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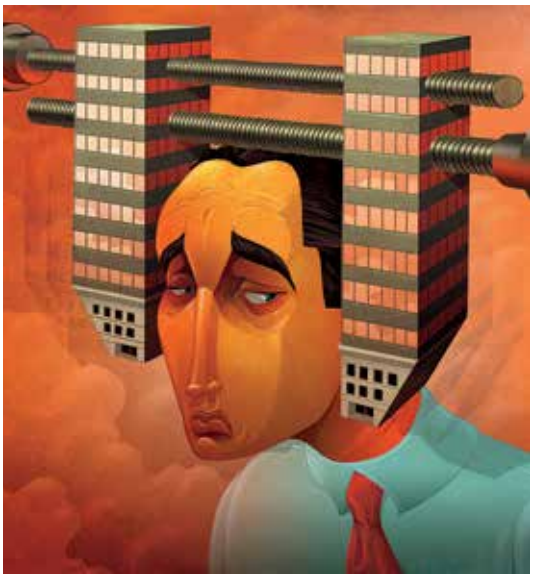

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On the cover: *The linguistics formulas model the meanings of sentences. Photograph by Jim Harrison*

CLOCKWISE FROM TOP: PAUL LACHINE; JIM HARRISON (2); PEABODY MUSEUM OF ARCHAEOLOGY & ETHNOLOGY © PRESIDENT AND FELLOWS OF HARVARD COLLEGE

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Houghton Library, coddled campuses, labor law

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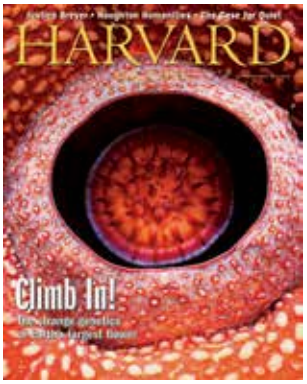

A COMMENT from an uninformed foreigner. It seems to me that the U.S. Supreme Court is the very insurance that the government reflects what people want, to some extent anyway, that many foreigners look on with envy ("A Workable Democracy," by Lincoln Caplan, March-April, page 48). In the U.K., decisions of the courts are subject to government modification. I wish that they were not.

HUGH QUICK, M.B.A. '56
Ilminster, Somerset, England

I WAS DELIGHTED to read the comprehensive and thoughtful article discussing Justice Stephen Breyer, my much beloved former boss. I enjoyed the article tremendously, but also noted a small error. On page 51, the article refers to one of the Justice's earlier academic works. The proper title for the book is *Breaking the Vicious Circle*, not *Breaking the Vicious Cycle*.

AILEEN MCGRATH, J.D. '07
Law clerk to Justice Breyer, October term 2008
San Francisco

Editor's note: We are grateful for the correction, and in awe of McGrath's sharp eye.

WHEN I TAUGHT political science at UC Berkeley, I told my students that they did not really favor free speech and thought. Since the 1960s, the students were for mostly leftist views. In the 1950s, the closed-minded students of America were for more rightist views.

But whether the national pendulum is at the right or at the left, they all have in common that they are against truly free speech. Speech that they greatly disagree with is labeled as fascist, or communist, or racist, or sexist, or some other smear word. Rarely do they want to allow it.

The same is true of any "democracy." Even true democracies are intolerant. They only grudgingly allow others to speak, if they cannot discourage it, or ban it, or intimidate it, or call it names like "rude" or "disruptive" or "nasty" or "uncalled for."

The people in power try to do the same thing. They do not want to lose their power, and they do not want to answer criticism of their power. If people in power are able to censor, they will try to censor. If the people out of power strongly object to being censored, the people in power might back off, especially in America—a nation that has a tradition that encourages free speech and condemns censorship.

Sometimes organizations, like homeowners associations, forget that free speech is the rule in America, not the exception—not a *gift* that citizens should be grateful for, but a *right* that they should fiercely defend.

DR. EDWARD VOGT, J.D. '68
Walnut Creek, Calif.

A SCHOLARLY TEMPLE

AS A GRADUATE student in history, I quickly came to regard Harvard's Houghton Library as a scholarly temple whose treasures surprised and enthralled ("An 'Enchanted Palace,'" March-April, page 36). My favorite of its holdings, a journal kept by Transcendentalist writer Margaret Fuller during the republican revolt in Rome in 1849, had been recovered from Fuller's fatal shipwreck off

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The Work of the Whole Life

Over the years, I have often been asked how many students attend Harvard, and I have quickly responded "about 22,000." If you visit the official "Harvard At a Glance" page online, you will find this same figure.

But I have come to realize that "about 22,000" significantly understates the number of students who come to learn on our campus each year. It fails to acknowledge fully what is becoming an increasingly important part of our educational mission because it only includes those formally enrolled in degree programs. There is, in fact, another Harvard—a less visible but no less vibrant universe of learners who devote anywhere from a day to months of their time to deepening their knowledge in continuing and executive education programs offered throughout our schools. Their share in our community might surprise you: in any given year, Harvard educates approximately seven non-degree students for every one of its degree students (a figure that does not include the millions of learners we reach online through HarvardX).

Non-degree programs attract everyone from high school and college students to working professionals to retirees. They enroll with goals as varied as their interests are, seeking to challenge themselves with new material, to expand their understanding of a topic for the sake of their own enrichment, to enhance their careers in business, law, medicine, public health—the list goes on. Individuals from corporate and nonprofit organizations expand their skills alongside their counterparts as policymakers and public servants take time to discover common ground. Design programs invite practitioners to consider urban homes, real estate, and the walkable city; divinity programs provide intensive language study in Arabic, Greek, Hebrew, and Latin, and training for the teaching of religion in public schools; and humanities programs encourage wide-ranging explorations of art, history, literature, and philosophy. These examples offer just a glimpse of hundreds of learning opportunities that exist outside of traditional degree programs.

Underlying and driving these non-degree programs is the University's mission to generate and disseminate knowledge, to reach out to committed and talented learners from around the world, and to share our intellectual resources with far more individuals than would otherwise be possible. Through diverse offerings that are online, in-person, or some combination of the two, we create the circumstances necessary for people to exchange ideas and to build relationships that lead to more success and opportunity than any one person could achieve on his or her own. Non-degree programs designed for business leaders and entrepreneurs; for education, health, and finance ministers; and for primary and secondary school principals, higher education administrators, and college and university presidents shape peer cohorts that support continued

communication and growth long after coursework has concluded. At the same time, non-traditional learners, who are often active practitioners in their fields, provide our faculty with insights to incorporate into their case materials and other course content, as well as platforms to experiment with new pedagogical approaches and instructional technology.

Education, as one of my predecessors put it, "should be the work of the whole life." A few years ago, I received a memorable letter from a successful Harvard Law School graduate who wanted to share with me his thoughts not on his degree program, which had served him very well, but on his non-degree program. Ten years after leaving campus, he returned for an executive education program and developed relationships that led to collaborations with faculty in both the Business School and the Medical School, as well as learning opportunities for undergraduate students. His experience represents, in my mind, some of our greatest aspirations for lifelong learning at Harvard: deeply engaging programs that expand knowledge, spark and sustain connections, and improve the lives of individuals. These aspirations will continue to guide us as we think about and plan for a future in which the University reaches more people in more ways than ever before in its history. This will be the century of lifelong education, and Harvard is poised to lead the way.

Sincerely,

Drew Faust

Long Island after she sailed home to America. The pages musty, the ink still blurry, its scribblings fiery in defense of Italian freedom, it managed—through a magical mix of the sensory and the intellectual—to bridge the gulf of time. I recall Fuller's loud pleas amidst Houghton's anachronistic hush, as she daily recounted the progress of a Ro-

7 WARE STREET

Minding the Gap

Four days before last Christmas, the $300-billion California Public Employees' Retirement System (CalPERS), the nation's largest pension plan, announced that it would reduce the expected rate of return on its investments from 7.5 percent to 7 percent. That change might seem modest, and its context—an underfunded public-pension plan, like those run by many states, cities, and teacher or uniformed-services retirement funds—might seem remote from Harvard's concerns.

But the direction of the change and its implications serve as a useful, cautionary analogy. CalPERS adjusted its rate-of-return assumption after failing to earn it for an extended period. Resetting the rate means that it expects a higher share of costs to be paid by its member government agencies, as the contribution from investment returns is diminished. In addition, CalPERS blandly noted, employers will see increases in their "unfunded actuarial liabilities." The figures are not small: the state expects its direct pension costs to rise 40 percent, or $2 billion, annually, and plan sponsors generally can expect their costs to rise 1 percent to 5 percent of payroll. Unfunded accrued liability payments, to be made over 20 years to fill the existing gap, will rise 30 percent to 40 percent. In other words, spending on public safety, education, and parks must be reduced—or towns and school districts must find more revenue to maintain such services while they cover the higher pension costs.

Harvard does not face budget-busting pension and retiree healthcare obligations. But its ability to realize its academic aspirations depends directly on the performance of its investments. Distributions from the endowment made up 36 percent of operating revenues in fiscal year 2016—just two percentage points less than *all* student tuition and fee payments and sponsored-research funds combined. Budgets are built assuming that endowment returns reach Harvard's 8 percent target: sufficient to distribute 5 percent of the value each year, and preserve future purchasing power as higher-education costs inflate. But actual returns have averaged 5.7 percent during the past decade (see, respectively, **harvardmag.com/distribution-16** and **harvardmag.com/endowment-drop-16**). The sweeping changes at Harvard Management Company announced this past January by its new president, N.P. Narvekar, are intended, urgently, to enhance returns (see **harvardmag.com/hmc-overhaul-17**).

In the meantime, in the midst of the largest capital campaign in higher-education history, with well more than $7 billion given or pledged, that gap in endowment returns shows up across the University. The medical and engineering schools, busily investing in promising research, continue to show operating losses; the Faculty of Arts and Sciences, having drawn down endowment and unrestricted funds to pay for House renewal (and still straining to finance that huge project), expects to fall back into the red next year, a victim of endowment-driven budget constraints. Having effectively frozen the number of professors for several years, it will continue to do so—and disclosed in February that graduate admissions will be cut by more than 4 percent (see page 23).

Given modest expectations for tuition income and federal support for research, Harvard's pursuit of its academic mission depends very much on the success of Narvekar and his colleagues—a multiyear project; continued philanthropic largess; and a tighter rein on spending than has been the norm. But today's changing investment opportunities threaten the University's basic financial assumptions. As the CalPERS CEO explained, "We lowered the rate because experts...advised us that...the long-term financial outlook had darkened. Achieving a 7.5 percent return...was now far less likely than it was just two years ago when we last revisited it." Ominously, the agency had previously lowered its discount rate, from 7.75 percent to 7.5 percent, in 2012.

If internal improvements and external conditions do not yield Harvard's hoped-for investment returns, other things will have to give: the scope of academic ambitions, employees' income and benefits, and so on. The investment arithmetic suggests that Harvard could face the equivalent of the painful trade-offs now facing California.

—John S. Rosenberg, *Editor*

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man representative assembly and finally the French invasion that restored papal rule. Here, in this "enchanted palace," past and present melted into one, ink and blood and water blended on the page, and the short-lived European strivings of 1848 yet survive.

To this day, in life's daily din, I close my eyes and imagine the big tables with the archival boxes, snow serenely falling in the Yard, Charles Sumner's oil portrait gazing down upon us—and the Italian nationalist Giuseppe Mazzini entering Rome in triumph.

Yonatan Eyal, Ph.D. '05
Cincinnati

IN PRAISE OF QUIET

Lydialyle Gibson's excellent profile of Susan Cain and her associates highlights a very disturbing cultural trend, and it isn't only introverts who are affected ("Quiet, Please," March-April, page 31). The whole of our lives have become noisy lives. Our electronic devices and instant access through so-called "social media" have shrunk our attention spans to a dangerous degree. Likewise, the demand that we respond to every stimulus, social, political, and personal, threatens to turn us into mere reacting organisms. The egoistic instinctive reactions of tweets and selfies hang in the atmosphere like a toxic miasma of inane blabberings.

How to return to the virtues of silence? How to make room for reflection, contemplation, and the digestion of our experiences? The relentless exteriority of our lives is a very real threat to our humanity and to the cultivation of sensitivity and feeling which alone can form the platform from which real help can come to a suffering world.

To quote Lao Tzu, "Do you have the patience to wait until your mud settles and the water is clear?" For as the Master of Tao knew, "Silence is a source of great strength."

Jeffrey Antman, M.T.S. '79
Lebanon, N.J.

CODDLED CAMPUSES

At least I got a nice chuckle out of "A Coddled Campus?" (The Undergraduate, by Matthew Browne, March-April, page 22). The author describes the "funereal spirit" at Harvard following Trump's election; how "people cried, phoned loved ones, hugged, slumped...," and how the entire town had "the glaze of something sinister." When asked by friends and family if there was *anybody* at Harvard who supported Trump, the author admits he knows of no one who did, and that "it strikes me there was genuinely almost zero support for his campaign on campus."

I was delighted to learn that Harvard students aren't coddled and that the College is doing an incredible job admitting a diverse student body. I was inspired to send a crate of Kleenex in response to the next solicitation from Harvard. I'm certain there must have been progress since my day. But when I was at Harvard, students weren't shy about proclaiming every view from the extreme right wing to communism. We had lively dinner table debates, yet remained friends. Somehow, I think that was a better atmosphere for intellectual freedom and learning.

Sam Levin '80, J.D. '83
New York City

Matthew Browne notes that he hasn't "had a substantive conversation with a fellow undergraduate who vocally identifies as a Trump supporter." Then he avers that the "Clintonite consensus and shock of the electoral result weren't a product of an echo chamber wherein no alternative viewpoints are discussed." Indeed. Is critical thinking no longer taught at Harvard? Perhaps it's merely been buried under a pile of snowflakes.

Mike Szymonifka '80
Clark, N.J.

A jewel rewards the reader near the end of Matthew Browne's thoughtful, informative, courageous, and well-written column.

Still, I fear he misuses "coddling." Echo chamber, which Browne uses correctly, can exist among adult equals. When John Stuart Mill in *On Liberty* said "truth is burnished by its collision with error," he was rejecting the conformism of an echo chamber, not assailing nurturing in a primary school.

I feel Browne is too hard on students for "making careful decisions that ensure security." This is prudence, not self-coddling. But he may be too soft on faculty and administrators (he barely mentions either), who are the real problem. The echo chamber is real on the faculty, at Kirkland House, and to a degree at the Fairbank Center (three places I happen to know from inside), and the worst part is that its existence is unrecognized.

Example: After George W. Bush's reelection in 2004, the Fairbank Center held a panel, "Bush's foreign policy in Asia in his second term." The five panelists were all liberal Democrats. No Republicans were asked. (I noticed the omission as I was advising Vice President Cheney on China at this time.)

TURN TO PAGE 54
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Leaving aside unfairness, it was pedagogically flawed to exclude anyone from Bush circles, who just might have a clue to plans for the second term not known to Sinologists of the opposing party.

This is so normal that a similar example—shocking to Mill's insistence that truth can only be burnished by brushing error—came upon Trump's election, when the Asia Center and the Fairbank Center mounted a panel "Trump and Asia." No one from Trump's appointees or circle was on the panel.

Browne says he feels no "gag order" to conform. You don't need a gag order to keep Harvard leftist. We few conservatives are constrained to a self-generated gag order by manners and experience.

