicated group. At Harvard's Center for Research on Computation and Society (CRCS), postdoctoral fellow Edith Law is developing an online citizen-science platform called Curio ([www.crowdcurio.com](http://www.crowdcurio.com)) to crowdsourcing research tasks. (She plans to launch it this spring.)

She began by interviewing Harvard researchers across multiple disciplines. "I wanted to understand



the opportunities,” she explains. “What bottlenecks do they have? How do they currently train people? Would they be comfortable sharing data, and at what stage? I was thinking about what crowdsourcing could bring to science.”

One faculty member she interviewed was Charles Davis, professor of organismic and evolutionary biology and co-director of the Harvard University Herbaria (HUH). He oversees one of Curio’s inaugural projects, which asks citizen scientists to help assess the ecological impact of climate change, and he is well aware of what amateurs can contribute. Together with Richard Primack ’72, professor of biology at Boston University, Davis found that spring flowering times in the eastern United States in 2010 and 2012, following unusually warm winters, were the earliest ever recorded—an average change of approximately three weeks within less than a century. The source of this historical comparison? Detailed records kept by naturalists Henry David Thoreau in Concord, Massachusetts, in the nineteenth century, and Aldo Leopold in Dane County, Wisconsin, in the twentieth—among the few sources of information on long-term ecological change. These valuable historical data gave the researchers detailed insight into the effects of climate change in the eastern United States over a 160-year time span.

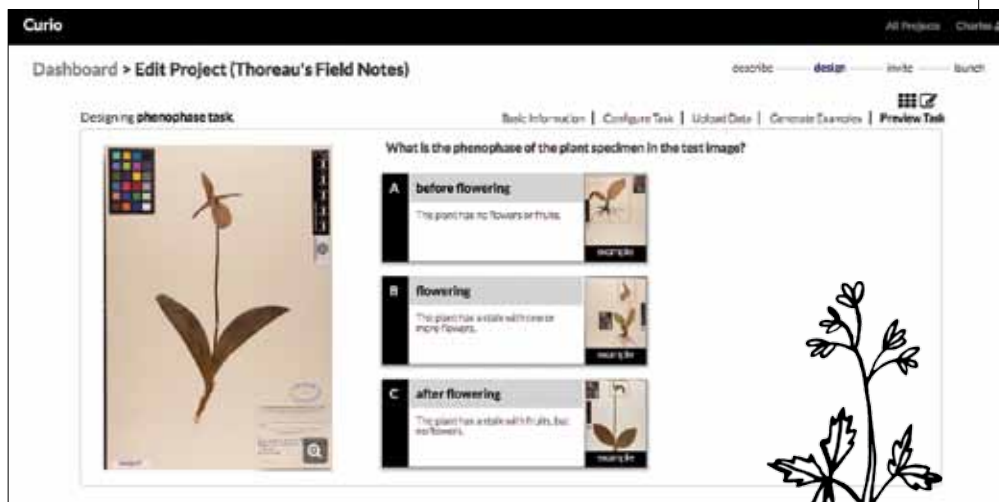
But the work is far from done. “How do we gather the data we need to assess long-term climate change across all of New England?” Davis asks. Records like Thoreau’s and Leopold’s are rare, but he suggests another source of information—HUH collections, which contain nearly half a million samples from the region. In the new citizen-science project, Thoreau’s Field Notes, participants will be trained to classify digital images of herbaria specimens based on their phenophase (the visible stages in a plant’s life cycle, like budding or flowering). Davis hopes that linking these botanical markers with accompanying field notes—namely, the time and place of the specimen’s collection—will yield a more detailed understanding of climate’s effect on flowering time.

If the premise of the project—laypeople classifying images, whether plant specimens or interstellar bubbles—is beginning to sound familiar, Law would agree. Curio is built on the commonalities among disparate crowdsourcing projects. For instance, “You can think about these annotation tasks at a very abstract level,” she says. “Almost all annotation tasks have to do with describing objects or relationships between objects, either in an open-ended way” (describing an image using labels like “black” and “cat,” for instance) “or a close-ended way” (like classifying images into discrete, predetermined categories of “cats” or “dogs”).

But projects like Davis’s face the challenge of training citizen scientists to process complex information. “How do you identify a flower not just from a plant, but from a plant that’s flattened and on a piece of cardboard?” he asks. Many of his students, he says, are shocked when they encounter a specimen for the first time. “Presenting the untrained eye with these complex images and asking people to make sense of them is a real concern,” he continues, “and comes with its own set of challenges.” He and

Law are designing a tutorial that will use labeled examples to train volunteers, and Curio is designed to integrate experts with a less-experienced crowd—for instance, controversial lay classifications may be sent to professionals for a final verdict.

Davis and Law hope the project will stimulate participants’ connections with the natural world. They plan to reach out to local gardening and naturalist communities for volunteers, and the aim is for amateurs to interface with both botanical specimens and timely research questions. “This work has certainly reached a broad audience locally,” Davis says. “It’s about organisms that people in this area know and love.”



**The Thoreau’s Field Notes project will train amateurs to analyze herbarium specimens and help assess the botanical impact of climate change.**

## Citizen Subjects

SCIENTIFIC DISCOVERIES come from unusual places; widespread evidence of prosopagnosia, or face blindness, came from an online forum. Shared experiences draw people together all the time, but this common thread was something new: the inability to recognize faces. The phenomenon had been reported in the scientific literature, but almost entirely in connection with traumatic events like strokes. In the late 1990s, when groups of people online began describing entire lives spent recognizing acquaintances by their clothing or hair, they were at first dismissed—few researchers or clinicians had even heard of such a thing (see “Facial Pheonoms,” September–October 2009, page 7).

As the condition, known as “developmental prosopagnosia,” gained clinical and academic recognition, it swiftly captured the public imagination. While a research assistant at University College London from 2005 to 2007, Laura Germine of MGH helped develop a test of face recognition that ran online, not in the lab, to accommodate rapidly increasing public interest. Before long, tens of thousands of people were participating. Most did not think themselves face-blind; they were simply curious about how they measured up.

“People *want* to do these things,” says Germine. “Learning about yourself—learning about your personality, learning about what you’re good at, learning about what you’re less good at—is something people are very interested in doing.” Inspired by the strong reception the facial-recognition tests received, she developed Test My Brain (testmybrain.org) in 2008 as a platform to host psy-



chological studies. Participants take short tests with names like “Famous Faces” and “Holding Information in Mind” in return for personal feedback and a description of the scientific research involved.

Yet many researchers were initially skeptical about data—especially of the sort requiring precisely timed responses—gathered in the unsupervised setting of the Internet. Unless scientists used recruited and compensated volunteers who were tested under carefully controlled conditions, how was it possible to know that subjects were not cheating, lying, or simply becoming distracted? In response, Germine and colleagues published a study in 2012 that compared data from Test My Brain with data from studies conducted using traditional methods. Though the much larger Web samples showed slightly higher variance, the researchers found no consistent differences in other aspects of performance or data quality.

Web data, in fact, may have unique advantages, thanks to the diversity of its participants. “Most research in the world happens on campuses in the United States, so what we know a lot about is undergraduates in the United States,” says Josh Hartshorne, Ph.D. ’12. “They’re diverse in some ways and homogenous in others.” Hartshorne, now a postdoctoral fellow at MIT, runs a website called Games With Words ([gameswithwords.org](http://gameswithwords.org)) that hosts language experiments. Recently, he says, researchers have become aware of the possible pitfalls of generalizing results derived from participants that some psychologists now dub “WEIRD”—Western, educated, industrialized, rich, and democratic. The enormous sample sizes of Web data, on the other hand, can in

fact help characterize cultural differences in areas like cognition and social behavior; for example, researchers from the CRCS have used an online platform called Lab in the Wild to quantify cultural preferences for website aesthetics.

“We have these new technologies,” Hartshorne explains. “What can we do with them that we couldn’t do before? That’s what we *should* be doing. There’s this unexplored territory where we can make very rapid progress.” For instance, Germine explains, Web data are galvanizing the field of differential psychology—the study of individual differences rather than common basic mecha-

nisms—and ordinary citizens, with the help of online tests, are increasingly able to characterize themselves for their own and for researchers’ benefit.

“I think there’s a shift now, in medicine and every other domain, toward wanting to learn about yourself and having that be in your own hands,” says Germine. “Increasingly, knowledge is available on the Internet, and people can interpret that themselves” (as with developmental prosopagnosia). “There’s a much higher ability to take things into your own hands, for better or for worse.”

## Citizen Patients

SOME MEMBERS of the medical community are beginning to take note. Patients with chronic illnesses, for example, are frequently forced to become experts on their own conditions. “In a week,” says Eva Guinan, associate professor of radiation oncology at Harvard Medical School (HMS) and associate in medicine at Boston Children’s Hospital, “patients could put together a profile of what living with a disease is like that I could never attain as a practitioner.”

Advances in DNA sequencing technology have made genetic information plentiful, but data about symptoms and disease outcomes remain in relatively short supply. Here, the public can help, says Stephen Friend, a former HMS faculty member. He believes that citizens, in addition to going into forests or backyards to collect data, can help research by gathering information on themselves.

As president of the nonprofit Sage Bionetworks, based at Seattle’s Fred Hutchinson Cancer Research Center, Friend is developing a platform to engage patients in collecting and interpreting their own medical data. One of his newest projects, undertaken in collaboration with Guinan and the Fanconi Anemia Research Fund (a patient-support and fundraising group), focuses on a rare, genetic blood disorder that puts patients at high risk of head and neck tumors. “If you ask [Fanconi anemia] patients what they’re worried about,” he explains, “they’ll say, ‘Can you tell me what puts me at risk? Can you tell me ways to find it early?’”