I'm sorry to tell Browne that angry people waving banners may be coddled as well as living in an echo chamber. And the professor who "criticizes the world deliberately and forcefully" is not necessarily burnishing truth by rubbing it alongside (what he considers) error.

Anyway, Browne is an icon of true liberalism compared with many of his "superiors."

Ross Terrill, Ph.D. '70
Boston

SPEAK UP, PLEASE

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

BAD BEEF

Many, many thanks for publishing the article on Gidon Eshel and his superb advocacy ("Eating for the Environment," March-April, page 11): "lose the beef" indeed. I would add only that dairy products are as bad or worse than beef from an environmental, nutritional, and ethical standpoint, and for all the same reasons. Concerned about calcium? Fear not: Harvard's own Walter Willett and School of Public Health call federal dairy recommendations "egregious" and make clear we will get even better forms of calcium (and protein) directly from plant sources (where cows get their own nutrients, after all).

HM Visit harvardmag.com for additional letters.

For those unsure how to transition to a plant-based life, free resource guides include the kickstart program offered on the first of every month by the Physicians Committee for Responsible Medicine, guidance from the hit movie *Forks Over Knives*, or Lani Muelrath's *The Plant-Based Journey: A Step-by-Step Guide.*

Ellen Kennelly '85, M.Div. '90
Bellingham, Wash.

HENRY KNOWLES BEECHER

I didn't know much about Henry Knowles Beecher before I read Jack El-Hai's Vita (March-April, page 42), but then I only met and chatted with Dr. Beecher for about an hour, in the fall of 1954.

He was in the news for his study of how opioids worked to kill pain—science, not anecdotes. I needed a third-year-paper topic, was interested in law and medicine, and my best friend's father, who'd suffered a heart attack that summer, had changed his will in the hospital under the influence of opioids.

Expecting nothing, I phoned Beecher, got an appointment, and found him very interested in my topic: medication as a threat to testamentary capacity in will contests and in advising medicated clients. The paper was published in 1957. I went on to teach and write on law and medicine, and grew up with the institutional review board movement.

I learned from Beecher what it was to be received and inspired by an ethical medical investigator.

David J. Sharpe, LL.B.'55, S.J.D. '69
Hudson, N.Y.

LABOR LAW

In America, we have three categories of workers: hourly, salary, and independent contractor. Hourly employees have the least risk, independent contractors the most. Nonetheless, the riskier categories provide the most freedom, *and potentially the most reward.*

In a free society, you would think workers and employers could choose their own pay arrangements. But no—our Department of Labor insists workers be paid hourly, the lowest-risk and lowest-reward category, unless they meet an exception. Working on salary, or working as an independent contractor in the "gig economy," is forbidden unless you qualify through multi-factorial tests. Choose the wrong category, and the employer faces penalties far exceeding any "damage" to the worker.

"Labor Litigator" (by Marina Bolotnikova, March-April, page 64) introduces attorney Shannon Liss-Riordan as she prosecutes a "wage-theft" case. Her clients were working on salary but now claim they should have been paid hourly. Liss-Riordan states, "You're a company that brought in $600 million in revenue last year. You can afford to hire a lawyer to explain these things to you."

The whole system, which she works to great advantage, is wrong-headed. If employees voluntarily work on salary, there is no "wage theft" involved. Indeed, where a company hums along for years paying assistant managers an agreed salary, it is theft for the government to enable collection of devastating penalties after the fact. And why are labor laws so complicated you can't understand them without an attorney? For years I have advised on the tests for overtime eligibility, which are anything but "straightforward."

In the interests of balanced dialogue, surely the author could have found someone to provide the counter-argument?

Laura Fleming '93, J.D. '97
Dubach, La.

CLARIFICATIONS

Information provided by Harvard athletics led to the misidentification of Sofia Carrera-Justiz as Haley Bowe in a caption for the story about water polo coach Ted Minnis ("A Players' Coach," March-April, page 26).

Megan Marshall, author of the Elizabeth Bishop biography reviewed in the March-April issue (page 61), notes that her finished book describes Robert Lowell's work as "comparatively neglected," not as "comparatively forgotten," which was cited from a galley in the review. The young Bishop was dangled over the railing of a second-story porch balcony, Marshall writes in her chapter "Balcony," not from a second-story window. Marshall herself did not, while a student in Bishop's class, break Bishop's rule and submit a poem "that she had previously workshopped in another class," although Bishop mistakenly believed she had.

Right Now

The expanding Harvard universe

MASS DISTRACTION

China's Social-Media Smoke Screen

IT HAS LONG BEEN suspected that the Chinese government, as part of its effort to control the Internet within its borders, surreptitiously floods social media with fake posts written by a vast army of hired promoters posing as ordinary people. The "50-cent party," it's called, because each fake post supposedly earns its author 50 cents.

The phenomenon has been talked and written about widely by journalists, academics, activists, other social-media users, but evidence for these claims has been hard to find—until recently. In a study (to be published this year in the *American Political Science Review*) that has already prompted a startled response from Beijing, Weatherhead University Professor Gary King, the director of Harvard's Institute for Quantitative Social Science, confirmed the suspicion: the 50-cent party, he says, is real, although much of the rest of what everyone believed about it is wrong. For one thing, the fake posters likely aren't paid 50 cents. Most aren't independent contractors: they're government employees writing online comments on their off time, and there's no evidence they earn extra money for it.

More surprising, the purpose of these fabricated posts is not to argue with other social-media users, but to distract them. To perform the study, King and his two coauthors—Jennifer Pan, Ph.D. '15, and Margaret Roberts, Ph.D. '14—analyzed a trove of leaked emails sent between local government offices and the propaganda department in one county in southeastern China. "A big giant mess of a dataset," King recalls, from which the researchers harvested nearly 44,000 fabricated social-media posts from 2013 and 2014. Across all of China, they calculated, that suggests about 450 million posts per year.

In those King and his team read, 50-cent party members "are not arguing with anybody at all," he says. They don't jump into fights when other users complain about the regime's repressions or corruption among local officials.

Instead, they change the subject. "They'll say, 'I woke up this morn-

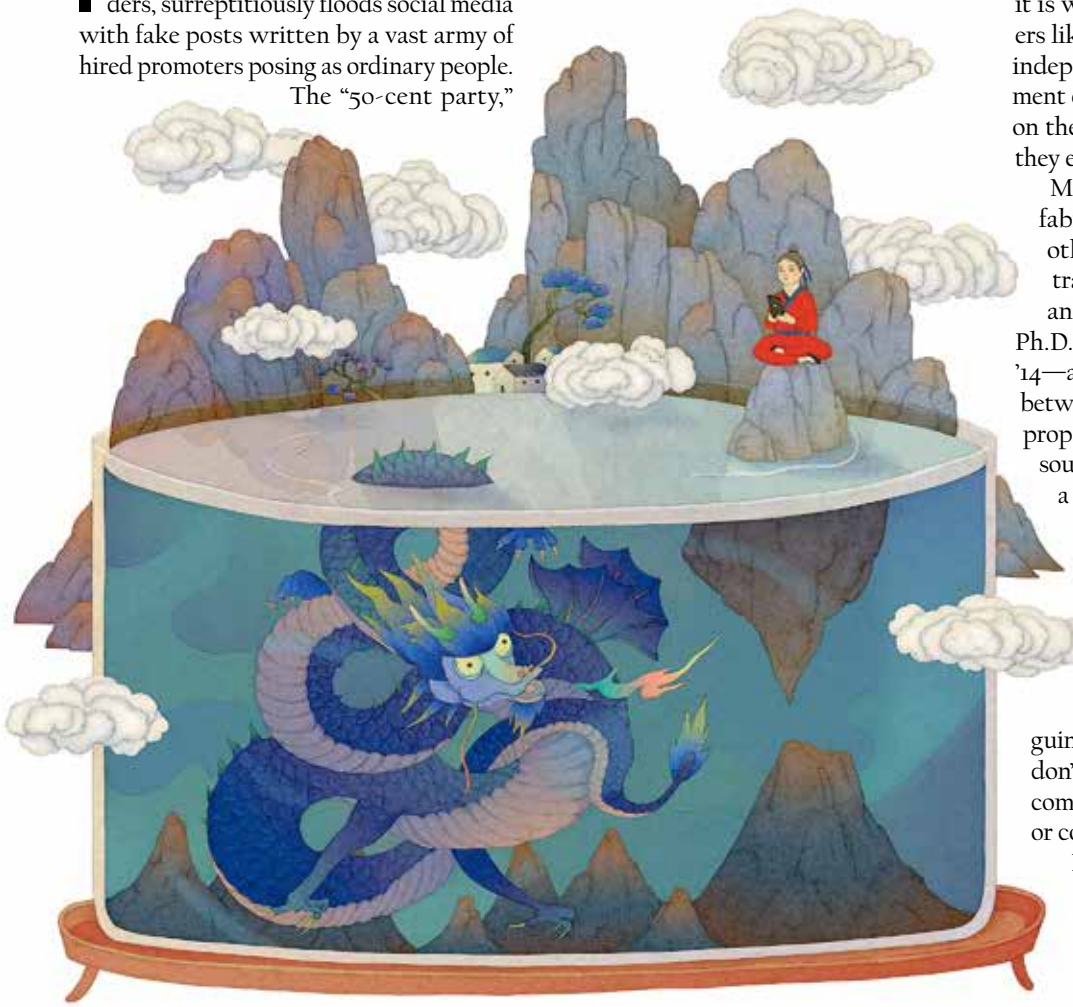

Illustration by Whooli Chen

ing and thought about how important our martyrs were to the history of China,'" King says. "Or, 'What a beautiful day it is today.' Lots and lots of these—and not just randomly. They'll post them in big bursts when they need them." King's team found large batches of fake posts turning up around the same time as crises, holidays, and other events that might stir up public action: the Shanshan riots in June 2013, the Urumqi Railway explosion in April 2014, Martyr's Day, Tomb Sweeping Day, Communist Party meetings to discuss national policies. "It's almost like when you're having an all-out fight about something with your spouse or your kids," King points out, "and you want to end the argument, and so you say, 'Hey, why don't we go get ice cream?'"

This finding—that 50-cent party members are less interested in controversy than in cheerleading—fits with King's previous research on China's social-media control (see harvardmag.com/china-censors-13), in which he found that the government would ignore comments disparaging the regime or local leaders, while posts about organizing protests, or even pro-government rallies, were invariably censored. "They don't care what you say or what you think," King says. "They only care what you can do. They don't want people in the streets."

Last spring came an unexpected twist, when a Western reporter got hold of an unfinished draft of the 50-cent party research paper and called King with some questions for an article. King answered them and then, realizing that his research would be going public ahead of schedule, posted the paper on his website. The reporter published his article, and about an hour and a half later, another publication picked up the story; 72 hours after that, some 5,000 articles had appeared worldwide.

That's when the Chinese government responded. In an editorial in the pro-government *Global Times*, the regime "for the first time admitted the existence of the 50-cent party," King says, and attempted to explain to its citizens the reason for this "'public opinion guidance,' which is their term of art for information control." Basically, the government argued that without such control, the country would fall into strife and chaos. "And," King adds, "they said that the Chinese people are in agreement about the necessity of this public opinion guidance."

As it happens, that was an assertion King could check. After the international blizzard of attention, there was enormous discussion on Chinese social media about the paper and the government's answer to it. "So we downloaded all the posts commenting on it," King says. The finding? He smiles. "Well, it turns out that the Chinese government's claim in their editorial is incorrect. Eighty percent of the people, at least on social media, think it's not a good idea to be censoring and fabricating posts."

—LYDIALYLE GIBSON

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ON AGAIN, OFF AGAIN

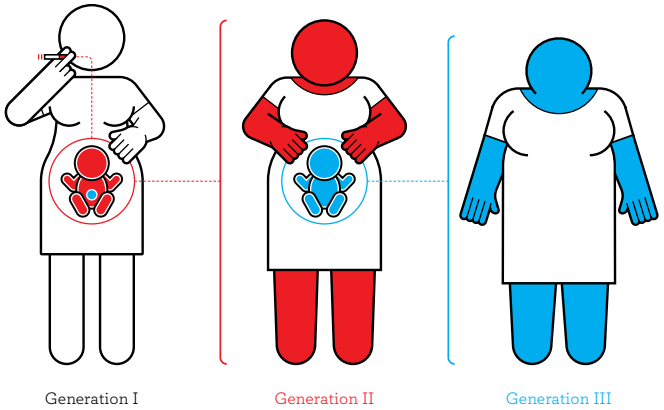
Is Epigenetics Inherited?

EPIGENETICS, which governs whether specific genes in the body are turned on or not, has broad effects on health and development, ranging from the propensity to develop cancer to a disposition to become fat or thin. That has made epigenetic inheritance—the idea that these patterns of gene expression can be passed from parents to children, grandchildren, and beyond, the subject of profuse research. Some investigators have begun to treat it as settled science. But Karin Michels, Sc.D. '95, brought bracing skepticism to the question of whether epigenetic information in mammals can be transferred across generations during a talk earlier this year at the Radcliffe Institute, where she has been a fellow.

Every cell in a human body has the same DNA, or underlying genetic code, explained Michels, who chairs the department of epidemiology at UCLA's Fielding School of Public Health. Epigenetics governs how those genes are expressed at every stage of life. During development, for example, epigenetic markers govern the differentiation that makes a muscle cell different from a kidney cell purely through the genes that are activated—and then maintains that program from one generation of cell to the next, so muscle remains muscle, and kidney remains kidney.

In a monarch butterfly, the caterpillar, cocoon, and winged stages of its lifecycle—all different expressions, or phenotypes, of the same underlying DNA—are also under epigenetic control. But what is distinctive about epigenetic switches is that they can *change*. Diet, psychological state, exposure to cigarette smoke, exercise, financial status: a whole range of environmental or lifestyle factors can modulate gene expression, turning genes on or off.

Research published recently in scientific journals such as *Cell*, *Nature*, and *Nature Genetics* has suggested that epigenetic information *can* be passed from one generation to the next.



A woman who smokes while pregnant induces epigenetic changes in three generations at once: in herself, her unborn daughter, and her daughter's reproductive cells.

But that may be incorrect. A grandmother who smokes, thus altering her own epigenome, could in theory pass on the harmful epigenetic configuration caused by her habit. Research has shown that smoking can cause abnormal increases in hormones that signal hunger, and if this is heritable, that could lead

Illustrations by Jude Buffum

to obesity in her granddaughter.

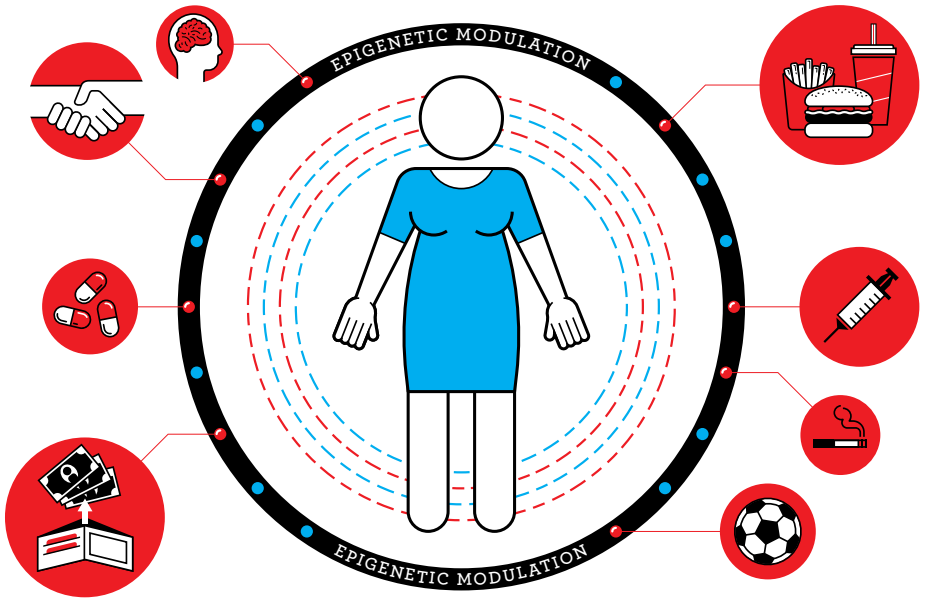
But has science proven that these are transgenerational effects? Far from it, said Michels. First, she pointed out, evolution militates against epigenetic inheritance. Epigenetic changes take place through three different mechanisms, the best studied of which is DNA methylation. Methyl groups, a methane-derived group of atoms that are layered on top of DNA molecules, provide instructions for which genes should be turned on or off—but during reproduction, mammalian cells go through two full cycles of *demethylation.* That process strips all methyl groups, and thus epigenetic information, from germ and embryonic cells. To date, there is no evidence that epigenetic information can survive two rounds of this biochemical cleansing.

Second, proving that an epigenetic configuration can be passed transgenerationally would require ruling out the possibility that any observed effect might have resulted from exposure in the womb. Michels, an epigenetic epidemiologist, studies such exposures and cited one famous experimental example in mice. A pregnant yellow-furred Agouti fed a diet rich in methyl donor groups (a stand-in for a healthy diet), has predominantly healthy offspring with brown coats. But if fed regular mouse food, the mother gives birth mainly to obese, yellow-furred offspring in poorer health. This is clearly an epigenetic effect, Michels said, but it is *not* transgenerational. It results instead from exposure to a transient environmental stimulus—the food the mother mouse eats—during a critical period of fetal development. Such exposure can induce permanent changes in metabolism and susceptibility to chronic disease, but doesn't mean that the epigenome of the mother passed to the offspring. Instead, the effect is more like the changes seen in honeybee larvae. Those fed royal jelly become queens: large, long-lived, fecund, showing low brain activity. Those fed worker jelly are short-lived, small, but much more neurologically active.

Claims that epigenetics has influenced multiple generations in families whose founders survived famines or other traumatic events are especially difficult to substantiate in humans, Michels explained: the effects would need to carry across four generations in the maternal line to prove that the effect was inherited. That is because female reproductive cells are fixed even before birth. Smoking by a pregnant mother would therefore affect the mother, her unborn child, and also (if that unborn child is female) the third generation through the reproductive cells of *that* unborn child (see illustration). In males, because sperm is generated continuously throughout life, only three generations are required to prove epigenetic inheritance. but even that timespan is too long for any researcher studying humans. Even in laboratory animals, Michels said, no researcher has proven transgenerational epigenetic inheritance. Despite claims to the contrary in the most distinguished scientific journals, she asserted, every experiment to date could be explained by in-utero exposures or other mechanisms.

She allowed just one exception, which occurs through a distinct and poorly understood mechanism called genomic imprinting. This transgenerational inheritance seems to be limited to genes that control growth during fetal development. In general, the male allele of genes for growth is turned on, while the female allele is turned off; this memory of which

In-utero exposures can induce permanent changes in metabolism and susceptibility to chronic disease, but don't prove inheritance.



Environmental exposures, stresses, diet, and lifestyle can all induce epigenetic changes that determine whether genes are turned on or off.

HM Explore More

For more online-only articles on research, see:

"Old" Food Reduces Lifespan
New evidence strengthens the theory that aging results from molecular damage.
harvardmag.com/oldfood-17

Does Journalism Still Have a Future?
A panel on the future of an anxious profession, and re-establishing trust with the public, in a post-truth era
harvardmag.com/journalism-17

allele is turned on or off is dutifully passed across generation after generation. (For an evolutionary theory explaining this tension over the size of unborn children, see "Prenatal Competition," September-October 2006, page 18.)

In closing, Michels emphasized that epigenetic inheritance may exist—but it has not been proven. And given the current epidemic of sedentary behaviors and obesity, she concluded, perhaps the mechanisms that strip our reproductive cells of the memory of such epigenetically modulated states from one generation to the next are "a good thing!" —JONATHAN SHAW

KARIN MICHELS WEBSITE
https://www.hsph.harvard.edu/karin-michels

ATMOSPHERIC BALANCING ACT

Cognitive Benefits of Healthy Buildings

IMAGINE A BUSINESS that creates a perfectly energy-efficient environment by adjusting ventilation rates in its workplace. On paper, the outcome would seem overwhelmingly positive: fewer greenhouse-gas emissions to the environment and lowered costs to the business. It's an idyllic scenario, except for what Joseph Allen and his team at the Harvard T.H. Chan School of Public Health (HSPH) describe as the potentially serious human cost: workers with chronic migraines, nausea, fatigue, and difficulty focusing. Fortunately, these side effects are avoidable.

"The truth is, we absolutely can have buildings that are both energy-efficient and healthy," says Allen, assistant professor of exposure assessment science. In 2015, his team published a two-part study that quantified the cognitive benefits of improved environmental conditions for workers. The first phase took place in the Syracuse Univer-

sity Center for Excellence, where knowledge workers, such as architects and engineers, went about their regular workdays as Allen and his team manipulated environmental factors. "We weren't looking to test an unattainable, dream-state workplace. We wanted to test scenarios and conditions that would be possible to replicate," he explains. They adjusted ventilation rates, carbon dioxide levels, and the quantity of airborne VOCs (volatile organic chemical compounds that are emitted by common objects such as desk chairs and white boards). At the end of each day, the team asked workers to complete cognitive-function assessments in nine key areas, including crisis response, decisionmaking, and strategy. "We saw pretty dramatic effects," he reports: workers in optimized environments scored 131 percent better in crisis-response questions, 299 percent better on information usage, and 288 percent higher in strategy.

Workers in optimized environments scored far better in tests of cognitive function.

In the second part of the study, the team tested existing conditions in 10 green-certified, high-performing buildings nationwide, one of them Harvard's own Blackstone South building, which has a double LEED Platinum certification. Workers in such green-certified spaces performed 26 percent better on cognitive-function assessments than those in non-certified buildings, and occupants enjoyed a 25 percent increase in sleep scores as a result of better lighting and optimal thermal conditions approved by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE, which promotes well-being through sustainable, environmentally conscious technologies). Although these results confirmed the correlation between environmental factors and workplace performance that the team derived from the first phase of this "CogFX" (cognitive function) study, Allen knew he still had a major hurdle to overcome: "The decisionmaker on the building-management side"—focused on bottom-line heating and cooling costs, for example—"isn't always aware of the facts on the health side, and vice-versa."

Allen and his colleagues realized they needed to translate their results into actionable steps for building managers, developers, and owners. "The question we got right away was, 'Well, if I double the ventilation rate, that's going to cost me something real, and what's that look like?'" In fact, the group found that doubling ventilation rates would cost the average American business between $10 to $40 per person per year.

That's usually when the analysis stops. Instead, Allen and his team wanted to go one step further and quantify the potential health benefits of better ventilation, as a counterweight. Their findings indicated that those benefits represented roughly $6,000 to $7,000 dollars per person per year, not including the co-benefits to health from diminished absenteeism and the avoidance of other so-called sick-building symptoms such as headaches and fatigue. "If you're the building manager, $40 a year [per person] might be a lot in your budget," Allen acknowledges. "But if you're the executive and you can juxtapose the $40 cost [with] the $7,000 gain on the HR side, it's a no-brainer decision."

Allen has lectured internationally about "healthy buildings" and led investigations of hundreds of structures housing people in many fields, yet facilitating communication among different decisionmakers, he says, remains a serious challenge. At Harvard, he advises the recently launched Healthy Building Materials Academy, an initiative that aims to close that knowledge and management gap by educating buyers for campus facilities, department managers, and those in charge of construction and renovation projects. In the corporate sector, companies like Google and Kaiser Permanente have also started putting research about healthier buildings to use in their institutional decisions, he adds. Smart, progressive business leaders who understand the financial value of incorporating health into their balance sheets, he believes, will be those who take the most decisive steps toward enhancing workplace environments in the name of health—and productivity.

—OSET BABÜR

HEALTHY BUILDINGS WEBSITE:
www.forhealth.org

Illustration by Paul Lachine

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Editorial independence has proven to be an invaluable asset. It is what allows us to bring you thoughtful reporting that matters, provided in context, in timely web posts such as "Fate of the Graduate-Student Union Still Unknown," and "Graduate Student Union Continued," published online on 12/22/16 and 3/22/17 respectively, which examined the contested election surrounding the potential unionization of Harvard graduate students.

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As a separately incorporated, nonprofit affiliate of Harvard University, we have excellent access to University news. But we must also secure enough funding to produce the magazine. We currently receive one third of our funding from advertisers, and one-third is a voluntary contribution from the University. We depend on *you*, our readers, for the remaining one-third.

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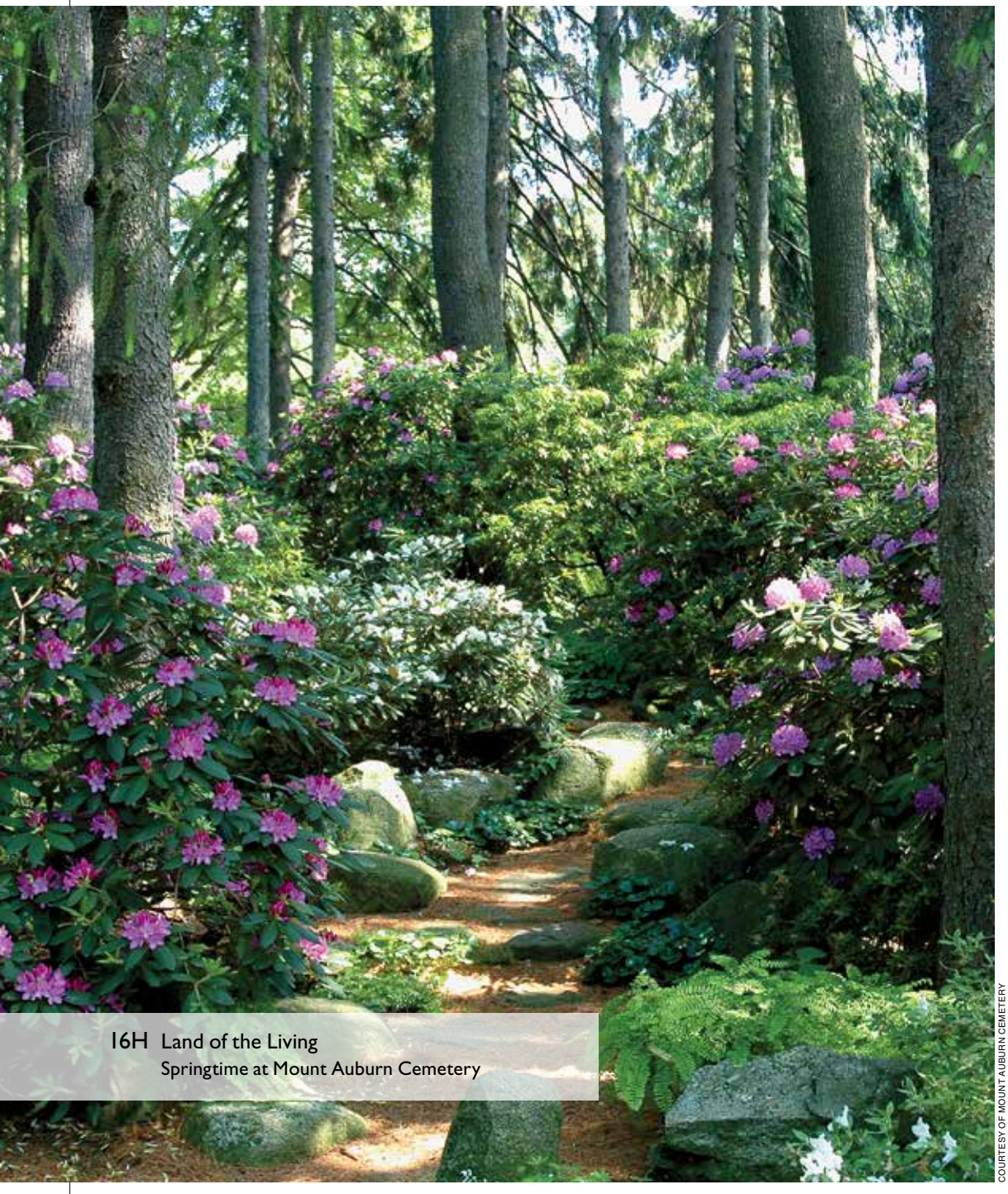

16H Land of the Living
Springtime at Mount Auburn Cemetery

COURTESY OF MOUNT AUBURN CEMETERY

Plus Harvard Commencement & Reunion Guide

FROM LEFT: COURTESY OF SHIH CHIEN HUANG/WORCESTER ART MUSEUM; COURTESY OF THE FULLER CRAFT MUSEUM; COURTESY OF A.R.T.

Extracurriculars

Events on and off campus during May and June

NATURE AND SCIENCE

The Arnold Arboretum
www.arboretum.harvard.edu
From Sicily to the Arnold Arboretum: Sicilian Wildflowers in Art and Words. Botanical artist Susan Pettee '62 and writer Mary Taylor Simeti '62 have worked together for more than a decade to capture the splendid essence of Mediterranean flora. (May 12- July 16)

From left: A creation from "Reusable Universes: Shih Chieh Huang," an exhibit at the Worcester Art Museum; *Round and Round* (detail), a quilt by architect Stefani Danes at the Fuller Craft Museum; from the A.R.T.'s music and dance theater piece *Arrabal*

The Harvard-Smithsonian Center for Astrophysics
www.cfa.harvard.edu/publicevents
"First Probe to the Stars" looks at light-powered space travel, Breakthrough Starshot, and the possibility of reaching neighboring star system Alpha Centauri. (May 18)

THEATER

American Repertory Theater
www.americanrepertorytheater.org
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journey to understanding the political violence that has wracked her country. Book by John Weidman; directed and co-choreographed by Sergio Trujillo. (May 12-June 18)

LECTURES

The Radcliffe Institute for Advanced Study
www.radcliffe.harvard.edu
A look at **"Title IX Over Time"** features International Olympic Committee member and Olympian Angela Ruggiero '02, M.B.A. '14, Massachusetts attorney general Maura Healey '92 (a former professional and college basketball player herself), and WBUR/NPR sports and society reporter Shira Springer '97. Co-sponsored by WBUR. (May 16)

EXHIBITIONS & EVENTS

The Peabody Museum of Archaeology & Ethnology
www.peabody.harvard.edu
"Where the Roads All End: The Marshall Family's Kalahari Photography." Curator of visual anthropology Ilisa Barbash

Spotlight

Beautiful, hand-crafted furniture and cabinetry, violins, jewelry, and leather-bound books are on display in the North Bennet Street School's Annual Celebration of Craft, a student and alumni exhibit, May 16-31. Located in Boston's North End, the school was founded in 1885 by Pauline Agassiz Shaw (a daughter of Harvard's influential professor of zoology and geology, Louis Agassiz) to train the city's growing immigrant population in increasingly relevant industrial trades. She also helped establish and support kindergartens in Boston's schools, child-care centers, and settlement houses that, unusual for the time, were open to people of all races and ethnicities. Today, the school still teaches trades and craftsmanship through eight full-time programs, helping students to "achieve meaningful lives, and livelihoods" through hands-on work. A host of continuing-education classes and workshops are geared to anyone, from beginners to seasoned professionals.