These tumors’ causes are still poorly understood; though there is a genetic component, the environment likely plays a role as well. Instead of having patients see a doctor once or twice a year, Friend continues, “we’re getting them trained to take photographs of their own mouths,” where cancers frequently appear, “and to give narratives of what they’re doing”—stress or eating patterns, for instance. Patient self-monitoring, in addition to helping catch tumors early, may also contribute to medical research: Friend suspects that these patient journals may hold clues to understanding the course of the disease. Following an “open science” model, Sage Bionetworks will make the data publicly available online and challenge researchers worldwide to “turn anecdotes into signal.” (See the Web Extra, “More Shots on Goal,” to learn more about crowdsourced innovation.)

Another project aims to use the popular iSleeping mobile phone app to gather data on the effect of sleep medications. The app, developed by researchers in France, already monitors the sleep patterns of more than 600,000 people by analyzing snoring and user movement, effectively creating an automatic sleep log. Friend hopes to enroll 1,000 users in a clinical trial that will make use of



**Test My Brain** hosts various psychological studies like this one, of facial-recognition abilities.

this detailed data. Other initiatives are taking similar approaches to soliciting patient contributions. The Personal Genome Project, headed by Winthrop professor of genetics George Church at HMS, asks people to make their genome sequences available for medical research. The American Gut Project sends participants a kit with which to sample the bacteria living on and in their bodies; a related effort has recruited more than 1,000 volunteers to test the microorganisms in their homes.

Friend believes these efforts increase citizens' and patients' stake in biomedical research that otherwise can feel distant. "You have citizens who are willing to do extraordinary things to treat themselves," he observes. The question now for the research and medical community, Friend says, is: "How do you get the public nurtured as full partners?"

## Citizen Ownership

YET THE ROAD to full partnership brings additional challenges. Fields like human computation are exploring how best to utilize lay participation and integrate it with traditional research, but citizen science in the Internet age carries all the ambiguities of the digital world—concerns about trustworthiness, privacy, intellectual property, the role of expertise in the age of Wikipedia. As citizens assume more involved roles, these issues grow progressively more complex. Could patients withdraw personal information they've collected and donated? Who would own a protein that a team of Foldit players helped design?

One major question facing citizen science is that of citizen ownership. Leaving aside questions of authorship and intellectual property, amateur contributions to science tend to be narrowly circumscribed. "Lay participation presupposes that somebody else knows the scientific value of the thing being studied," says Sheila Jasanoff. "Even when the lay citizen is listening to bird-song or going on expeditions into the woods each spring to catch a glimpse of what migratory birds are around, that citizen is not determining the population-movement charts that the ornithological community is creating out of those observations." Though initiatives like Foldit and Zooniverse have resulted in multiple scientific publications—with some citizen scientists as coauthors, in Foldit's case—the intellectual work of analysis and interpretation still rests, ultimately, with trained professionals.

Some citizens find unusual ways to make projects their own: Germiné and Hartshorne, for instance,

**HM** Visit [harvardmag.com/extras](http://harvardmag.com/extras) to learn more about crowdsourced innovation. Also, browse a listing of citizen-science projects, from astronomy to zoology.

report that classroom teachers sometimes ask students to interpret the personal feedback scores from Test My Brain and Games With Words, or collect the scores as data sets for classroom analysis. The researchers themselves receive feedback: participants often critique the study design or suggest their own interpretations of results. "Every participant is like a mini-reviewer," says Germiné. "Ordinary people can provide a lot of insight into your own data that you and your colleagues would never have thought of." Likewise, CRCS's Edith Law suggests that citizen science can educate amateurs about the realities of scientific research, warts and all, by exposing them to data and data processing. "It can teach people what scientists do," she says, "and how they analyze problems."

Other projects push the bounds of citizen participation. Public Lab, an initiative of the MIT Center for

Civic Media, takes a do-it-yourself approach to involving citizens in environmental science. An amateur "biohacker" movement applies a similar ethos to inexpensive, self-guided genetic engineering, and it has occasionally clashed with police and the Federal Bureau of Investigation over issues of safety. The Internet has begun democratizing science in surprising ways; some researchers make comparisons to how personal computers have altered technology and society. Web-based research, says Hartshorne, "is maybe the equivalent of a kid in his or her garage, inventing the next big tech company."

But for the most part, the question remains: is citizen science intended ultimately for the citizens or the scientists? The very reason for the growing popularity of citizen science—its usefulness in research endeavors—may paradoxically diminish the quality of engagement for its lay participants. Bluntly put, in a time of tight federal funding, lay participation is cheap. According to a 2012 study from the University of Maryland, "scientists saw citizen-science projects mainly as an opportunity to facilitate large-scale data collection," though "altruistic" motivations like increasing scientific literacy were also named. Law points out that in most online projects, the scientists have never met their citizen participants. "What would happen if we had a conference of citizen scientists?" she asks. Technology may have provided citizen science with diverse avenues to narrow the gap between amateurs and experts, but further progress—if that is indeed the movement's goal—will require dedicated effort on both sides.

Most researchers involved with citizen science believe this vision is one worth seeking, whatever the way forward may be. "To what degree does citizen science bring the lay community closer to the interface of science and society?" asks Eva Guinan. "In a world where so many people say and feel that they are being left behind by science and technology, does citizen science help? Or does it act like just another online game?"

Katherine Xue '13 is associate editor of this magazine.

**Detailed sleep-cycle data from the popular mobile-phone app iSleeping may soon play a role in clinical trials.**





# Montage

Art, books, diverse creations



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## The Sorcery of Seedpods

*Little packages of DNA that explode with beauty*

**I**N HIS 2001 book *The Botany of Desire*, Michael Pollan declared that the existential dilemma of a plant is its immobility. “It can’t pursue a mate, or a seed-dispersal agent, to reproduce,” says Anna Laurent Malsberger ’00. “It can’t flee from a predator or care for its offspring. Plants have had to develop defense mechanisms and ways of interacting with the environment, and other species, to survive.”

The seedpod, or fruit (such as a peach, for example, which both protects the seed and aids in its dispersal), is a crucial re-

productive mechanism for many plants. Laurent (her professional surname; [www.annalaurent.com](http://www.annalaurent.com)) has collected hundreds of these during the past four years. In October, *Dispersal*, an exhibition of 33 of her breathtaking close-up photographs of seedpods, opened at Arnold Arboretum, one of her collection sites. Her *Dispersal* project includes written profiles of the fruits with reference to their parent plants (four black seeds encapsulated in the Hawaiian wood rose’s golden pod, for example), and may well become a book. “The seed develops in a fertilized ovary and the seedpod protects the seeds as they ma-

ture,” she explains. “The other main function of the seedpod is dispersing the seeds, ideally as far away as possible.”

Laurent’s images, at the intersection of art and science, are beautiful examples of nature photography that also document the fascinating variety of ways plants—particularly the flowering plants called angiosperms, which enclose their seeds in coverings—have evolved to spread genetic material via wind, water, animals, or simply by catapulting it away. “Seedpods are these amazing little packages of DNA,” she says, “but often they are overlooked. People see them as the death of the flowers, but in fact they are the opposite: the future of the species.”

Plants have evolved sophisticated techniques of seed dispersal. “A burdock or a burr will attach itself to any and all passersby,” Laurent said at the exhibit’s opening. “Certain pines are serotinous fire-followers, which means they require heat to trigger seed release. Poppies, on the other hand, need only a gentle tap to disperse hundreds of tiny black seeds,



Clockwise from far left: seedpods of *Magnolia x soulangeana* (dispersed by animals); *Isomeris arboorea* (water); Anna Laurent backed by wallpaper showing split-leaf philodendron (*Monstera deliciosa*); seedpods of *Wisteria frutescens* (dispersed ballistically); and *Paulownia tomentosa* (wind)

like a pepper pot.” Some plants are very particular about their dispersal agents. The ancient *Ginkgo biloba*, a gymnosperm, produces unenclosed seeds that some say smell like carrion, probably because it evolved alongside China’s carnivorous civet monkeys. Toyon, a California evergreen shrub of the rose family, produces green berries that are toxic while maturing, discouraging predator consumption, but turn red and benign when mature. “Birds are more sensitive to wavelengths at the red end of the spectrum,” Laurent explains, “so a plant with red seeds often has them dispersed by birds. When the toyon seed turns red, the plant *wants* the bird to eat it. It’s all about timing. There’s a reason why things look the way they do, and behave they way they do.”



Visit [www.harvardmag.com/extras](http://www.harvardmag.com/extras) to see a video of Laurent’s seedpods.

Laurent has collected seedpods not only at the Arboretum (she grew up 15 minutes away in Jamaica Plain), but also in partnership with

the Hawaii Tropical Botanical Garden (on the Big Island, Hawaii), Lotusland (a botanic garden in Santa Barbara, California), the Queens Botanical Garden (in New York City), and elsewhere. She has even gathered them in Iraq, as a producer and photographer on *The Iraqi Seed Project*, a documentary, now in postproduction, on the future of agriculture in the Fertile Crescent. She began collecting in earnest when she moved to Los Angeles in 2008. “Due in part to its unique ecology—including desert, Mediterranean, and riparian climates—and its relative proximity to Asia, Hawaii, and Australia, the botanic diversity in Southern California is unlike anywhere else in the United States,” she says. “In Los Angeles, it became clear that we cohabit closely with a stagger-

ing diversity of botanic species. I realized that each plant has a story—how the seed of the individual found itself in that spot, and ultimately, how the plant evolved into a species.”

Science B-29, “Human Behavioral Biology,” helped trigger her botanical passions. The course, nicknamed “Sex” by undergraduates (see “‘Sex’ Without Devore,” January-February 2001, page 75), included *Sexual Encounters of the Floral Kind*, a documentary Laurent calls “my favorite film of all time.” The history and literature concentrator worked as an interactive designer at Boston’s WGBH-TV on the *Nova* and *American Experience* programs, and was a producer and writer with documentary filmmaker Lauren Greenfield ’87 in Los Angeles (see “The Queen of Versailles,”



November-December 2012, page 12). Later, she served as a contributing editor at *Garden Design* magazine, creating and writing the Art and Botany and Botanic Notables columns. The *Dispersal* project began as a column in *Print* magazine. Her mission, she says, is “making plants relevant—using

plants to connect people across disparate geographies and time periods.”