Admission to the annual exhibit is free, but the items are for sale. All proceeds, and those from a ticketed May 11 preview dinner and opening reception (two separate events), benefit operations and scholarships at the nonprofit organization.

North Bennet Street School
www.nbss.edu

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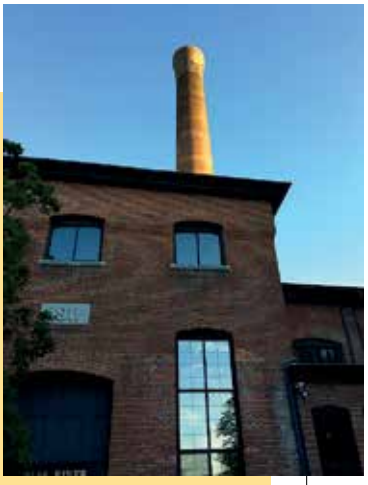
STAFF PICK: Industrial Origins



On May 13, the Watch City Steampunk Festival takes over downtown Waltham, Massachusetts. Expect fire-breathers and aerialists, blacksmiths, live theater, and rock and folk bands with a ragged edge, like Frenchy and the Punk. There will also be loads of artists with an industrial bent, like Waltham's Todd Cahill, along with vendors offering "steampunk" clothing, accessories, and contraptions, and patrons wearing them (below).

Science-fiction writer K.W. Jeter coined the term in the 1980s, and the aesthetic movement has evolved to playfully merge "neo-Victorian fashion with retro-futuristic technology," says festival organizer Bob Perry, director of the Charles River Museum of Industry & Innovation (at right), reflecting motifs from both the Age of Discovery and the Industrial Revolution. (The museum will be open during the festival.)

Artist Cahill is a mechanical engineer and self-described "interpreter of technology"; he constructs models of nineteenth-century engines in a studio fittingly located in the complex of former mill buildings located downtown, along the Charles River.

Waltham was a centerpiece of the American industrial revolution, and is thus directly tied into the festival's themes, Perry notes. The complex grew out of the nation's first integrated textile mill, a four-story brick structure built by Francis Cabot Lowell, A.B. 1793, established there in 1814. It predated the ultimately larger factories around which Lawrence and Lowell were built—and paved the way for many subsequent Waltham-based industries, including the Waltham Watch Company, which operated from 1854 to 1957, engendering the "Watch City" nickname.

Also worth a visit on May 13 is The Waltham Museum. It's an eccentric place filled with artifacts—from watches, radios, and automotive and airplane parts to an iron stove and an "Orient bicycle built for two"—that enliven the region's manufacturing history. Moreover, Perry adds, the museum was "created as a longtime labor of love" by a man named Albert A. Arena, who was the last person to work the oil-fired boiler that is the centerpiece of the Charles River Museum of Industry & Innovation: "So, you see, the artists and the industrialists, and the city, and the festival—we are all connected." ~N.P.B

Watch City Steampunk Festival
www.watchcityfestival.com

highlights archival images from 1950s Namibia that document the Ju/'hoansi and G/wi people, among the world's last hunter-gatherers. (May 10)

Harvard Art Museums
www.harvardartmuseums.org
A New Light on Bernard Berenson: Persian Paintings from the Villa I Tatti. Illustrated manuscripts and detached folios collected and bequeathed to Harvard by the great art historian (a member of the class of 1887) are displayed for the first time anywhere apart from his villa in Florence, now Harvard's Center for Italian Renaissance Studies. (May 20-August 13)

Harvard Museums of Science and Culture
www.hmsc.harvard.edu
The **Summer Solstice Celebration** offers activities, live music, and free admission at the Harvard Museum of Natural History, Peabody Museum, Semitic Museum, and the Collection of Historical Scientific Instruments. (June 21)

***Lodz Ghetto: Young Girl* (circa 1940-1944), by Henryk Ross.**

Museum of Fine Arts
www.mfa.org
Memory Unearthed: The Lodz Ghetto Photographs of Henryk Ross. More than 200 images offer an intimate look at life under Nazi occupation. (Through July 30)

Worcester Art Museum
www.worcesterart.org
Reusable Universes: Shih Chieh Huang. The Taiwanese-born artist transforms ordinary objects like wire, plastic bags, and household electronics into ethereal sculptures. (Opens June 24)

Fuller Craft Museum
www.fullercraft.org
Some 25 coverlets by artists riff on a pattern theme in **Circular Abstractions: Bulls-Eye Quilts.** On May 21, all ages are welcome for a special day of quilt-related storytelling, gallery talks, and fiber-art activities. (May 13-October 22)

HARVARD FILM ARCHIVE

From *Rules of the Game* at the Harvard Film Archive

FILM

Harvard Film Archive
www.hcl.harvard.edu/hfa
A Jean Renoir Retrospective presents *Grand Illusion* and *Rules of the Game,* among other masterworks by the French director. (June 9-August 11)

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

Land of the Living

Springtime at Mount Auburn Cemetery

by NELL PORTER BROWN

The Asa Gray Garden (above) honors the Harvard botanist; birders at play; nestled in the arms of a copy of Lorenzo Bartolini's 1833 statue, *Trust in God*; Bigelow Chapel

IN APRIL AND MAY, birders flock to Mount Auburn Cemetery. Dressed in fleece and caps, binoculars slung around their necks, they enter by the Egyptian Revival gateway at 7 A.M., and spread stealthily across the sculpted 175-acre landscape. Winding pathways and grassy knolls lead to Halcyon and Auburn Lakes, or to the wooded Dell. Water and the flowering shrubs and trees attract thousands of migrating birds to this urban oasis each year. The birders' hopes of hearing them, if not seeing them, rise with the sun.

Red-winged blackbirds. Grackles. Scarlet tanagers. Baltimore orioles. Eastern phoebes. All of them are fairly common, says Jeremiah Trimble, assistant curator in the ornithology department at Harvard's Museum of Comparative Zoology. He's rambled through the cemetery since he was a boy, and currently leads bird walks on Thursday mornings through May 18. Rarer, he adds, are sightings of petite, jittery palm warblers, bay-breasted warblers, yellow-rumped warblers: "On a good day you can hear over 20 different species."

Bird walks, formal and informal, occur almost every morning during migration season, but other visitors are drawn throughout the day to the cemetery's historic arboretum and stunning array of plant life, especially as it's emerging from a long, bleak winter. May brings flowering dogwoods, azaleas, and rhododendrons, along with weigela, mountain laurel, and Japanese snowbell. There are approximately 18,000 accessioned

All photographs courtesy of Mount Auburn Cemetery, unless otherwise noted

AL PARKER

Forsythia blooms wildly behind solemn headstones; a common yellowthroat takes shelter; serene Willow Pond

plants on the grounds, of which about 5,000 are trees, including 1,500 different conifers. Each year, the cemetery's greenhouses also grow upwards of 32,000 annuals for planting in ornamental beds and within family plots. "The flowering trees and shrubbery have all the insects, which are what the birds are looking for," Trimble notes, and lots of crevices for nesting. "Mount Auburn is just a very beautiful place to be in the spring."

That was always the point. Established in 1831, Mount Auburn Cemetery was at once a practical solution to Boston's burial-ground crisis, and "the first designed land-

scape open to the public in North America," says Mount Auburn's curator of historical collections Meg Winslow. Boston's population, spurred by increasing industrialization, had grown enormously by 1825, and even its cemeteries were overcrowded, she explains: "They were burying so many bodies that you might come upon bones and coffins sticking out of the ground."

Yet Mount Auburn's principal founders, Henry A.S. Dearborn and physician, botanist, and Harvard professor Jacob Bigelow, A.B. 1806, were leaders of the Massachusetts Horticultural Society. They seized the chance to develop an expansive "cemetery"—they were also the first to use that word, derived from the Greek "place of sleep," Winslow adds, instead of "graveyard"—on a hilly rural property that would double as a place where people could escape the rising congestion of urban life. The men and their supporters (including then-Boston mayor Josiah Quincy III, A.B. 1790, who would become Harvard's president) envisioned a tranquil landscape with ornate gardens, sculptures, funerary art, grand monuments, lakes, and exotic trees and plants.

As Bigelow wrote in *A History of Mount Auburn*, it was to be a sacred place, where "nature is permitted to take its course, when the dead are committed to the earth under the open sky, to become earthly and peacefully blended with their original dust...

CURIOSITIES: Birthing a Legacy

A few days after President John F. Kennedy '40, LL.D. '56, was assassinated on November 22, 1963, crowds flooded a tree-lined block in the Boston suburb of Brookline. A simple outdoor memorial service took place in front of 83 Beals Street, where Kennedy, a beacon of hope and progress for a young, baby-boom generation, had spent the first three years of his life.

Now a National Historic Site, the modest home is still a point of pilgrimage, and is open for guided tours from May 5 through Columbus Day. This year, May 29 marks the hundredth anniversary of Kennedy's birth; to celebrate, the National Park Service has planned a day of music, cake, and guest readings of his iconic speeches (e.g., his inaugural address, "Ask not what your country can do for you, but for what you can do for your country"), along with an evening "1960s Birthday Party" with music, dancing, and food. Special centennial activities will continue throughout the season, and the home will be open for a wreath-laying ceremony, "JFK Remembered," on November 22.

John F. Kennedy National Historic Site
www.nps.gov

Kennedy's parents, Joseph P. Kennedy '12 and Rose (Fitzgerald) Kennedy, both hailed from political families and moved to the Colonial Revival home as newlyweds in 1914. Four (of their ultimately nine) children lived there before the family moved in 1920 to a bigger home nearby, and then to Riverdale, New York.

The future president was born in his parents' upstairs bedroom. The bed is there, above it a minute copy of a Renaissance-era painting of the Madonna and Child. (Rose Kennedy was a devout Catholic.) He soon joined his older brother, Joseph Jr., in the small nursery down the hall that's decorated by a strip of wallpaper featuring marching drummers; Kennedy's christening gown hangs next to his white wicker bassinet. The girls, Rosemary and Kathleen, shared a separate bedroom. Downstairs, the dining room is set with family china, and the boys' silver porridge bowls sit on a pint-sized table. The kitchen has a coal-fed stove, a soapstone sink, and a bean pot used for Sunday suppers.

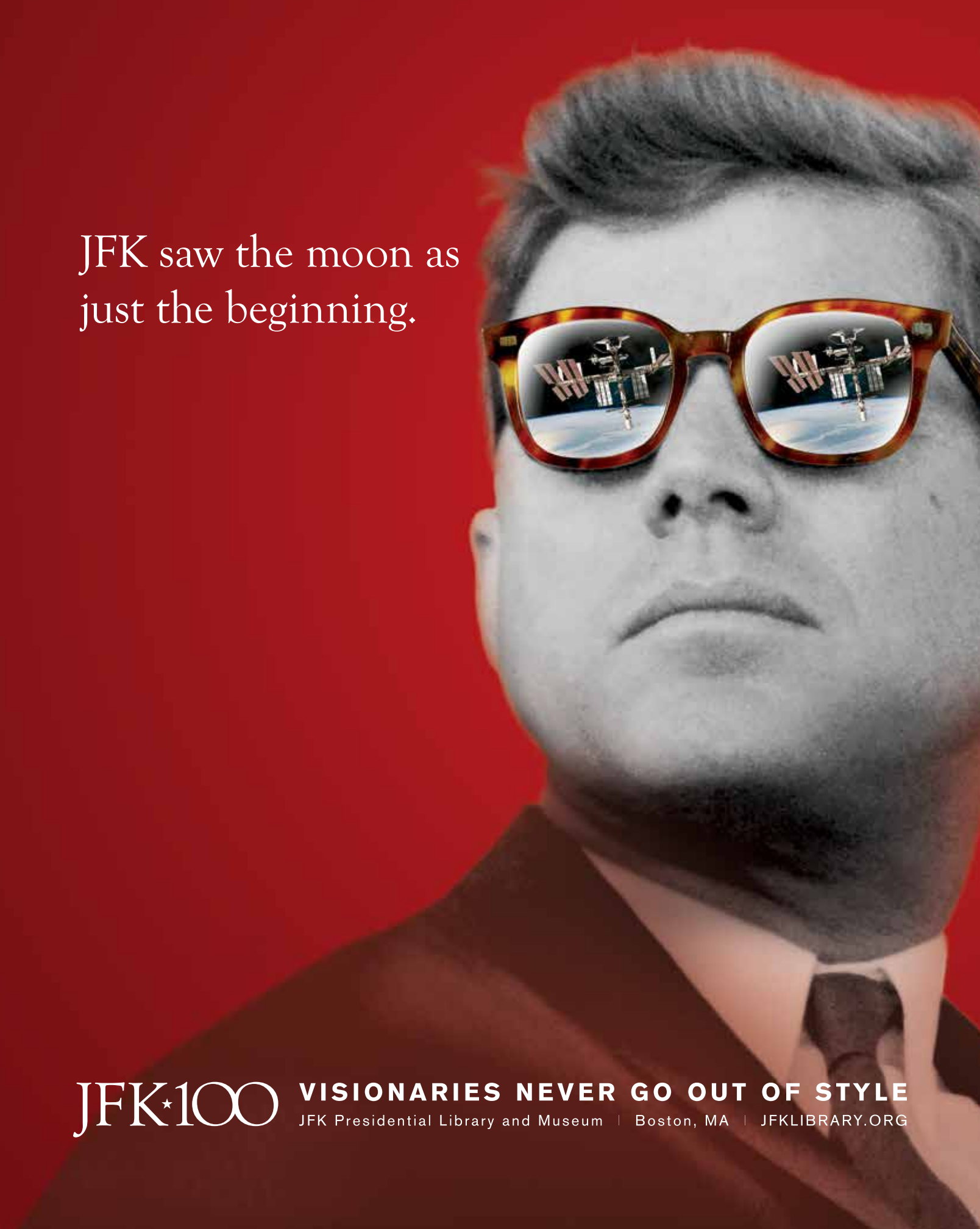
The Brookline birthplace of John F. Kennedy features his nursery and parents' bedroom (above), and a cozy kitchen. Rose Kennedy (far left) restored the house, which opened to the public in 1969.

Much at the house now appears essentially as it did in 1917. The family bought back the property in 1966, and Rose Kennedy restored the interior using their own furnishings, housewares, personal belongings, and photographs. For the dedication of the historic site in 1969, she made a series of audio recordings that can be heard during the tours, piped into the rooms. By that time, another son, Robert F. Kennedy '48, who served as his brother's attorney general, had also been assassinated, and all four of the children who had lived on Beals Street were gone. Joe Jr. '38, a U.S. Navy lieutenant, died in World War II, Kathleen died in a plane crash, and Rosemary, born with cognitive disabilities, lived in an institution. "We were very happy here," Rose Kennedy says in the recording, reflecting on those early days. "We were enthusiastic and optimistic about the future."

—N.P.B.

Photographs courtesy of the National Park Service, John F. Kennedy National Historic Site

JFK saw the moon as just the beginning.



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AL PARKER

The rejuvenated Harvard Hill (top left) and a stunning kingfisher; views of Harvard and beyond (above) from the top of Washington Tower (left). Below: artists-in-residence Roberto Mighty and Mary Birchner

where the harmonious and ever-changing face of nature reminds us, by its resuscitating influences, that to die is but to live again."

It was a major success. By the 1840s, other rural garden cemeteries had sprouted up, and Mount Auburn rivaled Mount Vernon and Niagara Falls as a tourist destination. Today, this National Historic Landmark is the top Cambridge attraction on TripAdvisor, Winslow says, and attracts about 250,000 visitors annually. Many come to pay tribute to their loved ones, or to the luminaries buried there. The more than 98,000 interees include social reformer Dorothea Dix, artist Winslow Homer, art patron Isabella Stewart Gardner, behaviorist B.F. Skinner, Ph.D. '31, JF '36, S.D. '85, and the essayist, poet, and physician Oliver Wendell Holmes, A.B. 1829, M.D. '36, LL.D. '80.

Henry Wadsworth Longfellow, LL.D. 1859, "still reigns supreme as a well-known and beloved resident" who attracts visitors, according to Bree Harvey, vice president of cemetery and visitor services. Christian Science founder Mary Baker Eddy follows close behind. Her memorial, a white granite neoclassical temple on the edge of Halcyon Lake, was inspired by the Tower of the Winds in Athens, and required 34 marble carvers to complete in 1917.

The landscape has always inspired writers and artists. Emily Dickinson wrote about her visit in 1846, and local wildlife artist Clare Walker Leslie often sketches there. The Friends of Mount Auburn Cemetery, a nonprofit conservation group, has also begun an artist-in-residence program.

Inaugural artist Roberto Mighty, a filmmaker and photographer, began visiting the grounds in 2015, and this past February completed his resulting 29 short videos entitled "earth.sky" (viewable at www.earthdotsky.com). He describes the series as "a meditation on life, death, ritual, history, landscape, nature, and history." The pieces spotlight the cemetery's unearthly beauty, and offer insight into several individuals buried there.

A one-minute segment on Bernard Malamud (1914-1986), author of the Pulitzer Prize-winning novel *The Fixer,* features his tombstone inscription—"Art celebrates life and gives us our measure"—and former U.S. poet laureate Robert Pinksy reading an excerpt from Malamud's 1984 address at Bennington College: "I don't regret the years I put into my work. Perhaps I regret the fact that I was not two men, one who could live a full life apart from writing, and one who lived in art, exploring all he had to experience and know how to make his work right."

Mighty highlights Soheyla Rafieezadeh (1954-2002) through interviews with her sister. Born and raised in Iran, Rafieezadeh moved to Boston for graduate school. She loved traveling, art, and the work of Iranian poet Forugh Farrokhzad, a line of whose "Let us Believe in the Beginning of The Cold Season" marks her gravestone: "Will I ever again dance on wine glasses; will the doorbell call me again toward a voice's expectation?"

The current artist-in-residence is singer, musician, and composer Mary Bichner. She's composed 12 "classi-pop" pieces—about scampering chipmunks, bees and butterflies, the orbiting sun, seasonal changes—and performs them in live concerts at Mount Auburn on June 3 and November 4. The music will ultimately be released through the cemetery's new phone app, she says, which will "allow visitors to listen to the compositions while in the settings that inspired them." The first of six pieces in her *Spring Suite,* for example, is for a soprano and two altos, and expresses her experience of standing atop the cemetery's highest point, the 62-foot Washington Tower, at dawn. (Visitors may also climb to the top for a panoramic view of Greater Boston.)

Mount Auburn is likely the only cemetery in America to have such in-house art-

© ROBERTO MIGHTY

JEN JOHNSTON

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Spruce Knoll, Story Chapel, and a blue heron

ists, Harvey says. It's also one of the few to encourage birding, *and* to offer a full plate of other year-round arts and educational events celebrating what Winslow calls "this very special community resource."

A glance at the spring schedule shows:

● Satigatha Interactive Music and Chanting (May 7 and June 4). Buddhist and yogic songs, and devotional mantras and live music led by Harvard Divinity School friends Chris Berlin, M.Div. '06, Darren Becker, M.Div. '15, and Andrew Stauffer, M.Div. '18.

● "Memories of Mothers" (May 14), a walk with docents to explore funerary art symbolizing maternity and some of the prominent mothers buried there, such as writer and social activist Julia Ward Howe, author of the Mother's Day Proclamation as well as "Battle Hymn of the Republic."

● Service of Commemoration (May 24) and Bigelow Open House (May 28). Both events are held in and around Mount Auburn's first chapel, which was designed and built by cemetery co-founder Jacob Bigelow in the 1840s. (The chapel will be closed for renovations starting in July.)

● "Dances of the Spirit" (June 24). The New York City-based company Dances by Isadora performs Isadora Duncan's "mourning" pieces.

Long before Mount Auburn was created, the landscape and farmland were "beloved" walking grounds for residents and Harvard students, including Ralph Waldo Emerson, A.B. 1821, LL.D. 1866, according to curator

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HARVARD
Events Management

AL PARKER

A Baltimore oriole adds a splash of orange.

Winslow. Dubbed "Sweet Auburn" after Oliver Goldsmith's 1770 poem "The Deserted Village," the property had seven hills, woodlands and meadows, and ponds.

Just below Washington Tower is "Harvard Hill." The 5,226-square-foot section, overhauled and cleaned up during the last two years, was donated to the College in 1833 by philanthropist and physician George Shattuck, A.B. 1831, M.D. 1835. Among the earliest burials were those of students such as Edward Thomas Damon, A.B. 1857, who was then enrolled at the Medical School. One of Roberto Mighty's videos focuses on this 24-year-old, who died in 1859 after contracting smallpox—most likely from his work treating diseased patients quarantined in a hospital on Rainsford Island, in Boston Harbor. The chipped stone that marks his grave is inscribed: "This monument is erected by his classmates and friends."

Not far away are the graves of renowned Harvard philosophy professors John Rawls and Robert Nozick (although the academic competitors might not have approved such close proximity), and of legendary professor and playwright William Alfred, Ph.D. '54.

When Harvard Hill was donated, the new burial ground also reflected a cultural shift in views of mortality. The more punitive, Calvinistic approach to death as grim, as something to be feared, Winslow says, was giving way to the more romanticized notion of "eternal sleep." Also influential in the cemetery's design was the growing interest in the "picturesque" aesthetic (which would later inspire pioneering landscape architect Frederick Law Olmsted). Many assume "that because Mount Auburn is a nineteenth-century designed greenscape, Olmsted designed it," Winslow clarifies. "But he was a young boy of about 10 when the cemetery opened. Mount Auburn predated but set the stage for him and the entire American parks system."

Jacob Bigelow was especially dedicated to the cemetery project, pushing it along for decades, and ultimately becoming the cemetery's second president (after Joseph Story, A.B. 1798, an associate Supreme Court Justice and Harvard law professor). In the cemetery's early years, Bigelow designed not only Washington Tower and Bigelow Chapel, but also the neoclassical Egyptian Revival gateway.

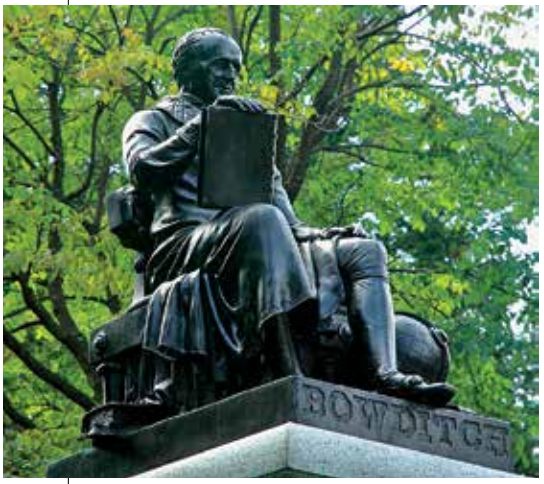
These principal structures set a visual tone of grandeur and gravitas, contributing

The Sphinx (below) is favored by children, as is the bronze sculpture of the brilliant, self-taught mathematician Nathaniel Bowditch, LL.D. 1816, complete with an octant and celestial globe.

to an overall design ethic rooted in English gardens and the Père Lachaise Cemetery, in Paris. The idea was to enhance the natural topography, balancing its inherent artistry with man-made sculptures, monuments, and other funerary art, according to *The Art of Commemoration and America's First Rural Cemetery*, a booklet by Winslow and Melissa W. Banta, a consulting curator at the cemetery, and a curator at Harvard's Weissman Preservation Center and Baker Library (see "Jolly Tippler, Good Dog," May-June 2016, page 76).

The Sphinx, sculpted by Martin Milmore in 1872, sits on the Bigelow Chapel lawn, and commemorates the Civil War. A model of it was transported from Milmore's Boston studio by horse and carriage, and the statue was carved across the street from its final resting spot, from a 40-ton block of Maine granite. Another favored sculpture marks the grave of William Frederick Harnden (1812-1845). The entrepreneur developed one of the first express-package companies, but died of tuberculosis at age 31, Banta and Winslow write: "he's buried next to his daughter Sarah, who had died two years earlier at the age of 10 months." The granite, marble, and bronze monument consists of a base with a four-pillar canopy covering marble-slab gravestones and a Grecian urn, along with a life-size statue of an English mastiff, above which is inscribed: "Because the King's business requires haste."

"Everyone thinks they know about Mount Auburn Cemetery, but every time you come here you learn something new," Winslow says. "And it's a good place to meet, because as you walk through the landscape, you naturally talk about a wide range of topics—art and history, birds, and plants, death and life. We are so lucky to have this place."



Some 2,000 people gathered for the cemetery's consecration in September 1831. Joseph Story gave the address, according to Winslow, while still grieving the scarlet-fever death of his 10-year-old daughter:

....these repositories of the dead caution us, by their very silence, of our own frail and transitory being. They instruct us in the true value of life, and in its noble purposes, its duties, and its destination...As we sit down by their graves, we seem to hear the tones of their affection, whispering in our ears. We listen to the voice of their wisdom, speaking in the depths of our souls. We shed our tears; but they are no longer the burning tears of agony. They relieve our drooping spirits. We return to the world, and we feel ourselves purer, and better, and wiser, from this communion with the dead.

He died in 1845, and anyone can visit his grave, too. Lot 313, Narcissus Path.


AL PARKER

Cedar waxwings strike a regal pose.

Birds in Hand

Mass Audubon's unique art museum in Canton

Wildlife artist Barry Van Dusen spent nearly two years traveling to all 57 Mass Audubon public sanctuaries to capture (on paper) New England's flora, landscapes, animals, and birds. Birds are particularly tricky work. Rendering feathers demands finesse. No pigment yet captures true iridescence. And the subjects rarely sit still.

At the Daniel Webster Sanctuary in Marshfield, Van Dusen set up his stool, art supplies, and binoculars beside a swath of wetlands, and was lucky enough to watch a Virginia rail and her chick. The secretive, long-toed birds dwell deep in the cattails, but here "wandered around together in the open and picked at a pollywog," he reports, enabling him to produce a watercolor of the pair. It's on display, along with about 50 more of his sanctuary works, at the Museum of American Bird Art at Mass Audubon, in Canton, Massachusetts, from May 21 through September 17.

The small, unusual museum (Van Dusen is artist-in-residence) is housed in the studio of a pioneering natural-history filmmaker and birder named Mildred Morse Allen. She bequeathed her estate to Mass Audubon in 1989, along with the surrounding 121 rural acres, which are also open to the public. Woodland trails snake along pine and oak groves, vernal pools, and Pequit Brook—prime wildlife-watching territory. This spring, listen for wood frogs and singing birds like Baltimore orioles, scarlet tanagers, and wood warblers. In May, hunt for pink lady's slipper orchids, and by July clusters of cardinal flower in and around the brook are hummingbird haunts.

The Canton museum, says director Amy T. Montague, is the "only one in the world focused on American art inspired by birds." It opened in 1999, but its art collection began growing almost as soon as Mass Audubon was founded nearly a century earlier. There are thousands of works—from engravings by John James Audubon himself to Pop Art silkscreen prints of a bald eagle and Pine Barrens tree frog (donated by their creator, Andy Warhol) to the exquisite carved decoys, coveted by collectors, of Anthony Elmer Crowell. The Cape Codder built his career as a gunning guide, then as a craftsman, through a group of Harvard sportsmen, including noted conservationist and public servant John C. Phillips, B.S. 1899, M.D. 1904. "The connections between Harvard and the early American conservation movement are strong, and most of the gunners were early

Barry Van Dusen's barn swallow (nesting at Stone Barn Farm) and bobolinks (Drumlin Farm). Behind the Canton, Massachusetts, museum (below and left), a tree swallow perches on a sanctuary feeder amid grassy fields and flowering trees.

Watercolor paintings courtesy of Barry Van Dusen, photographs courtesy of the Museum of American Bird Art

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The gallery has soaring ceilings. Van Dusen used watercolors to render this nesting tern and chick at Mass Audubon's Sampsons Island Wildlife Sanctuary.

conservationists," Montague explains.

Mass Audubon was co-founded by another Canton resident, Harriet Lawrence Hemenway. An independent spirit (she donated a separate Hemenway Gymnasium to Radcliffe after her husband, public servant and philanthropist Augustus Hemenway, A.B. 1879, donated the first Hemenway Gymnasium to Harvard), she was appalled by the slaughter of birds to feather fine ladies' hats so she drafted a group of like-minded, influential women and men to help protect wild birds. "Museum visitors have been surprised to see shorebird decoys," Montague says, "because it's hard for us today to imagine...plovers, red knots, and dowitchers as delicacies for diners. [But] market gunning was a lucrative enterprise, and huge quantities of these birds were shipped from the shore to restaurants in Boston, New York, and Philadelphia in the nineteenth and early twentieth centuries. This practice was ended through the efforts of Mass Audubon and other early conservation activists with the passage of the Migratory Bird Treaty Act of 1918." The art museum, Montague adds, thus tells the "stories of the changing relationships between humans and the natural world over the centuries."

Also at the museum through May 14 is "Birdscapes: Recent Oil Paintings by James Coe," class of '79. Coe studied biology at Harvard before going to art school, then worked for more than 15 years as a field-guide bird illustrator. He now paints primarily rural landscapes—and often the birds living within them—in and around the Hudson Valley, where he lives.

A day trip to the museum could include stops at Mass Audubon's oldest and largest preserve, the Moose Hill Wildlife Sanctuary (five miles away), and the nearby Eleanor Cabot Bradley Estate, a sprawling brick country home with formal gardens, owned by The Trustees of Reservations, where seasonal concerts and events are also planned. For lunch in Canton, try the Amber Road Café or sushi at Takara, or head to nearby North Easton, for a more elaborate meal at The Farmer's Daughter. ~N.P.B.