Laurent treats her seedpod photographs like portraiture, shooting them with a six-point lighting setup inside a light tent. “Each specimen needs a different lighting scenario,” she says, and she may need to

choose her model from 50 specimens collected from the same plant; she makes only one final picture per species. “I try not to personify them too much,” she explains, “but if you spend enough time with anything, it will take on a personality.” The photographic process can take hours, but

## Off the Shelf

Recent books with Harvard connections

**Why I Read**, by Wendy Lesser '73 (Farrar, Straus and Giroux, \$25). The founding editor of *The Threepenny Review*, addressing “the serious pleasure of books” (the subtitle), explains why engaging with literature is “a compulsion” yielding rewards that “tend toward the intangible, and sometimes the inexpressible.” With a list of 100 favorites, from Ackerley to Zola.

**Splendor of Heart: Walter Jackson Bate and the Teaching of Literature**, by Robert D. Richardson '56, Ph.D. '61 (Godine, \$19.95). A loving tribute to a towering mentor, “our present, concrete, living example of greatness,” by a biographer and literary historian. With the transcript of a 1986 interview by John Paul Russo '65, Ph.D. '69, professor of English and classics at the University of Miami, who learned how to lecture as an assistant in Bate's criticism course.

**Bernard Berenson: A Life in the Picture Trade**, by Rachel Cohen '94 (Yale, \$25). A brisk modern biography, in the publisher's Jewish Lives series, captures the Lithuanian Jewish origins of the art

connoisseur, whose Villa I Tatti is now Harvard's Renaissance-studies center. Cohen usefully characterizes her subject as “one of the leading figures in a new generation of seeing” the art he loved.

**Capital Culture**, by Neil Harris, Ph.D. '65 (University of Chicago, \$35). An emeritus historian at Chicago explores a modern Berenson equivalent (who apprenticed with the master for a year in Italy), in the institutional context of the later twentieth century: the late J. Carter Brown '56, M.B.A. '58, who perfected the craft of museum showmanship as director of the National Gallery of Art from 1969 to 1992.

**The Selected Letters of Bernard DeVoto and Katherine Sterne**, edited by Mark DeVoto '61 (University of Utah, \$29.95). A portion of the correspondence (the rest is online) from 1933 to 1944 between the writer, editor, and historian Bernard DeVoto '18, and a young fan hospitalized for tuberculosis. Perhaps because they never met, the letters are both an intellectual chronicle of the time and charmingly personal—and mutually witty.

**The Empire Trap**, by Noel Maurer, associate professor of business administration (Princeton, \$39.50). The U.S. government often projects power to protect American investments. Through that lens, Maurer traces the pattern of conduct, from small initial steps through the modern era—what the subtitle labels “the rise and fall of U.S. intervention to protect American property overseas, 1893-2013.”

**Neutrino Hunters**, by Ray Jayawardhana, Ph.D. '00, R1 '12 (Farrar, Straus & Giroux, \$27). The author, a University of Toronto astrophysicist, writes popu-

**Who knew? One result of combining the profit motive with musicals: an American-Standard product tribute in song**

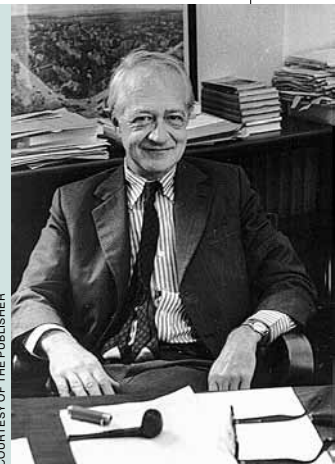
larly as well. In this case, he approachably and accessibly explains the search for the “pathologically shy” elementary particles that zip through the universe without so much as an electric charge.

### Everything's Coming Up Profits

by Steve Young '87 and Sport Murphy (BlastBooks/Publishers West, \$39.95). A loving, lavishly illustrated tribute to “The Golden Age of Industrial Musicals,” commissioned to fire up the sales force. One is grateful to the authors for saving for history the 1969 American-Standard classic, *The Bathrooms Are Coming!* and for the “industrial show rhyme hall of fame” (“So keep your parchment and papyrus/For just one thing am I desirous,” 1969, International Paper, *Dolls Alive!*).

**The Fissured Workplace**, by David Weil, M.P.P. '85, Ph.D. '87 (Harvard, \$29.95). A Boston University professor who also co-directs the transparency policy project at Harvard Kennedy School examines how shareholder-oriented, customer-courting businesses have outsourced work and deemphasized employees' well-being. The results of this fissure and the challenges it poses are the subject of a book about “why work became so bad for so many and what can be done to improve it.”

**The Blood Telegram**, by Gary J. Bass '92, Ph.D. '98 (Knopf, \$30). A Princeton professor reexamines the whole record—documents, voice recordings—to docu-



The late, great Walter Jackson Bate, mentor beyond measure



"when I get the angle right, I know it."

Love for the plants surely helps. "I don't notice a movie star walking by," she says, describing her West Hollywood neighborhood. "But I will cross the street to smell a night-blooming jasmine or see a bougainvillea." ~CRAIG LAMBERT

ment how President Richard Nixon and Secretary of State Henry Kissinger '50, Ph.D. '54, backed the losing side in the blood-soaked and unsuccessful war that led to the separation of Bangladesh amid sharp conflict between Pakistan and India—what Bass calls "a forgotten genocide."

**Fortune Tellers: The Story of America's First Economic Forecasts**, by Walter A. Friedman (Princeton, \$29.95). Those economic seers who predict GNP and unemployment—and move markets? They were not always with us. The director of the Business School's business history initiative takes readers back to some pioneers of the art; his title, and the appearance of "astrologer" as the third word in his introduction, suggest some of the underlying hopes invested in forecasting today.

**Finding the Dragon Lady: The Mystery of Madame Nhu**, by Monique Brinson Demery, A.M. '03 (PublicAffairs, \$26.99). The U.S.-backed 1963 coup that deposed South Vietnam's government cost the life of President Ngo Dinh Diem and his brother, Ngo Dinh Nhu, whose wife, the feared Madame Nhu, survived, only to live in exile for decades. The author fills in this uncovered chapter from the war that escalated so horribly after the coup.

**Turmoil and Transition in Boston**, by Lawrence S. DiCara '71, M.P.A. '77, with Chris Black (Hamilton/Rowan and Littlefield, \$24.99 paper). At a time of generational change in Boston's mayoral suite, DiCara's political memoir of his service on the Boston City Council (he was the youngest person ever elected, in 1971) and his 1983 campaign for mayor recalls the city during the busing crisis, when today's prosperity and appeal could not even be envisioned.



Poet and physician  
Rafael Campo  
relaxes at home with  
a book.

## Sestinas from the Clinic

*Rafael Campo, M.D., straddles medicine and metonymy.*

**R**AFAEL CAMPO WRITES clear, inviting, open-hearted poems about the most difficult, most troubling, and—for readers unused to them—most private and least traditional of subjects. He is an associate professor of medicine at Harvard Medical School and practices at Beth Israel-Deaconess Medical Center. He treats—and writes about treating—people living with serious illness, especially HIV and AIDS. That enterprise informs all his six books of verse, but in his latest, *Alternative Medicine* (Duke University Press), his work as a doctor becomes, literally, central. The book's three parts concern, in turn, Campo's early years as a Cuban-American child of immigrants; his professional work, both clinical ("The Third Step in Obtaining an Arterial Blood Gas") and interpersonal; and the rest of his life, as teacher of poets, traveler, gay man, lover, beloved, and citizen. The volume concludes with warm love poems ("You're the heaven I'm still rising towards"), but its power rests with its patients and their troubles—in the repeated worry of the phrase "I'm not a real doc without my white coat," with the

hospitalized audience for "Wish Bone the cancer clown."

By the time he entered Amherst College in the early 1980s, Campo knew he would be a doctor. He came to take poetry seriously thanks in part to his teacher Eve Kosofsky Sedgwick, who later helped create the field called queer theory. Her class, he says, let him "transgress into the realm of the literary" and "put on the drag of science in my poems." "Part of my own impulse to write poems had to do with my queerness," he continues, "wanting to be out, to have a voice." Another impulse was humanistic, pushing back against "the impersonal norms...of a strictly biomedical paradigm" for pre-med and medical training.

Both impulses flourish in *Alternative Medicine*, which celebrates Campo's erotic commitments in love poems ("Shared," "Love Song for Love Songs") and also speaks to his work in humanistic medicine, training other doctors to see their patients as whole people. A vigorous man-



Visit [www.harvardmag.com/extras](http://www.harvardmag.com/extras) to hear Campo read several poems aloud.



ifesto in couplets, with the not altogether ironic title “Reforming Health Care,” concludes by observing, “in the final absence of a cure,/ the need in all of us for someone’s care.”

The poet found Harvard Medical School

“in some ways, very disheartening,” and took a year off to study creative writing at Boston University, where he evolved his pellucid formal style. After earning his M.D. in 1992, he took a medical residency in San Francisco, where—before the cur-

rent “triple cocktail” treatment regime—“we had nothing to offer other than compassion” to gay men dying of AIDS in his care. *Alternative Medicine* looks back to those years—“Remember when it seemed miraculous/that most of our close friends weren’t dead? We feared/their blood...We cried/at patients’ funerals.”