The Week's Events

STEPHANIE MITCHELL/HPAC

COMMENCEMENT WEEK includes addresses by Harvard president Drew Gilpin Faust and Facebook co-founder and CEO Mark Zuckerberg '06. For details and updates on event speakers, visit **harvardmagazine.com/commencement**

* * *

TUESDAY, MAY 23

Phi Beta Kappa Exercises, at 11, with poet and memoirist Mark Doty and orator Sherry Turkle '69, Ph.D. '76, Abby Rockefeller Mauzé professor of the social studies of science and technology at MIT, and founder/director of the MIT Initiative on Technology and Self. Sanders Theatre.

Baccalaureate Service for the Class of 2017, at 2, Memorial Church, followed by class photo, Widener steps.

Class of 2017 Family Reception, at 5. Tickets required. Science Center plaza.

Harvard Extension School Annual Commencement Banquet, at 6. Tickets required. Annenberg Hall.

JON CHASE/HPAC

A Special Notice Regarding Harvard University's 366th Commencement Exercises

Thursday, May 25, 2017

TO ACCOMMODATE the increasing number of people wishing to attend Harvard's Commencement Exercises, the following guidelines are provided to facilitate admission into Harvard Yard and Tercentenary Theatre:

- Degree candidates receive a limited number of tickets to Commencement. Their parents and guests must have tickets, which must be shown at the gates in order to enter. Seating capacity is limited in Tercentenary Theatre; there is standing room on the Widener steps and along the Theatre rear and sides. For details, including an overview of the restricted bag and stroller policies, please visit: commencement.harvard.edu. **Note: A ticket allows admission, but does not guarantee a seat. Seats are available on a first-come basis and cannot be reserved. The sale of Commencement tickets is prohibited.**
- A limited supply of tickets is available to alumni/ae on a first-come basis through the Harvard Alumni Association: alumni.harvard.edu/annualmeeting. Guests may view the Morning Exercises on video screens in the Science Center and in most of the undergraduate Houses, as well as at graduate and professional schools. These locations provide seating, and tickets are not required. Both the Morning Exercises and Afternoon Program may also be viewed live via www.harvard.edu or Comcast 283 in metro Boston.
- College alumni/ae attending their 25th, 35th, and 50th+ reunions will receive tickets at their reunion

OVERVIEW

- The **Morning Exercises** begin following the academic procession into Tercentenary Theatre. The three student orators deliver their speeches. The Deans of each school introduce the candidates for their respective degrees, which the president then confers. Towards the conclusion of the ceremony the graduating seniors are asked to rise, and their degrees are conferred on them as a group by the president. Honorary Degrees are then conferred before the exercises are adjourned.
- **Diploma-Granting Ceremonies and Luncheons** follow immediately after the Morning Exercises, when new graduates, parents, and guests return to their undergraduate Houses, graduate and professional schools, and alumni/ae attend reunion luncheons, or purchase tickets for lunch at the Alumni Spread.
- The **Afternoon Program** features an address by Harvard President Faust and the Commencement speaker. Formally called the Annual Meeting of the Harvard Alumni Association, this program also includes the Overseer and HAA director election results, the presentation of the Harvard Medals, as well as remarks by the HAA president.

~The Harvard Commencement Office and The Harvard Alumni Association

WEDNESDAY, MAY 24

ROTC Commissioning Ceremony, at 11, with President Faust and a guest speaker, General John Hyten '81, U.S. Air Force. Tercentenary Theatre.

Senior Class Day Picnic, at noon. Tickets required. The Old Yard.

Senior Class Day Exercises, at 2, with the Harvard and Ivy Orations, remarks by incoming Harvard Alumni Association president Susan Morris Novick '85, and a guest speaker. Tickets required. Tercentenary Theatre.

Harvard Kennedy School Commencement Address, at 2, by former U.S. Secretary of State John Kerry. JFK Memorial Park.

Law School Class Day, 2:30, with featured speaker Sally Yates, former U.S. deputy attorney general for the Obama administration and former acting attorney general for the Trump administration. Holmes Field.

STEPHANIE MITCHELL/HPAC

Business School Class Day Ceremony, 2:30, with David G. Bradley, M.B.A. '77, owner of Atlantic Media, publisher of *The Atlantic.* Baker Lawn.

Graduate School of Design Class Day, at 4, with guest speaker Katherine Farley, M. Arch. '76, chair of Lincoln Center for the Performing Arts. Piper Auditorium, Gund Hall.

Divinity School Multireligious Commencement Service for the Class of 2017, at 4. Memorial Church.

Graduate School of Arts and Sciences Dudley House Faculty Dean's Reception, 4-6.

Harvard T.H. Chan School of Public Health Award Presentation and Celebration, 4-7. Kresge Courtyard.

Faculty Deans' Receptions for seniors and guests, at 5. The Undergraduate Houses.

Harvard University Band, Harvard Glee Club, and Radcliffe Choral Society Concert, at 8. Tercentenary Theatre.

THURSDAY, MAY 25

Commencement Day. Gates open at 6:45.

Academic Procession, 8:50. The Old Yard.

The 366th Commencement Exercises, 9:45 (concluding at 11:45). Tickets required. Tercentenary Theatre.

All Alumni Spread, 11:30. Tickets required. The Old Yard.

The Tree Spread, for the College classes through 1966, 11:30. Tickets required. Holden Quadrangle.

Graduate Schools Diploma Ceremonies, from 11:30 (time varies by school).

GSAS Luncheon and Reception, 12 to 3. Tickets required. Behind Perkins Hall.

College Diploma Presentation Ceremonies and Luncheons, at noon. The Undergraduate Houses.

Alumni Procession, 1:45. The Old Yard.

The Annual Meeting of the Harvard Alumni Association (HAA): The Commencement Afternoon Program, 2:30, includes remarks by HAA president Martin J. Grasso Jr. '78, President Faust, and Commencement speaker Mark Zuckerberg; Overseer and HAA director election results; and Harvard Medal presentations. Tercentenary Theatre.

Harvard T.H. Chan School of Public Health Diploma Ceremony at 2, with Gina McCarthy, former administrator for the Environmental Protection Agency. Kresge Courtyard.

Medical and Dental Schools Class Day Ceremony. Ticketed luncheon at noon, followed by a speech, at 2, by the new HMS dean, George Q. Daley '82, M.D. '91.

JON CHASE/HPAC

FRIDAY, MAY 26

Radcliffe Day this year focuses on the role of journalists and the news. The morning panel discussion, "(Un) Truths and Their Consequences," is followed by a luncheon honoring the 2017 Radcliffe Medal recipients: *PBS NewsHour* broadcast journalist Judy Woodruff and her late colleague, Gwen Ifill. (Former NPR radio host Michele Norris will accept the award on Ifill's behalf.)

The luncheon, 12:30-2, includes comments by *New York Times* columnist David Brooks and a conversation between Woodruff and Aspen Institute president and CEO Walter Isaacson '74. Tickets are required. The events will be webcast live at www.radcliffe.harvard.edu. For updates on Commencement week and related activities, visit alumni.harvard.edu/annual-meeting or commencement.harvard.edu/morning-exercises.

Follow **@harvardmagazine** as we capture fun and memorable moments during Commencement week.
#Harvard17

Take a Break

Caffeine—and calories—galore

Flour's light-filled interior (right) and baked treats, like lemon-raspberry cake (above); breads at Tatte Bakery (left); Jenny's Café, a minimalist's dream (far left), serves hot drinks and pastry (top left).

CLOCKWISE FROM TOP: KRISTIN TIEG/FLOUR; JOYELLE WEST/FLOUR; TATTE; HARVARD ART MUSEUMS; TATTE; FLOUR

Anyone taking a late-day stroll in search of coffee or tea and something sweet would notice that Harvard Square has moved happily beyond the multiple Starbucks and Dunkin' Donuts outlets—but almost to a ludicrous point.

Most lavish are newcomers Tatte Bakery & Café and Flour. Both offer European-style baked goods in brightly lit, airy spaces, and loads of counter staff.

Tatte (ww.tattebakery.com), near the Harvard Book Store, has tiled floors and glass cases brimming with a lifetime's supply of sugary treats: brownies, glossy fruit tarts, nut tarts, cups of cheesecake and tiramisu, along with "chocolate coconut cloud" meringues the size of salad plates ($3.25-$6). Define decadence by the "Halva Bomb," a chocolate-mousse cake wrapped around a core of halva, and covered with dark-chocolate *ganache* ($7 a slice/$50 for the whole, eight-inch shebang). Coffee drinks are perfectly percolated. That partly explains the buzzing vibe that pervades Tatte's two floors. Swing by for fresh-baked bread after 4:30 P.M.

On the other end of the Square, on Mount Auburn Street, the latest branch of **Flour** (www.flourbakery.com), founded and run by chef Joanne Chang '91, also serves terrific coffee, but in a less hectic setting. The cakes are divine—a lemon-raspberry option is layered with lemon curd ($6/slice)—and the *kouign-amann* (that's *kween ah-mon*) is a butter-rich Breton pastry with caramelized sugar ($4). The *brioche au chocolat* ($3.50) lifts any sour mood, as does the dreamy coconut-cream pie ($5 a slice/$30 a pie).

More casual and bubbly is **Crema** (www.cremacambridge.com), on Brattle Street. It's a prized meeting spot, despite the shared farmhouse table and backless stools in the front. (The rear mezzanine is more private.) Artisanal George Howell coffee comes in all permutations, and the baked goods feel more home-grown than the art forms at Flour and Tatte. Especially good are the cookies: try chocolate walnut mudslide ($2.25), or the giant oatmeal ($3.25).

Akin to Crema, but more of a neighborhood haunt, is **Petsi Pies** (www.petsipies.com) on Putnam Avenue, just outside the Square. Walls feature local artwork and customers—students, parents with children, and a host of laptoppers—tend to settle in. Amazing pies *do* predominate: pecan, mixed berry, and apple crumble are reliably on hand ($5 a slice/$26 whole). But there's other delectable stuff, too: the blueberry-almond tea bread ($3) and the "magic" bars jammed with chocolate and peanut-butter chips, pecans, and shredded coconut ($3). Petsi's big airy scones, notably the buttermilk currant ($2.25) are the best around.

Hidden away, but a perfect place to read, write, or meet a friend, is **Jenny's Café,** at the Harvard Art Museums (www.harvardartmuseums.org). Open to the public without an admission fee, the café serves drinks like cinnamon French toast latte and bergamot iced tea, and patrons can sit at tables in the adjacent Calderwood Courtyard. Take a break before or after moseying through the galleries: they offer unusually close views of works by Van Gogh, Munch, Matisse, and others. On loan from the Musée d'Orsay through July is Winslow Homer's lyrical painting *Summer Night* (1890).

On Bow Street, **Café Pamplona** (www.

FROM TOP: COURTESY OF CREMA (1) AND PETSI PIES (2)

Crema has a cozy mezzanine (top). At Petsi Pies, the caffeine pairs well with homemade "pop tarts" and muffins.

cafepamplona.weebly.com) is still a soft place to land in the afternoon. Try artfully prepared espresso, cappuccino, or a pot of tea. Light fare is available, too, and the place is open until midnight, a respite from the thumping bar scene.

Algiers Coffeehouse (www.harvard-square.com/algiers), another beloved icon, is in front of the Brattle Theatre. Its interior red-painted walls, many mirrors, octagonal café tables, and a soaring wood-paneled domed ceiling resemble a jewelry box. The baked goods are generic, but go instead for the ambient warmth, breakfast and Middle Eastern food served all day, and its drinks. The Arabic coffee with cardamom ($3.25) packs a wallop; the smoky lapsang souchong tea ($3.25) soothes. (The café is now run by the owner of Central Square's **Andala Coffee House**—another relaxing, Middle Eastern-styled haunt with strong brews.)

A last word, on teas. **Dado** (www.dadotea.com), with locales on Church Street and Mass. Ave., takes equal care with coffee concoctions and with loose teas steeped in a mug or pot—and the place is relatively quiet. But **Tealuxe** (www.tealuxe.com) takes the (tea) cake. More than a hundred high-quality teas are on hand in tins behind the counter, and brews rotate daily. Staffers patiently and aptly describe any of them, and sniffs from the tins are encouraged. The shortage of seats is less of a problem in warm weather: customers can take their cups of royal coconut pouchong or turmeric ginger, sweetened with organic honey, to a bench by the Charles River. ~N.P.B.

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6/17	10th Annual *Fête de la Musique* / Make Music Harvard Square
6/18	Father's Day
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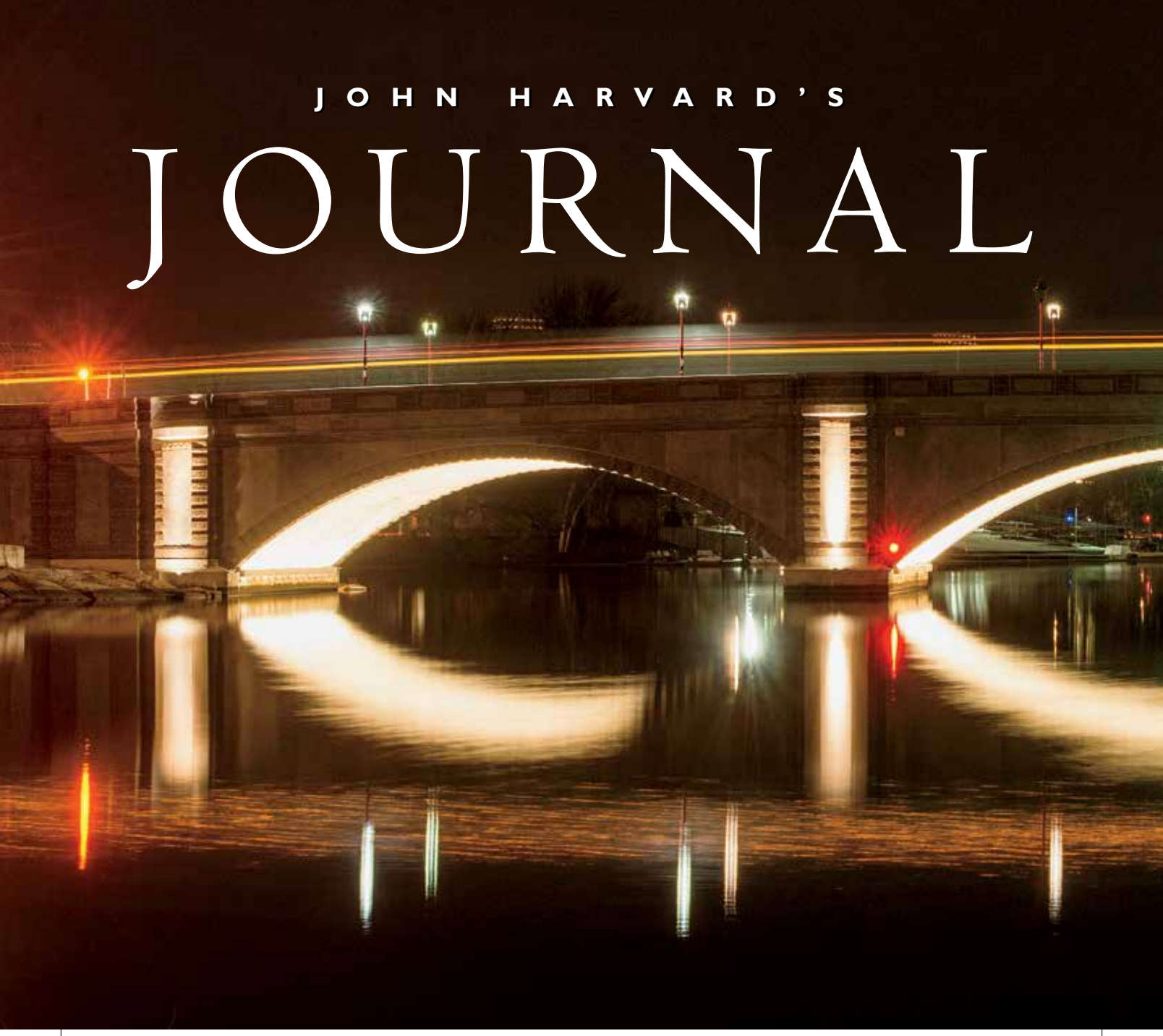

Social-Club Saga

As of May 6, a full year will have passed since Harvard College dean Rakesh Khurana announced a policy that would sanction students enrolling this coming August and thereafter if they choose to join an unrecognized single-gender social organization (USGSO—final clubs, fraternities, or sororities; see **harvardmag.com/finalclub-16**). Throughout this academic year, the Faculty of Arts and Sciences (FAS) has been entangled in disagreements over the rationale for the measure, the policy itself, and its implementation—and the issues may well remain unresolved for months to come.