These lines commit themselves at once to wide intelligibility—all the poems make sense the first time through—and to traditional ways of arranging words: pentameter quatrains, sonnets, a sestina, two double villanelles. Campo, who grew up fully bilingual, speculates that his pages’ clean shapes reveal his “immigrant mentality”: “to master these forms is becoming truly an English speaker.” Stanzas here address his second-generation identity: “We never learned to swim in bitterness:/to us, the river’s water’s flow is free.”

Campo makes a point of listening to his patients: their voices and their own writings inform his poetry, as they informed his book of essays *The Healing Art* (2003). “We doctors are famous for interrupting patients,” he explains; his work could help them speak. And yet the patients’ voices often tax the doctors’ temperaments; sick people need a kindness and a patience that their physicians cannot always provide. “Can’t you just be happy I’m gonna die/and give me my damn prescriptions?” asks one; another was “sure she was infected with a lie,/and inside her, it was the dream that died.”

Much of Campo’s writing—and some of his medical practice, too—seem designed to say to readers and nonreaders, the sick and the well, that we are not alone. Nor is Campo alone in his stylistic goals: fluent and sociable, versatile within his forms, he has something in common with the poet and translator Marilyn Hacker, and with the late poet Thom Gunn. “The kinds of poetry that I am writing,” Campo says, “I do hope will reach people in the hospital, people who are not necessarily poets themselves.” And yet that hope comes hand in hand, throughout *Alternative Medicine*, with the poet’s own need to explain hope and grief, life and death, memory and desire, to himself: as Campo puts it, “A doctor writes because he must, because/not one of us can stop the final cure.”

~STEPHEN BURT

O P E N B O O K

## Annals of Anxiety

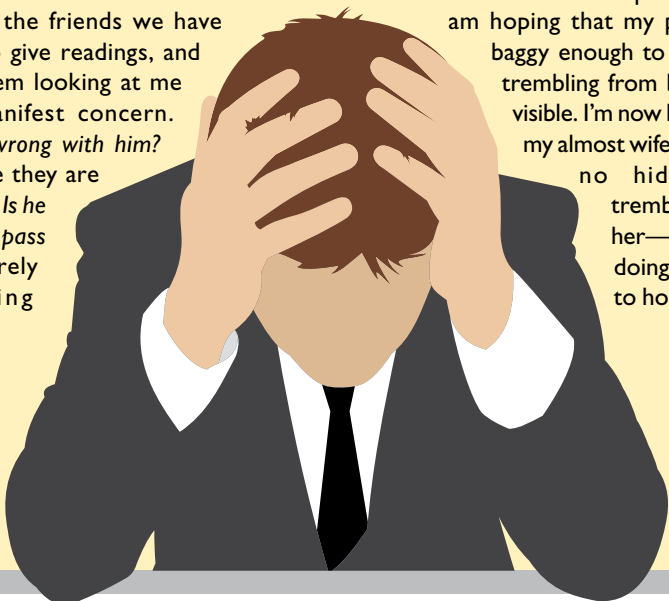
of *The Atlantic* (and an incorporator of this magazine). In a self-revealing, funny, and unsparing act of exposing one’s dark fears to the light of day, he has drawn on his personal experiences to address the history, etiology, and science of a broad topic in *My Age of Anxiety: Fear, Hope, Dread, and the Search for Peace of Mind* (Knopf, \$27.95). From the vivid opening:

**I have** an unfortunate tendency to falter at crucial moments.

For instance, standing at the altar in a church in Vermont, waiting for my wife-to-be to come down the aisle to marry me, I start to feel horribly ill. Not just vaguely queasy, but severely nauseated and shaky—and, most of all, sweaty. The church is hot that day—it’s early July—and many people are perspiring in their summer suits and sundresses. But not like I am....In wedding photos, you can see me standing tensely at the altar, a grim half smile on my face, as I watch my fiancée come down the aisle on the arm of her father: in the photos, Susanna is glowing; I am glistening....We turn to face the minister. Behind him are the friends we have asked to give readings, and I see them looking at me with manifest concern. *What’s wrong with him?* I imagine they are thinking. *Is he going to pass out?* Merely imagining

these thoughts instantly makes me sweat even more. My best man, standing a few feet behind me, taps me on the shoulder and hands me a tissue to mop my brow. My friend Cathy, sitting many rows back in the church, will tell me later that she had a strong urge to bring me a glass of water; it looked, she said, as if I had just run a marathon.

The wedding readers’ facial expressions have gone from registering mild concern to what appears to me to be unconcealed horror: *Is he going to die?* I’m beginning to wonder that myself. For I have started to shake....I feel like I’m on the verge of convulsing. I am concentrating on keeping my legs from flying out from under me like an epileptic’s and am hoping that my pants are baggy enough to keep the trembling from being too visible. I’m now leaning on my almost wife—there’s no hiding the trembling from her—and she is doing her best to hold me up.





## The Lit City

Sunlight and shadow star in Derek Reist's urban landscapes.

LATE ON A FALL DAY in 1974, Derek Reist '67, M.B.A. '69, was walking from his rent-controlled apartment/artist's studio in Manhattan to the Harvard Club to play squash. His work had already been featured in several Manhattan art galleries, and he was at least eking out a living as a painter. But he was still engaged in a sometimes frustrating search for an artistic vision. While crossing a street, Reist looked up and spotted a rooftop water tower, bathed in the sunset's orange light. He was transfixed.

"I had been trying to figure out how to work with light," he says, recalling this signal moment with an intensity undimmed nearly four decades later. "It wasn't a great composition; it was just the way the light was on the water tower. It absolutely hit me. I suddenly knew. I was really, really excited. I didn't intellectualize it. I just said, 'This is it!'" When he reached the squash court, Reist apologized and canceled his game. "I had to leave, to go back to my studio and paint what I'd seen," he recalls. "Now I had an idea I could work on for years."

The paintings that grew from that epiphany, and for which Reist is best known, are Manhattan cityscapes (www.

artistwebsitepro.com/Artist/Derek Reist). But Reist, who in 2002 moved upstate to the town of Peekskill, says that the particular urban settings of his paintings are almost incidental. The critical factor is the time of day—dusk or dawn. His real subject is the play of light and shadow and their subtle interaction. "You take something very ordinary, mundane, but when you light it, then it takes on an amazing quality," he says. "It's a fleeting quality. Utterly transitory."

Caravaggio, de Chirico, Vermeer, Hopper, and "all the Impressionists" are influences Reist cites: "I was drawn to guys who incorporated light in their work." His own canvases are large and substantially more dramatic than their online renderings: the sun-struck portions emit a fiery glow, while the cool, deep shadows feature subtle differentiations among purples and deep blues.

*Downtown Gold* and *Midnight* (reproduced above) in different ways exemplify Reist's approach. His is a personal and private view of New York—composed of



Clockwise from upper left: Derek Reist's paintings *Midnight* and *Downtown Gold*; Reist in his Peekskill studio

human artifacts, but devoid of human figures, with sky the overarching presence. In *Downtown Gold* that yellow-gold sky subtly varies from warm to decidedly cool as it stretches from the horizon to the zenith. The buildings gleam with an almost luminous and much redder gold. Cool, almost icy shadows bathe much of the surface, yielding carefully rendered details. In *Midnight*, the sky is an inky void, with the street, sidewalk, and trash bags painted in cool tones. The sparse warm highlights provided by the doorway of a brownstone and a bit of autumnal foliage illuminated by streetlight only serve to



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emphasize the chill of a fall night.

Though Reist dates his real career as an artist to that moment on a Manhattan street, his artistic roots trace back to his childhood in Peru, where his father was an American military attaché married to a Peruvian. Reist began painting in prep school; in college, the Adams resident took a House course on life drawing taught by Boston University professor Morton

Sachs. "Morton taught me how to see with a pencil," Reist recalls. "I learned how to translate three dimensions to two, but in a way you could still see the three dimensions." Sachs encouraged Reist to consider painting as a career.

Though he was accepted by Rhode Island School of Design, financial considerations led him to matriculate instead at Harvard Business School. "My dad

wouldn't pay for art school," he explains, "but he would for business school." But after his M.B.A. and two years at Time, Inc., he became a full-time painter. It wasn't always smooth sailing; he worked part-time as a consultant and taught business at a local college. "There was some good luck involved," he recalls, "but success enables more success. You can take chances if you are successful." —STEVE POTTER

## Made in the U.S.A.

*Fiction and critique of American society*

by ADAM KIRSCH

THE PHRASE "The Great American Novel" means something more than the sum of its parts. There are plenty of great American novels that are not Great American Novels: Henry James's *Portrait of a Lady* doesn't qualify, and neither does Ernest Hemingway's *The Sun Also Rises*, or Willa Cather's *The Lost Lady*, even though everyone acknowledges them as classics. No, the Great American Novel—always capitalized, like the United States of America itself—has to be a book that contains and explains the whole country, that makes sense of a place that remains, after 230-odd years, a mystery to itself. If other countries don't fetishize their novels in quite this way—if the French don't sit around waiting for someone to write the Great French Novel—it may be because no country is so much in need of explanation.

Hardly anyone talks about

the Great American Novel without a tincture of irony these days. But as Lawrence Buell shows in *The Dream of the Great American Novel*, his comprehensive and illuminating new study, that is nothing new: American writers have always held the phrase at arm's length, recognizing in it a kind of hubris, if not mere boosterism. Almost as soon as the concept of the Great American Novel was invented, in the nation-building years after the Civil War, Buell finds it being mocked, noting that one observer dryly put it into the same category as "other great

American things such as the great American sewing-machine, the great American public school, and the great American sleeping-car." It was enough of a cliché by 1880 for Henry James to refer to it with the acronym "GAN," which Buell employs throughout his book.

Yet Buell warns us against taking all this dismissal at face value: "critical pissiness suggests the persistence of some sort of hydrant," as he puts it. Even today, in our endlessly self-conscious literary era, novelists are still writing candidates for the GAN. What else are Jonathan Franzen's *Freedom*, or Philip Roth's *American Pastoral*, or Don DeLillo's *Underworld*, if not attempts to capture the essence of American modernity between two covers?