The policy, as originally propounded, withholds from undergraduates who join a USGSO the College endorsement required for prestigious fellowships (the Rhodes, Marshall, and so on), and prohibits their holding positions of leadership in recognized organizations and athletic teams. Varying rationales have been invoked to support the policy, principally focusing on the fact that the long-established male final clubs (which enjoy substantial financial resources and desirable private facilities in Harvard Square) and the newer fraternities and sororities are organizations that, *de jure*, exclude members of the opposite sex in close proximity to the College, which strives to be maximally inclusive; and that the venues where these groups congregate may be conducive to evasion of age-related alcohol regulations, and lead to sexual assaults.

Although many faculty members and students support implementing the policy, many others do not. Among professors—including some who have long deplored behavior associated with the final clubs—

Photograph by Jim Harrison

The Larz Anderson Bridge, *finally* renovated, spans the Charles River seamlessly again. An au courant addition: new lighting, seen from downriver.

objections crystalized around three points. First, no matter how odious a gender-exclusive social club may be, so long as it and its conduct are legal, the College has no business intruding on students' decision to affiliate themselves with such a group: the right to associate is theirs. Second, an administrative decision pertaining to social activities the College officially dislikes must not intrude on a faculty member's prerogative in recommending a student, based on her or his academic work, for a fellowship like a Rhodes or Marshall scholarship. And third, as a matter of governance, a policy like the one Khurana propounded is a matter for faculty legislation, not administrative fiat.

These themes coalesced in a motion drafted by Gordon McKay professor of computer science Harry R. Lewis, himself a past dean of the College. Its language specified "that Harvard College shall not discriminate against students on the basis of organizations they join, nor political parties with which they affiliate, nor social, political or other affinity groups they join, as long as those organizations, parties, or groups have not been judged to be illegal."

Debate on the motion consumed the No-

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HARVARD PORTRAIT

Stephan Magro

Stephan Magro once conjured up 250 red peonies, months out of season, for a dinner in honor of an important donor: with a couple of phone calls, they were flown in from Alaska. While he declines to name other miracles from his 15 years of planning events for the Development Office, he does say this: no sooner did he become Commencement director in July 2016 than he was flooded by special requests from parents, faculty, and alumni. Equal parts discretion and showmanship, the job demands sincere love of pageantry and mastery of detail, down to each seat-monitor's training and every hood's hue. Magro, who dresses in button-up vests and scarves, likens himself to a magician—after all, his job involves robes and wands, he jokes. Then he immediately self-corrects: it's a baton. "This is a real artifact that's used in our traditions! And it's so *fun*." But traditions aren't dictated by some arcane office of lore, he adds: "It's us." Magro grew up in Massachusetts and spent summers with family in Italy, where he holds dual citizenship. In college, he studied sociology and journalism; through event planning, he became fluent in floral décor and wine pairings. And just as doctors make bad patients, he's a guest who can't relax. Magro recalls that at his sister's wedding, he felt compelled to intervene with the caterers to expedite the meal service. (His own took place one October in Salem, amid tourists and costumed witches.) Graduation ceremonies, like those for marriage, have a performative logic: participants and the community collectively invest the ritual with meaning. With Commencement, Magro is in charge of a show, older than the United States, in which 32,000 well-wishers witness the conferral of degrees. He says, "You tell me something that's more like a spell than this."

—SOPHIA NGUYEN

vember and December FAS faculty meetings (see **harvardmag.com/finalclub-fas-16** and **harvardmag.com/finalclub-fas2-16**) and appeared likely to do so again in early February.

But in late January, Khurana said he would ask FAS dean Michael D. Smith to appoint a committee, including faculty members and students, to evaluate the policy itself, in search of improvements. Lewis and colleagues decided to stand down. The faculty appeared headed toward regular discussions of other pressing business.

Not so fast.

The committee Khurana had earlier appointed to figure out how to *implement* the USGSO policy issued *its report* on March 6 (it had not been notified, prior to his January announcement, about the creation of the policy-review committee). The implementation measures, described in full at **harvardmag.com/gendersteps-17**, expanded the range of fellowships that would fall under the sanctions and called for extending them to leadership positions in the elected student government—the Undergraduate Council—and *The Harvard Crimson*, whose leaders promptly and vigorously objected. (Khurana said he would study those two applications further, while accepting all the other recommendations.) The implementation measures also called for the policy to extend not only to gender and racial discrimination, but also to socioeconomic discrimination. To bolster enforcement, the implementation group advised requiring students to sign a statement acknowledging awareness of Harvard's nondiscrimination policy and affirming "compliance with that policy" before receiving a scholarship or fellowship endorsement, or assuming a position of leadership in a recognized organization or athletic team. Violations of the policy would be reviewed by the Honor Council, the body set up to adjudicate instances of academic misconduct such as cheating. (Some of the council's student members promptly told the *Crimson* they had not been advised of this enlargement of their responsibilities, and opposed it).

These recommendations overshadowed the implementation committee's discussion of programs (such as "inter-house dining societies") and new social spaces that might accommodate student needs better than the final clubs—in the Smith Campus Center (now being renovated), a repurposed Queen's Head Pub (underneath Memorial

Photograph by Jim Harrison

Hall), the elegant Loeb House (home to the governing boards), and elsewhere. No cost estimates or timelines accompanied these ideas, and given FAS's current, enormous spending on House renewal, significant new investments are not likely immediately.

The next day, Dean Smith unveiled the initial membership of the committee that will review the USGSO policy—including Khurana as co-chair (see the full list at **harvardmag.com/usgso-com-17**). He charged it with:

- reviewing existing policy, reports, and data;
- considering "whether there are other means of achieving our stated goals, including and especially that of fully advancing the non-discrimination objectives reflected in the current policy, and to evaluate whether any would be more effective than our current policy"; and
- proposing, "should more effective means be identified, changes or expansions to the current policy or a new approach."

A report is due for public consumption by next fall (at which point the existing policy presumably will have taken effect).

Putnam professor of organismic and evolutionary biology David Haig is a member of the new *policy-review* committee. He was a proponent of Harry Lewis's motion opposing the sanctions policy; that motion, as noted, is now suspended during the policy review. As he wrote then, "The current policy attempts to coerce the choices of students, by changing their self-interest, without a fundamental change in their values. We risk changing the choice without changing the chooser."

Now, in reaction to the *implementation* committee's recommendation that students affirm their compliance with the College's USGSO policy, and its enforcement mechanism—both accepted by Khurana—Haig has introduced a separate motion objecting to *that* process. He has asked for consideration of language that reads, "This faculty does not approve of Harvard College requiring a student to make an oath, pledge or affirmation about whether the student belongs to a particular organization or category of organizations."

As Haig explained the motion:

> The laudable aim of gender-inclusivity has metamorphosed into a proposal that students seeking certain awards or offices are required to affirm that they are in compliance with "the College's policy regarding the principle of non-discrimination, particularly with regard to membership in unrecognized single-gender social organizations." What happens if a student refuses to take this affirmation on the principle that they are opposed to such oaths? Would they be in contempt of the College's policy and thereby ineligible for the aforementioned awards and offices? What happens if a student cannot in conscience affirm they are in compliance with the College's policy because the student sincerely believes in a different principle of non-discrimination? Where is the space for dissent? Who determines the policy and what are the mechanisms of revision? Are there constraints on unilateral changes (by self-appointed arbiters of student virtue) of the policy to be affirmed?
>
> I consider the requirement for such an affirmation to be a dangerous precedent. What if some future government declared particular kinds of organizations illegal and demanded oaths of non-membership from all college students. The faculty would be on firmer ground to resist such demands if it did not require similar oaths from our students.

Hence, the motion—which is deliberately phrased to test the sense of the faculty, and the implementation mechanism, rather than to address matters such as faculty versus administrative jurisdiction or the underlying policy itself. If it proceeds to full airing before the FAS, it will be interesting to see whether the objections to enforcing an oath-like affirmation are widespread among the professoriate (see **harvardmag.com/usgso-oath-17**).

In the meantime, the debate over formally single-gender social organizations has grown far beyond the bounds that anyone conceivably imagined, and continues to absorb an extraordinary amount of the faculty's time and attention.

—John S. Rosenberg *and* Jonathan Shaw

STEPHANIE MITCHELL/HPAC

News Briefs

Cranes Crescendo

The already torrid pace of construction around campus is about to intensify. The renovation and expansion of Winthrop House, the largest undergraduate-residence "renewal" to date, will surge toward completion in August—and the even larger Lowell House makeover, itself a two-year project, is scheduled to begin promptly after Commencement. The Business School's Klarman Hall conference center is well under way, as is renovation of the adjacent Soldiers Field Park apartment complex. Just across Western Avenue from *that* campus, below-grade construction for the $1-billion science and engineeering complex has proceeded for months; come May, steel is expected on site for the visible superstructure (pointing toward a 2020 opening). And Harvard Kennedy School continues to remake virtually its entire campus from the inside out.

Yesterday's News

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

1927 The debating team has won four of six matches during a spring-break tour of the Middle West, the editors note. In each debate, Harvard supported the affirmative side of the question: "Resolved, that the American College is a Failure."

1952 "Korea—symbol of the undeclared war between East and West—continues to dominate the academic year 1951-52," with the University "steering a course somewhere between total mobilization and business as usual"; 40 percent of the freshmen are enrolled in the army, navy, and air force ROTC programs.

1962 Joseph Russin '64 guides the four-plus-ton Sonita to a sweepstakes trophy for Harvard at the first Intercollegiate Elephant Race at Orange County State College in Fullerton, California.

1972 East Asian studies becomes Harvard's newest concentration.…Mexican-American and Puerto Rican students schedule a conference to explore problems in implementing a Chicano-Boricua studies program at Harvard.

1997 The Faculty of Arts and Sciences adds a new quantitative reasoning course requirement to the Core Curriculum, replacing the former test-out option.

Harvard's first chair devoted exclusively to environmental issues is endowed by Gilbert Butler Jr. '59 to honor the memory of his father.

More than 300 people gather in the Yard for the unveiling of a plaque on Matthews Hall commemorating Caleb Cheeshahteaumuck, A.B. 1665, and the other four initial Native American students at Harvard's Indian College.

2002 Following a year of debate and data-gathering, the Faculty of Arts and Sciences makes it easier for undergraduates to study abroad, and more difficult for them to earn academic honors.

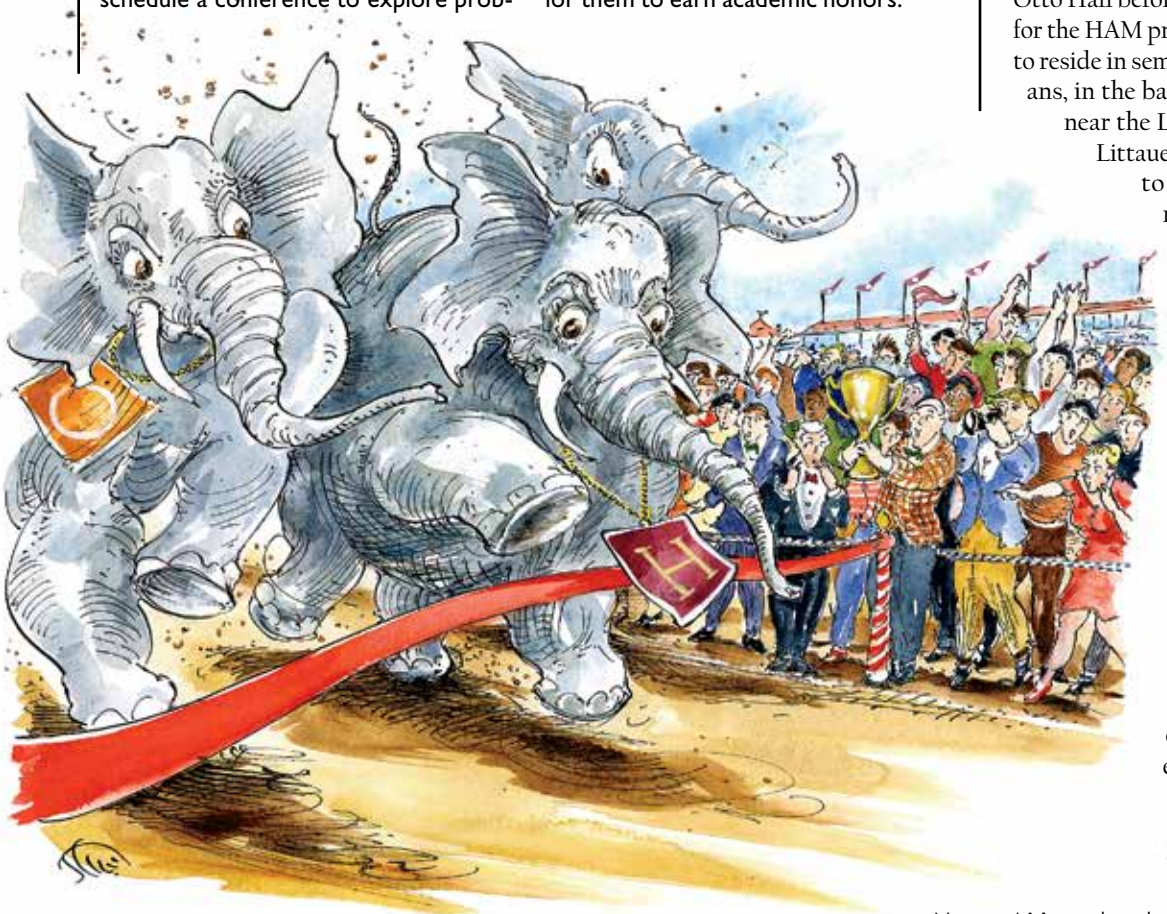


Illustration by Mark Steele

Alongside those projects and other, lesser ones—in all, $2 billion of capital investments, give or take—still *more* construction is on tap. Harvard Planning Office's "Town Gown Report" to Cambridge identifies multiple pending projects, including three major ones:

• The Law School has secured zoning approval for a new, 21,000-square-foot building at 1607-1615 Massachusetts Ave., replacing vacant one-story storefronts at the corner of Everett Street, to house public-service clinical programs; construction is planned late this year.