Buell, now Cabot research professor of American literature, does not spend much time theorizing about the Great American Novel. Instead, he seeks to illuminate the concept by analyzing some of the books that have laid claim to the title. Most of these are, by definition, mainstays of high-school and college syllabi, from Nathaniel Hawthorne's *The Scarlet Letter* down to Toni Morrison's *Beloved*. But alongside these classics, Buell ranges a number of lesser-known works, showing how the basic "scripts" of the Great American Novel are played out by writers like Helen Hunt Jackson in *Ramona* and Harold Fredric in *The Damnation of Theron Ware*. And he takes account of contemporary works that respond to, challenge, and rewrite the classics, such as

Lawrence Buell, *The Dream of the Great American Novel* (Harvard University Press, \$39.95)

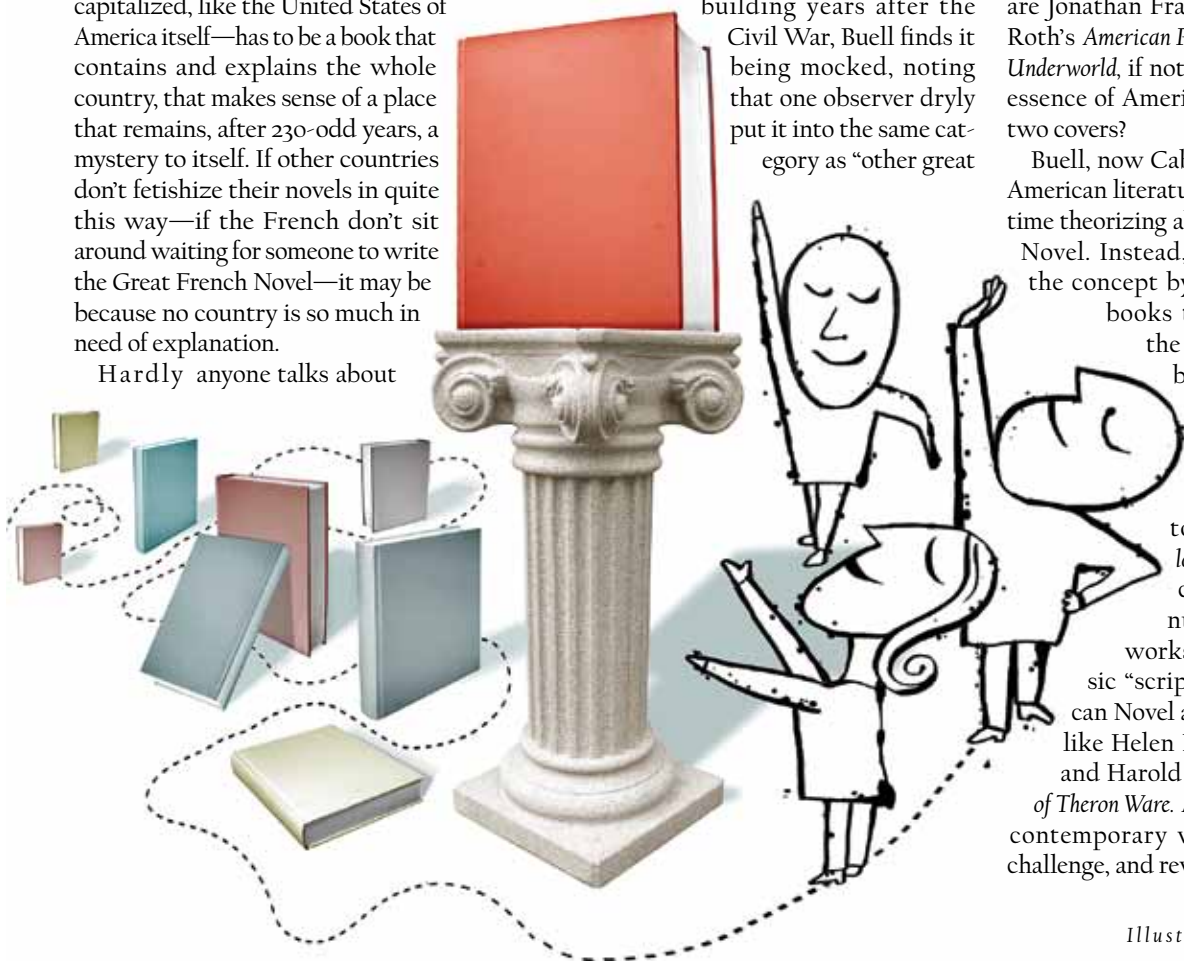


Illustration by Miguel Davilla

Alice Randall's *The Wind Done Gone*, a parody of *Gone With the Wind*.

*Gone With the Wind* is not what most people would think of as a Great American Novel—surely it is too middlebrow, not to mention too racist, for that distinction. But as Buell points out, the themes Margaret Mitchell writes about—slavery, the weight of Southern history, “the old-order mystique”—are the same as those of an undoubted GAN, William Faulkner's *Absalom, Absalom*. (The difference is that “for every reader of *Absalom*, fifty had read *Gone With the Wind*.”) Buell proposes that GAN candidates tend to follow a few major “scripts,” and Faulkner and Mitchell are both using the same one: novels that seek to explain America by “imagining across or from within” the country's major social divisions, especially the divisions between black and white, and between North and South.

The GAN candidates that follow this script manage to remain controversial even as they attain the status of classics. *Uncle Tom's Cabin*, by Harriet Beecher Stowe, is Buell's first example: a huge bestseller on publication in 1852, it was credited by some with helping to hasten the Civil War, thanks to its frontal assault on slavery. Yet as Buell notes, the book tries hard to depict slavery as a national problem, while sparing Southern sensitivities: Stowe “makes her arch villain a New Englander,” while “she makes her most brainy and articulate white character a slaveholder.” Though her depictions of black characters now strike us as deeply racist, “essentializing...Africans as inherently childlike,” Buell urges us to consider the novel as a “white person's attempt to comprehend nonwhites at a moment when even most white northerners considered them less than fully human.”

*Uncle Tom's Cabin* inaugurates a long tradition of GANs that try to bridge the racial divide—though later, more sophisticated works would focus on the ways it remained unbridgeable. Here the key example is Toni Morrison's *Beloved*, the subject of one of Buell's best chapters. Like many GANs, Buell notes, Morrison's book “undertakes a far-reaching geographical scan of the...United States,” following its characters from Georgia to Delaware to New Jersey to Ohio. But the horrifying tragedy at its center—an escaped slave, Sethe, murders her daughter rather than

**Lorna Hallal seeks** the title and author of a work that describes children queuing for the gas chamber while a palm reader tells their fortunes. The refrain is “the wrong parents, the wrong parents.”

**John Gordon writes**, “I remember reading somewhere that after the 1746 Battle of Culloden, a British officer was informed that a mother and her children were outside his quarters looking for a place to spend the night, to which he responded, irritably, ‘Oh, hang ‘em!’ The next morning he was startled to find that they had all been, literally, hanged. I would appreciate a source on this.”

**Pete Hawkins wonders** whether anyone can provide a definitive citation for a

quotation widely attributed to Friedrich Nietzsche: “To forget one's purpose is the commonest form of stupidity.”

**“no moral right to decide”** (November-December 2013). Charles Hagen found “We have no right morally to decide as a matter of opinion that which can be determined as a matter of fact” in *Industrial Leadership* (chapter 4, “Results of Task Work,” pages 88-89), the published version of management consultant H.L. Gantt's Page Lecture series delivered at Yale in 1915.

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).

see her returned to slavery—means that it remains a far more challenging and refractory work than, say, *Huckleberry Finn*, another example of this GAN “script.” Buell quotes Morrison's own feeling that, in *Beloved*, she was treating an aspect of American history that “the characters don't want to remember, I don't want to remember, black people don't want to remember, white people won't want to remember.”

Yet as Buell insists, the GAN has always thrived by criticizing American society, not by celebrating it. “Great American Novels are not expected to be rituals of self-congratulation like July 4 celebrations or Hollywood melodramas,” he writes. “On the contrary, the historical record suggests that serious contenders are much more likely to insist that national greatness is unproven, that its pretensions are hollow, and that the ship of state is going down.”

That is certainly the approach of two other prime candidates for GAN-hood: John Dos Passos's *USA* and John Steinbeck's *The Grapes of Wrath*. These books, for Buell, follow a second script—the one originated by *Moby-Dick*, the grandfather of all GANs—which tries to encompass all of American life, in almost sociological fashion, through sheer breadth of vision.

They are “sprawling performances of encyclopedic scope with multiple agendas from the ethnographic to the metaphysical.” But where the democratic crew of the *Pequod* is destroyed by the monomania of Captain Ahab, the cast of *USA*—12 characters drawn from across the range of socioeconomic types—are dragged down by the mediocrity and money-madness of pre-Depression America.

As Buell cannily notes, the language of the characters in *USA* is not “the speech of the people,” as Dos Passos claims, but a manufactured “slanguage,” showing how Americans' minds have been colonized by “newsreel argot and the platitudes of professional wordsmiths.” Unlike Steinbeck's Okies, who are described in a poetic plural of “groupthink, grouptalk,” Dos Passos's people seem atomized: “social interaction becomes much more diffuse, fleeting, happenstance, compartmentalized, abstract, mediated.” One of the purposes of a book such as *The Dream of the Great American Novel* is to reintroduce us to forgotten classics, and *USA*, probably the least read of Buell's GAN candidates, is perfectly suited for rediscovery in our own Great Recession moment.

If these meganovels seek to take in all of American society, a third “script” for the GAN focuses on the representative career



of a single character on his or her quest for the American Dream. Buell calls these “up-from fictions,” and sees their archetype in Benjamin Franklin’s *Autobiography*, that story of successful self-invention. In novels, however, the journey is rarely so straightforward—whether it is the louche career of Augie in Saul Bellow’s *The Adventures of Augie March*, or the painful education of the nameless narrator in Ralph Ellison’s *Invisible Man*.

The most famous example, however,

and one of the first titles to come to mind whenever the Great American Novel is mentioned, is F. Scott Fitzgerald’s *The Great Gatsby*. Gatsby, who remains a cipher even as he transforms himself into a prince of Long Island society, is the antithesis of Franklin, who made a self by making his fortune. “To read *Gatsby* as a symbol of the great American dreamer, then,” Buell writes, “is to read the dream itself as already sealed and gone, locked somewhere in the remote inacces-

sible past.” But of course, if the American Dream weren’t still alive, somewhere in our culture and our minds, it wouldn’t be necessary for the novelists to keep writing Great American Novels. And Buell’s erudite study convinces us that the death of the GAN, despite all predictions, is not coming anytime soon. ▽

*Adam Kirsch ’97, a contributing editor of this magazine, is a poet and the author most recently of Why Trilling Matters (Yale University Press).*

## ALUMNI

## Dudley’s Square Deal

*An alumnus seeks a fragile balance in financing community development.*

**T**HIS JANUARY a long-defunct bus garage on a weedy 8.5-acre lot in Roxbury, one of Boston’s poorest neighborhoods, is slated to be demolished. Then Bartlett Yard will become Bartlett Place. Plans for the \$140-million development project call for 323 mixed-income

housing units (including some slated for the elderly and artists), a grocery store, and offices, along with a public plaza.

The site is a short walk from Roxbury’s main commercial district, Dudley Square, and is expected to play a major role in the area’s much-debated, slowly emerging

revitalization. The City of Boston is integral to the pending renewal, as is Boston Community Capital (BCC), based in the square. “Bartlett Yard was a polluted site, with bus fumes, and where repair work was being done in the garages, so you have a lot of paint and oil and gasoline—not a great environmental asset to have in the middle of a neighborhood,” says DeWitt “Dick” Jones ’79, M.C.R.P. ’82, the executive vice president of BCC, which is funding a portion of Bartlett Place. “The private developers were not chomping at the bit to do anything with it.”

In stepped one of BCC’s clients, the nonprofit Nuestra Comunidad Development Corporation, which bought the property and is leading the

**In Boston’s Roxbury neighborhood, DeWitt Jones visits the defunct bus garage at Bartlett Yard, which became an urban public-art space before its scheduled early-2014 demolition. Art festival organizers and the property’s owners invited well-known graffiti artists to paint dozens of murals on the walls of the garage buildings last spring. Such “Bartlett Yard Events” drew crowds and helped raise awareness of long-awaited community revitalization efforts. The local nonprofit Nuestra Comunidad, which plans to transform the site into mixed-income housing and commercial space dubbed Bartlett Place, is preserving only the murals that were painted on canvases. It has pledged to continue running artistic and cultural events, as well as farmers’ markets and other community gatherings, at a public plaza integral to Bartlett Place.**



development of Bartlett Place. (Nuestra is, coincidentally, led by another alumnus, David Price '77; see "Striving For 'A Real Mix of People,'" page 71.) "You needed an organization like Nuestra," Jones explains, "to do something that is appropriate and balances Dudley's needs—making housing affordable for the people who are here and want to stay, and making something attractive that also brings in new residents and creates more positive momentum around change."

Roxbury has a rich Colonial history, and was later home to waves of European immigrants. It is now predominantly African American, but Dudley Square has a vibrant mix of Brazilians, Asians, Africans, Latin Americans, and West Indians, all of whom shop at Tropical Foods, an international grocery. That mix, along with newcomers like artists and Square office workers, is also seen at the Haley House Bakery, a cozy café down the street that is run by a soup kitchen and staffed by people who "face significant barriers to employment." On the other side of the square, though, both the three-year-old police station and the nearby library, Jones notes, look like attractive fortresses. Roxbury has had a reputation as a high-crime zone where economic opportunity is largely absent.

In 1998, to directly support and spur confidence in community rebuilding efforts, BCC moved into the second floor of Palladio Hall in the heart of the square. It is a grand 1870s Italian Renaissance-style structure left over from the neighborhood's heyday. "When we got here," Jones reports, "we were told we were the first tenant to move above the ground-floor commercial space in Dudley Square in two decades." BCC helped finance extensive renovations (much of BCC's space was once a ballroom), completed by Nuestra, which owns and also works out of the building. Elsewhere around the square, BCC has invested in daycare centers, health clinics, affordable housing, and a community assisted-living facility that took over a vacant elementary school.

REFLECTING on BCC's presence in Dudley Square—just one of the firm's projects—Jones says, "If you rely on government subsidies or grants, and do not have financial returns, the work you can do is severely limited by scale, and it's very hard to try any-

thing new." If he didn't foresee delving into finance, Jones has always wanted to work for social change. As an undergraduate, he concentrated in government and remembers reading an article on bank redlining that led him to study capital markets to try to identify what factors created economically healthy communities. He then earned a master's degree in city and regional planning from the Kennedy School. (His mother, Megan Jones, who had worked in state politics, was earning her M.P.A. around the same time.)

After graduation, he became the executive director of an advocacy organization, the Massachusetts Urban Reinvestment Advisory Group Inc. (MURAG), where he had also been an AmeriCorps VISTA volunteer. There, he met others working on economic development, including those in the midst of forming the Boston Community Loan Fund. They hired him to build the organization from scratch: Jones recalls running it from his attic, starting with \$3,500 loaned to a day-care center, tenants' group, and a women's shelter. Since then, the community-development financial institution has invested more than \$900 million in New England and around the country in support of its mission: "Building healthy communities where low-income people live and work."

BCC's loan fund now lists more than a hundred investors, ranging from larger institutions—such as Harvard, regional and national banks, and charitable foundations—to church groups, small nonprofits, and individuals. They lend money to BCC and get it back at fixed interest rates ranging from 0 to 4.5 percent, like investing in bonds. BCC then lends that money to borrowers at higher rates to cover the returns as well its own costs. The enterprise requires a precise balancing of monetary interests in the name of social justice. "We absolutely are not against making money, being profitable, and turning down projects and loans that are not likely to be successful," Jones reports, but neither is the organization "scouring low-income communities for great money-making opportunities, or even medium ones." A separate venture-capital unit, which offers higher returns, was an early backer of Zipcar, and has since invested in 22 other start-ups (not all as successful as the innovative car-sharing company), as

well as other more established firms.

More recently, BCC has launched a mortgage-buyback initiative and two projects to improve energy efficiency. The SUN (Stabilizing Urban Neighborhoods) Foreclosure Prevention Program, which has focused on Massachusetts, but is being expanded across the country, uses investor financing to buy at-risk homes from banks at slightly below the market value and then resell them to the original owners at carefully underwritten, affordable mortgage rates. "Our customers," Jones explains, "typically have been foreclosed upon but not yet evicted, want to stay in their homes, and have the income to support a 'right-sized' mortgage—at the current market value—but they are significantly under water and cannot pay the inflated housing and mortgage values." The real market value—the best price a bank could get selling the property after foreclosure—is based on what local incomes can support, he adds, which is often "50 percent of what the peak prices were."

BCC makes the mortgages from a combination of funds it has borrowed from investors, lenders, and banks. "We repay the principal on the loans to us when the mortgages are repaid or by establishing a secondary market," he adds, as BCC recently did with a \$35-million transaction with East Boston Savings Bank. To date, according to Jones, SUN has helped more than 425 households avoid eviction by decreasing their total mortgage payments by \$30 million, typically by reducing principal amounts that cut total monthly payments by about 40 percent over the life of the loan.

During the last six years, Jones has moved away from direct involvement in affordable housing to develop and lead BCC's environmental projects, work he takes personally. "We had been looking at how we could adopt the Kyoto Treaty at home," explains Jones. He lives in Jamaica Plain, which abuts Roxbury, with his wife, Victoria Bok, M.P.P. '87, a consultant on public housing and community engagement in climate change (and the daughter of former University president Derek Bok) and their teenage sons, Cameron and Nicholas. They turned off lights more often, bought a highly efficient boiler, fixed leaks in their chimney, exchanged their minivan for a Prius, and pledged to drive less. They



also had the house scrutinized for air leaks, then filled them with insulating foam.

"On the heating side now, we are more comfortable and warmer in the winter and cooler in the summer," he says, "so we don't even use air conditioning." All told, they cut their household carbon footprint by 50 percent, earning the City of Boston's Green Residential Award in 2008. A year later Mayor Thomas Menino appointed Jones to the Renew Boston Advisory Committee, which oversees the city's energy-efficiency programs.

Although clearly global in nature, environmental and energy issues deeply affect local, poor communities. In urban development, Jones states, "Climate change will drive everything in the future." He leads BCC's Solar Energy Advantage, which owns and installs photovoltaic

solar panels on low-income housing, and other organizations in its portfolio, and is one of the founders and the board chairman of the completely separate venture, WegoWise, a start-up, for-profit software company that tracks buildings' energy efficiency. He can talk at length about the complex political, economic, legal, and financial factors that govern solar power and other alternative energy sources—and their effects on inner-city areas. Jones jokes that the knowledge sometimes makes him questionable company at parties, but in practice, his expertise and detail-driven mindset have made BCC one of the largest nonutility owners of solar photovoltaic systems in Massachusetts. The 12,000 panels now in use have so far generated more than 9.6 million kilowatt hours, equivalent to the annual energy

needed to power 500 homes. In short, Jones says, BCC lessens the environmental impact of its own buildings while saving a projected \$3.4 million in "fixed-price, below-market electricity" costs to its customers over the life of the panels.

As important, he adds, is how the program integrates low-income communities into the green economy, often seen as a rich person's luxury. "When you start to look at the high cost of hospital emergency-room visits due to asthma in low-income households, where there is mold in the walls and old carpeting and bad air quality in the homes" in addition to neighborhood pollution, Jones notes, "you see the relationship between personal health, home health, environmental health, and the economy."

Founded in 2009 by BCC, New Ecology, and MIT alumnus and entrepreneur Barun Singh, WegoWise has developed tools that offer online, visual, automated utility-use tracking for property owners and managers. The company uses inexpensive cloud-computing infrastructure to download information from utilities' websites, explains Jones, without relying on physical meters (the so-called smart grid, or hardware). WegoWise has so far created a database of more than 13,200 buildings, located across the country, though primarily in Massachusetts, New York, and California. It is the largest of its kind in the United States, he notes: "and a great use for big data." BCC has invested nearly \$3 million in WegoWise and plans to expand the company's reach.

While at BCC, Jones has also worked on economic development in many other roles. He is a founding member of the Opportunity Finance Network; a former board member and treasurer of the Center for Women and Enterprise; and a current trustee at Boston Day and Evening Academy, a charter high school in Roxbury that serves nontraditional students.

As he guided a recent walk around Dudley Square, it's clear that he sees a community in transition. Already under way is another vital development: the city's long-promised \$115-million redevelopment that includes turning the stately Ferdinand Building (at one time a prominent department store, it has stood empty for three decades) into the rechristened Dudley Municipal Center. The Boston Public Schools administrative staff, some 450 em-



## Aloian Award Winners

**Seniors** Kathryn Walsh of Adams House and Roland Yang of Kirkland House received the Harvard Alumni Association's (HAA) annual David '49 and Mimi Aloian Memorial Scholarships at the October meeting of the HAA's board of directors. The \$2,000 unrestricted awards, named for the master and co-master of Quincy House in the 1980s (David Aloian was also HAA executive director), recognizes exemplary leadership in enhancing quality of life in the Houses.

Walsh, of Westbrook, Maine, co-chairs the Adams House Committee; she has helped create "Neighborhood Block Parties" with Quincy and Lowell Houses, renovate communal space, run social events that incorporate public service, and write scripts for Housing Day, when freshmen tour their future home.

Yang, of Villanova, Pennsylvania, is leading a project to create a digital file of historic House images, which he plans to disseminate, and serves on the advisory committee for "Conversations with Kirkland," a series of talks by notable guests. He also participates at the French, Spanish, and newly created Chinese language tables.

# Striving for “A Real Mix of People”

In the 1980s, David Price '77 lived in the Upham's Corner section of Boston's Dorchester neighborhood. “It was down and out back then,” he reports, “vacant businesses, boarded-up buildings, empty lots, and a lot of crime.” To see what could be done to effect change, he volunteered as a community organizer and served on the board of the Dorchester Bay Community Development Corporation. Around the same time, he adds, the city government and others were also trying to address the blight by renovating buildings, especially along the main drag, Columbia Road.

As work progressed, Price saw “a transformation around the corner from my home. When you begin to see people out walking around and you are not feeling as concerned about your own safety, that changes the whole quality of life in the neighborhood.” Urban real-estate development, he realized, offered a meaningful and exciting use for a law degree.

He graduated from Boston College Law School in 1991, worked in support of affordable housing, and soon became director of real estate and general counsel for the nonprofit Madison Park Development Corporation. Founded in 1966, Madison Park is based in and focuses its work on Roxbury, and is one of the nation's first community-based nonprofit organizations to create affordable housing. “When urban renewal came in to Roxbury, it created a lot of vacant lots and big parcels,” Price explains. “Madison Park has many of the bigger developments in and around Dudley Square.”

In 2008, he was hired to lead Nuestra Comunidad, an affordable-housing organization launched in 1981 that is also based in Roxbury's Dudley Square, but extends its work to nearby Dorchester and Mattapan. (Founded by a group of Puerto Rican neighbors, Nuestra has expanded to include the full range of cultures and ethnicities in Roxbury, which has an African-American majority and many Cape Verdean and Caribbean immigrants.) Nuestra's \$2.3-million operating budget is funded, in thirds, by fees from its properties, contracts with government agencies for housing services, and philanthropic donations.

The organization owns and operates 800 rental apartments, has built and sold 150 homes for first-time buyers, and runs a large foreclosure-prevention program. “We try to help people *not* get subprime loans, to make sure they have a safe mortgage,” Price says. During an eight-hour class on home financing, Nuestra identifies reasonable terms and advises people to avoid double-digit ARMs, and teaches lessons in budgeting, credit lines and ratings, how to build down payments, and offers a list of safe lenders. For



those already at risk, Nuestra offers foreclosure counseling, bail-out strategies, and other resources to help keep people in their homes; it also refers some foreclosure clients to Boston Community Capital's Stabilizing Urban Neighborhoods program (see above). BCC also lends money to some of Nuestra's real-estate projects, including Bartlett Place as well as Palladio Hall in Dudley Square, where both organizations are based.

Nuestra owns the land on which Bartlett Place will rise, and is preparing to build there in four phases during the next eight years. Although Price is realistic about urban areas' cycles of death and rebirth, he sees the new project as instrumental in Dudley Square's revitalization. “The square is definitely on the up cycle. It's poised on the brink of major development and opportunities,” he asserts. “The downside could be displacement, gentrification. The big role for us is to plan development so that is mitigated, so that local people can participate as Roxbury takes off in terms of home values—and that's going to happen here, just as it did in the South End—over the next 20 years.” Already, prices are edging up in Fort Hill, the section adjacent to what will be Bartlett Place, he says, which is why Nuestra and others are also integrating “space for middle-income and low-income people to buy homes and stay here over the long term—so we end up with a real mix of people.”

Bartlett Place will have a public plaza, where Nuestra plans to help run arts festivals, concerts, skateboarding contests, food trucks, and farmers' markets. Some food trucks already rotate through Dudley Square. The most popular one is also the oldest, M&M Ribs. “It was the first food truck, before you ever had the term ‘food trucks,’ an original that's been in Roxbury for 20 years,” says Price. “I grew up in North Carolina, so M&M barbecue is just good home cooking to me.”

—N.P.B.

ployees, could move into the new facility as early as this year—bringing more life and shoppers to the local streets.

The key to viable community development, Jones makes clear, is stimulating sustainable economic growth without

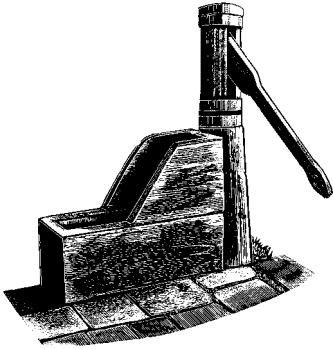
displacing existing residents and tearing up what's dynamic about a community's culture. “We have to form a balance, and ask ourselves, ‘How do we want to make an economy in a city grow?’” he says. “If you look at how we think about schools

and public safety and food and retirement and health care, it all has to work together. When communities get disaggregated, they fall apart, and then we all have a weaker civil society.”

—NELL PORTER BROWN



# Squirrely



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

IN THE BEGINNING, before there were squirrels in Harvard Yard, the eastern gray squirrel was a shy woodland creature, not an urbanite at all, used to being shot at by frontiersmen and Indians for food or by recreational hunters for sport or by farmers to protect cornfields and orchards from marauding teeth. Through the early nineteenth century, gray squirrels were effectively absent from American cities. The present ubiquity of the arboreal rodents, who often seem to enchant international visitors to Harvard, is explained by Etienne Benson '99 in a hefty, illuminating article, "The Urbanization of the Eastern Gray Squirrel (*Sciurus carolinensis*) in the United States," in the December issue of *Journal of American History*. Probably no one has gone into this topic as intensively as he.

Benson earned a Ph.D. from MIT in 2008, was a postdoctoral fellow at Harvard's Center for the Environment and in the Department of the History of Science, went on to be a research scholar at the Max Planck Institute for the History of Science, in Berlin, and is now an assistant professor in the history and sociology of science at the University of Pennsylvania. There he is on historic ground. In 1847, Benson relates, three squirrels were released in Franklin Square, then in a fashionable residential neighborhood, and given boxes for food and for nesting, making Philadelphia the apparent pioneer in the in-

troduction of squirrels to urban centers. Boston followed in 1855 by importing a handful of squirrels to the Common, and New Haven had a population of the creatures on its town green by the early 1860s at the latest.

"The urbanization of the gray squirrel in the United States between the mid-nineteenth century and the early twentieth century was a simultaneously ecological and cultural process that changed the squirrels' ways of life, the urban landscape, and human understandings of nature, the city, and the boundaries of community," writes Benson. "Squirrels were part of the new complex of human-animal relationships that emerged in the American city at the turn of the twentieth century, as laboring animals were replaced by machines and dairy, meat, and egg production and processing were shifted to the urban margins." Evidence in newspapers, scientific journals, diaries, and other sources reveals, Benson finds, that the squirrel came to be seen "not merely as an interesting object of nature study but also as a morally significant member of the urban community."

Because squirrels "were nondomesticated but appeared to be responsive to and solicitous of human charity," writes Benson, "they held a special place in [urban reformers' and humane activists'] vision of a more-than-human community." It became necessary to feed, house, and protect them. Many decades later, ecologists would decide such cossetting was bad, but when the first gray squirrels arrived in Harvard Square about 1900, emigrating over the course of a decade from woody Mount Auburn Cemetery about a mile away, Harvard built nest boxes for them in the Yard elms and distributed bags of peanuts over the

winter, as did the keepers of many city parks and squares. Professor Charles Eliot Norton offered children 50 cents for each bushel of acorns they gathered in the woods, which he had distributed to squirrels throughout Cambridge. A wide variety of individuals, Benson notes, "shaped the moral-ecological character of urban public space...[where] even the least powerful members of human society could perform the virtue of charity and, in doing so, display their own moral worth."

One exempts from charitableness the Harvard student who drew the cartoon below, published in the *Harvard Lampoon* in 1903, about the begging of the Yard's recently arrived squirrels. Writes Benson, "[T]he animals' demands put them in the same rank



as shameless, albeit sometimes entertaining, human beggars....[The cartoon] implicitly compared the Yard's squirrels, depicted in acrobatic poses while begging a student to 'scramble a nut,' to the 'muckers' of Harvard Square—poor boys who were known for asking well-heeled students to 'scramble a cent.'" The student newspaper, the *Crimson*, praised the cartoon as providing "something really new and refreshing on the squirrel question."

~PRIMUS V

## LETTERS

(continued from page 10)

Breckenridge of Kentucky as president, or failing that, Everett's running mate, John Bell of Tennessee. Or Everett himself might become "acting president" if elected vice-president by the Senate.

Lincoln was the true pragmatist in the 1860 election, for he knew how to win an election, and how to win a war. And unlike Everett, Lincoln also knew how to make a really good speech and to keep it short.

LEONARD S. ELMAN, J.D. '55  
New York City

CASTLE FREEMAN JR. tosses off the comment that Edward Everett "with a scholarly friend" traveled to Germany to prepare for a professorship of Greek at Harvard. Some friend! George Ticknor, according to Wikipedia, pioneered the teaching of modern foreign languages at Harvard and advocated the creation of departments, the grouping of students in divisions according to proficiency, and the establishment of the elective system. He was not just along for the ride with Everett!

HERBERT L. MAGER JR. '64  
Oakland, Calif.

*Editor's note:* The Vita format often requires pruning interesting, even important, information to arrive at the specified length. Even had we known that Ticknor was Everett's traveling companion, we might have asked the author to excise him to keep something else in the article. But having learned the name of that companion, we revisited the Vita of Ticknor (January-February 2005, page 48) and found, tit for tat, no mention of Everett there. We're glad Mr. Mager has brought the two men together.

## HOUSES, RENEWED

IN CRAIG LAMBERT'S otherwise excellent article, "Learning, and Life, in the Houses" (November-December 2013, page 46), there is a factual error that should be corrected. He wrote that "The only true counterpart to Harvard's house system as a way to lodge, feed, and educate upperclassmen is an analogous arrangement at Yale." Rice University has had a residential college system since the 1950s that is in every essential analogous to Harvard's and Yale's. Each college at Rice has a master and co-master who live on campus in a residence connected to the college (my wife and I were co-masters of

Will Rice college). We ate with the students and advised them on both academic and social matters, with the assistance of two resident associates, usually other faculty members. As at Harvard, the colleges encourage theatrical productions, concerts, and art exhibits, as well as athletic and purely social events. Each college has a slate of elected officers and a legislative body. The colleges also sponsor specialty courses. Loyalty to one's college is fierce, as it is at Harvard. When I joined the faculty at Rice, I was greatly relieved to find a system so like the Harvard houses (I had been a tutor at Eliot House) instead of the Greek system, which has been problematic for so many colleges and universities.

EDWARD DOUGHTIE, PH.D. '64  
Strafford, Vt.

I HAD THE VERY GOOD fortune to have been a resident tutor at Adams House between 1949 and 1952. I was a teaching fellow in General Education (in the late Sam Beer's unforgettable Social Sciences II) and a graduate student in sociology. I was 23 years old when I began, and (like my fellow tutor, Bernard Bailyn) had come to Harvard from Williams College with its charms, character, and great teaching tradition. Richard Wilbur (from Amherst), the poet, was a resident fellow from the Society of Fellows and the faculty fellows were a scintillating bunch, including Arthur Schlesinger Jr., Edwin Reischauer, and Morton White. I was closest to the undergraduate members of the house in age, but all of us learned at least as much from them as they did from us. Diana Eck is right. Then, as apparently now, the houses were sites of community, extended families, and in any case, indispensable alternatives to the ferocious anonymity of a very competitive university.

NORMAN BIRNBAUM, PH.D. '58  
University Professor Emeritus  
Georgetown University Law Center  
Washington, D.C.

## HISTORICALLY BLACK COLLEGES

I READ THE ARTICLE concerning the distinguished new president of Morehouse College, J.S. Wilson Jr., with interest and growing perplexity ("Morehouse Man, Redux," November-December 2013, page 72). The status of the historically black colleges and universities (HBCU) was covered in some detail.

It was reported that 9 of 10 young African-American men and women choose to

matriculate in "white" schools of higher learning rather than an HBCU school. Is this wrong? Are these young people not saying they do not want to attend a *de facto* segregated school? Was not the concept of "separate but unequal" schools the basis for the fight largely won by civil-rights activists not that long ago? Was that drive not also to encourage ethnic mixing and thus lessen interracial tensions? Do HBCUs foster that desirable end? Should each of Wilson's three children have selected an HBCU rather than Harvard, Stanford, and Princeton, where they were enrolled? Should we bemoan the passing of St. Paul's College in Virginia, any more than we should bemoan the transformation of Harvard College? It was largely a school to train white male Protestant preachers in its early days. Times change and societal needs and *desiderata* evolve with them.

Is there still a role in higher education for HBCUs? If so, what is it precisely?

GIULIO J. D'ANGIO, M.D. '45  
Philadelphia

*Editor's note:* Leaders of HBCUs could address these questions. But some thoughts prompted by the profile likely occur to any reader: Certainly for students of color attending college, wider opportunity is welcome—although opinions vary about whether all such students thrive in whatever institutions they choose to attend. But HBCUs' role is presumably still important in an era when a large portion of the cohort they serve is not achieving *any* higher education. And the competition for their students from institutions with greater financial resources, occurring *de facto*, has perhaps not been accompanied by an explicit discussion of their role in the society.

## ERRATA AND AMPLIFICATIONS

THE online "Extra" indicator in the profile of Michael Van Valkenburgh inexplicably misspelled his name, which appeared correctly elsewhere in the article.

James MacGregor Burns's *Fire and Light*, the November-December 2013 Open Book (page 18), was published by the Thomas Dunne Books imprint of St. Martin's Press.

Jon Bartel '63 of Goleta, California, alertly noted that Vita subject Edward Everett was appointed U.S. Secretary of State in 1852, not 1849. Millard Fillmore, who appointed him, did not become president until 1850.



# Engines of Change

What more than 240,000 miles of railroad track can do

**H**AS barbed wire ever been portrayed more glamorously than in the prettily framed advertising poster below for the I.L. Ellwood Company? A fence of the material, built to protect one's livestock from oncoming trains, had clear advantages over a wooden fence. It would last twice as long. Sparks would not set it on fire. Floods would not sweep it away.

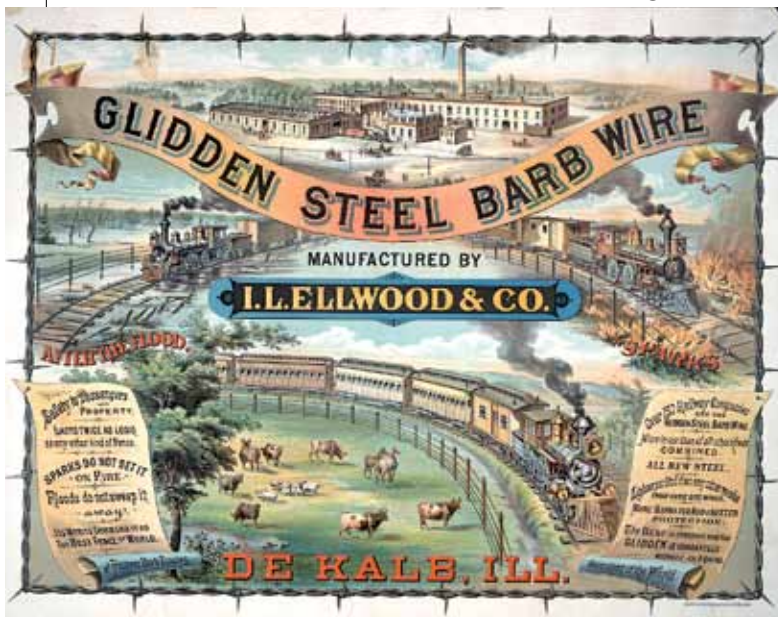
*Railroads: The Transformation of Capitalism*, an online exhibition created by the historical collections department of Harvard Business School's Baker Library (see [www.library.hbs.edu/hc/railroads/index.html](http://www.library.hbs.edu/hc/railroads/index.html)), notes that the railroad industry required standardized, mass-produced parts for its daily operations, especially as the lines grew and merged with one another. By the late 1800s, the Baldwin Locomotive Works in

Philadelphia was producing nearly a thousand locomotives annually. Other companies manufactured thousands of specialized standard parts necessary for railroad operations, such as water injectors, signal oils, hydraulic pumps, ticket punches, and, indeed, barbed wire.

"Through the wide distribution of agricultural products, raw manufacturing materials, and finished consumer goods from other industries, the railroads fostered mass production and opened new national markets," the editors of the exhibition text point out. "A company could create a mass-produced product—whether

sewing machines or plows—in one region of the country and transport it via rail for sale in another region. The speed, efficiency, and scale with which items were produced and shipped resulted in lower costs." The railroads set in motion the combined forces of mass production, distribution, and communication.

Productivity rose almost sixfold in the United States during the era of railroad expansion, as westward the star of empire took its way. The late Thomas K. McCraw, Straus professor of business history, wrote that during this period "the growth of big business was the central trend of the American economy." The formation of what would become Fortune 500 companies spiked. By World War I, America's journey from an agrarian society to a leading industrial power was complete. The editors of the exhibition sum up: "The rise of modern American capitalism, enabled by the expansion of the railroad, was one of the transformative developments of the nineteenth century—and one that historians refer to as the second industrial revolution." ~C.R.



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