• The University is preparing to renovate the Arthur M. Sackler Building, whose collections have been consolidated at the renovated Harvard Art Museums (HAM), freeing its extensive galleries for other uses. Among them will be programmatic space for the history of art and architecture department, the main tenant already based there; the Arts@29 undergraduate art-making center (relocating from Garden Street to within a block of the Carpenter Center, home to the principal studios); and the Graduate School of Design, which is landlocked and still planning its own on-site expansion. Construction is expected this year. (*Not* involved is relocation of the fine arts library, which was moved from Werner Otto Hall before it was razed to make way for the HAM project. The library continues to reside in semi-exile from the art historians, in the basement of Littauer Center, near the Law School. At some point, Littauer itself will be reconfigured to better suit the evolving needs of the huge economics department, the major occupant—but it is not known when that work will advance.)

• And in the dreary-but-essential category, the Faculty of Arts and Sciences also plans to replace the entire heating, ventilation, air conditioning, and exhaust system for its huge Biological Laboratories complex.

Thus, University building budgets remain intact, even as pressure on schools' operating budgets becomes evident (see next item).

—J.S.R.

University People

Dunster Departures
Dunster House faculty deans **Roger B. Porter**, IBM professor of business and government, and **Ann Porter** announced in early March that they would step down at the end of this academic year, concluding 16 years of service. They took the House, and its students and staff, through the first whole-House renewal, under the continuing renovation program (reported in detail at **harvardmag.com/new-dunster-15**).

Dean Dench
With **Xiao-Li Meng**, Jones professor of statistics, taking sabbatical during the 2017-2018 academic year, **Emma Dench**, McLean professor of ancient and modern history and of the classics, will assume his administrative role as dean of the Graduate School of Arts and Sciences (GSAS) on an interim basis. She has been director of graduate studies for the classics department, and in 2015 won a faculty prize for mentoring graduate students. Meng is pursuing research pertinent to statistics and data science, and assuming leadership roles in two statistics professional societies during the year. One statistic he leaves to interim dean Dench: the planned reduction in the size of the entering GSAS cohort, for financial reasons (see below).


STEPHANIE MITCHELL/HPAC
Xiao-Li Meng


ROSE LINCOLN/HPAC
Emma Dench

Labor Leaders…
President Donald J. Trump has nominated **Alexander Acosta** '90, J.D. '94—the dean of Florida International University Law School and a former member of the National Labor Relations Board (among other public-service roles) as U.S. Secretary of Labor....Separately, **Sharon Block**, who had been principal deputy assistant secretary for policy and senior counselor to the secretary at the Department of Labor under President Barack Obama, J.D. '91, has been appointed executive director of Harvard Law School's Labor and Worklife Program, which focuses on labor law, training union leaders, and related issues.


U.S. DEPARTMENT OF JUSTICE
Alexander Acosta

…and Other D.C. News
Tom Perez, M.P.P-J.D. '87, who served as Secretary of Labor in the Obama administration, has been elected chair of the Democratic National Committee and charged with revitalizing the party....Separately, President Trump's initial choice to be Secretary of the Navy, private-equity executive **Philip Bilden**, M.B.A. '91, took himself out of the running, citing financial and family obligations.


U.S. DEPARTMENT OF LABOR
Tom Perez


ROSE LINCOLN/HPAC
Maya Jasanoff

WRITERS' REWARDS: Coolidge professor of history Maya Jasanoff, author of the National Book Critics Circle-winning *Liberty's Exiles,* on loyalists during the American Revolution, has been awarded a Windham-Campbell Prize, created to support writers and administered by Yale; it comes with a $165,000 honorarium. Her next book, *The Dawn Watch: Joseph Conrad in a Global World,* will be published in November....Separately, professor of history Jane Kamensky, Pforzheimer Foundation Director of the Radcliffe Institute's Schlesinger Library, has received the New-York Historical Society's $50,000 annual book prize in American history for *A Revolution in Color: The World of John Singleton Copley.* "Facing Harvard" (November-December 2016, page 42), on Copley's Harvard portraits, complements her research for the book.

Graduate Admissions in Lower Gear

The Harvard Crimson reported in mid February that the number of admissions to the Graduate School of Arts and Sciences (GSAS) would be reduced 4.4 percent, affecting students seeking to enroll this coming fall. The reduction reflects an adjustment by the Faculty of Arts and Sciences (FAS) to the prospective flattening of the distribution of funds from the endowment, the faculty's largest source of revenue, following recent weak investment results (see "The Endowment Ebbs," November-December 2016, page 18). The newspaper quoted FAS dean Michael D. Smith as attributing the downsizing to "the flat endowment distribution that we will see next year and the drying up of some funds that we've used in the past to help admit some students," whose education and living expenses are typically covered by the University.

A statement provided by FAS elaborated that the GSAS "is fundamentally committed to ensuring that current graduate students thrive during their time at Harvard.... Most Ph.D. students now receive a generous financial-aid package guaranteed for at least five years, which pays for tuition, fees, health insurance, and other benefits." It also cited recent improvements in support, including, among other steps: summer research funding, fifth-year and dissertation-completion support, professional-development funding, and financial assistance for students expecting or adopting a child.

"In the process of developing the fall 2017 admissions targets in conjunction with the graduate financial-aid budget," the statement continued, "it became clear that a modest year-over-year reduction in class size would be necessary in order to ensure no disruption of support for current students," driven in part by the endowment results. "GSAS, the FAS dean, the [engineering and applied sciences] dean, the FAS divisional deans, and the offices of the president and provost worked

together to ensure the smallest possible percentage reduction in admission targets for FAS-based Ph.D. programs."

Two points merit consideration. First, this does *not* appear to be an effort to downsize certain graduate programs where demand for academic hiring has diminished (notably, the humanities, languages, history, and related fields)—a subject of understandable anxiety within the affected fields.

Second, exactly how GSAS sets its admissions targets is as much an art as a science. Some tiny doctoral programs admit one or two candidates annually; others welcome scores. The yearly allocation varies by program, prior enrollment yields among those admitted, new faculty appointments (and leaves and retirements), funding vicissitudes, and so on. For whatever reason, GSAS is providing only the percentage guidance on admissions overall—not specifying how many new graduate students it aims to admit, nor the absolute change from last fall or any differential effects among disciplines. At least in the near term, College officials have said that the reduced graduate-student cohort should not have any effect on the availability of teaching assistants or section sizes.

A final observation: this outcome illustrates the overwhelming importance of the endowment in funding the University and FAS (which derived 51 percent of its operating income from endowment distributions in fiscal year 2016). Even in a period when The Harvard Campaign has raised well more than $7 billion in new gifts and pledges, core academic operations remain vulnerable to persistently weak endowment earnings.—J.S.R.

Allston Ambitions

Harvard business school (HBS) dean Nitin Nohria's annual letter to his faculty is especially interesting this year. The headline item—that HBS exceeded its $1-billion capital campaign goal in 2016, and formally raised it by $300 million—matters less than the intended aims: more associate professorships and practitioner-teachers; more fellowships; further flexible funding for innovation; and "realizing the vision of One Harvard by supporting work across the University and...in Allston." The latter may point to deepening engagement with the School of Engineering and Applied Sciences (see "Academic Allston, At Last," July-August 2016, page 22), and perhaps HBS support for the proposed Gateway research building and data sciences, of import to both faculties (see page 27).

Nohria also addressed the migration of the school's experience-based FIELD curriculum into the fall and spring M.B.A. courses of study; rapid change in executive education; and a goal of making the online HBX operation "cash-flow positive by 2019." (Given that HBX collects tuition for its courses—$1,950 for the three-unit basic business-skills sequence—this hints at the costs of such offerings, and perhaps the continued reliance on philanthropy to support the University's HarvardX online courses; see next item.)

Nohria also observed that the academic gaps between men and women in the M.B.A. program, and their different levels of satisfaction, had been closed. He identified the need for additional support for students who receive financial aid, and highlighted a fiftieth-anniversary celebration of the African-American Student Union, in 2018. —J.S.R.

Online Updates

The online version of "Super-Earths and Life," by Phillips professor of astronomy Dimitar Sasselov, director of Harvard's Origins of Life Initiative (see "Life's Beginnings," September-October 2013, page 29), is the first HarvardX course to incorporate adaptive-learning technology that tailors content and exercises to student mastery of material. Early assessments demonstrate clear gains in learning and students' speed through the course.

Turning to revenue-producing online programs: Georgia Tech has introduced a second, lower-cost master's degree, in analytics, complementing its popular computer-science degree launched in 2014. Meanwhile, edX members including Boston University and Penn rolled out 16 more blended online and in-person "micromasters"—in career-oriented fields like data science, business analytics, and cybersecurity—bringing the roster of such revenue-generating courses to several dozen.

Inside Higher Ed reported that Simmons College, in Boston, has increased online revenue from $5.4 million in the year ended June 30, 2014, to $45 million in the most recent fiscal year—nearly equal to its classroom-based graduate tuition revenue, and closing in on undergraduate income. Master's programs in nursing and social work account for the

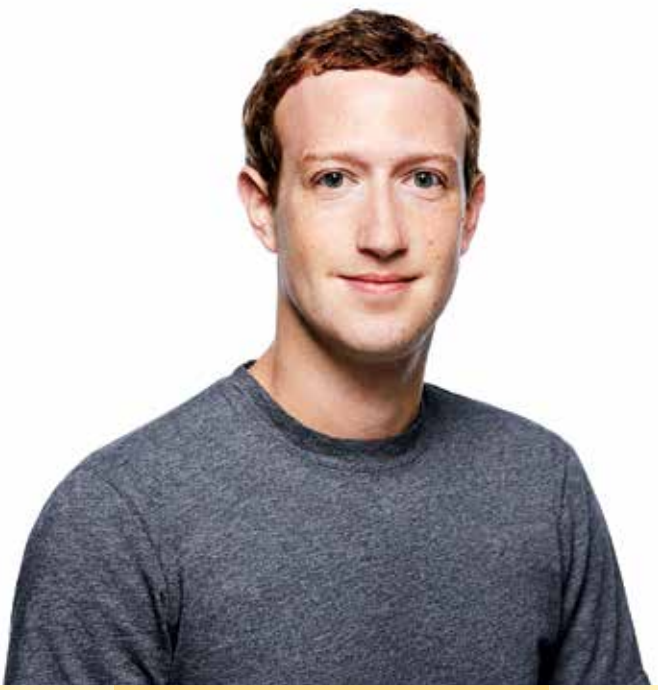
Brevia

Venerable Schools

Harvard Divinity School, née 1816, is well into its bicentennial celebration (see **harvardmag.com/hds200-16**), and **Harvard Law School**, 1817, will begin blowing out the candles with several events commencing this fall. Also meriting attention is **Harvard School of Dental Medicine**, 1867, the Medical School's Longwood cousin, which has consolidated information for its sesquicentennial, highlighting landmark research and clinical advances, at **150.hsdm.harvard.edu**.

Lowell House Renewal

The College has unveiled plans for the renovation of **Lowell House**, scheduled to begin after Commencement and to conclude by the fall of 2019: the first two-year reconstruction project, and the largest to date. According to an announcement in early March, on the façade facing Mount Auburn Street, a new entryway will connect the second-floor library, new senior common room, and a lower-level, 75-seat screening room (replacing two squash courts). The wing is being named Otto Hall, honoring a gift from **Alexander Otto** '90, M.B.A. '94, a member of a German family that owns retail and real-estate assets worth many billions of dollars. The dining hall, as previously announced, has been named Lee Hall; that recognizes support from **Kewsong Lee** '86, M.B.A. '90, now one of the highest-ranking private-equity executives of The Carlyle Group, and his wife, **Zita Ezpeleta** '88, J.D. '91, who met at the House and previously established a challenge fund to advance House renewal. Also planned: a "maker space," complete with 3-D printers and work stations, adjacent to Otto Hall.



SPEAKERS OF NOTE: The speaker at the Commencement afternoon exercises, on May 25, will be Mark Zuckerberg '06, co-founder and CEO of Facebook. His appearance among the honorands and at the lectern follows by a decade that of Bill Gates '77, LL.D. '07—another celebrated dropout whose software prowess (Microsoft) has also yielded one of the world's largest fortunes and enabled philanthropy on a gigantic scale. Zuckerberg's wife, Priscilla Chan '07, a pediatrician, is among the College tenth reunioners. For a full report, see harvardmag.com/zuckerberg-17. The Radcliffe Medalists, to be honored May 26, will be journalists Gwen Ifill, posthumously, and Judy Woodruff—the latter in conversation with Walter Isaacson '74. For complete Commencement information, visit harvardmag.com/commencement.

On Other Campuses

The **University of California, San Francisco**—the system's health-research and clinical-care campus—received a $500-million gift from the Helen Diller Foundation: $400 million in endowment funds to support faculty members and students, and $100 million to support innovative research. The funds complement two recent gifts, totaling $285 million, for neuroscience, and a partnership with the $3-billion Chan Zuckerberg Initiative (founded by Priscilla Chan '07 and Mark Zuckerberg '06; see above) aimed at eliminating major diseases....**Cornell** has received a $150-million naming gift from alumnus H. Fisk Johnson and the SC Johnson company for its recently constituted College of Business, comprising its schools of applied economics and management, hotel administration, and management....The Bill ['77, LL.D. '07] & Melinda Gates Foundation has committed $279 million to the **University of Washington**'s Institute for Health Metrics and Evaluation, which develops tools to improve population health....**Santa Clara University** has received $100 million from alumnus John A. Sobrato and Susan Sobrato to fund a facilty for science, math, and technology education....Peter and Paula Lunder have given the **Colby College Museum of Art** more than 1,000 artworks and funds to establish an eponymous research center on American art—their second such $100-million benefaction to the institution.

From Combat to Campus

Ashton B. Carter, who concluded his service as the twenty-fifth U.S. Secretary of Defense at the end of President Barack Obama's administration, is returning to the Harvard Kennedy School (HKS). He will be Belfer professor of technology and global affairs, and director of the Belfer Center for Science and International Affairs—the locus of much of HKS's work on international security and diplomacy, environmental and resource issues, and science and technology policy. Dillon professor of government **Graham Allison**, HKS's founding dean in its modern incarnation, has been director since 1994.

U.S. DEPARTMENT OF DEFENSE

Ashton B. Carter

Campaign Calendars

As the University drives toward the mid 2018 conclusion of **The Harvard Campaign**, stirrings to the southeast point to the schedule for its likely successor in the decade to come (Harvard having missed a campaign during the first decade of this century amid leadership upheaval in Mass.

Photograph courtesy of Facebook

Hall). The *Yale Daily News* reported in early March that Yale, having concluded a $3.88-billion drive in June 2011, is now well into the two-year planning period that precedes the two-year "quiet phase" of *its* next campaign, to be led by Peter Salovey, who became president in 2013. He subsequently suggested to the *News* that Yale might want to pull together its research and teaching on public-policy matters, perhaps launching a new school in the field, like those at Harvard and Princeton, and Brown's nascent school. Separately, Yale announced that its department of statistics would morph into a department of statistics and data science ("DS squared"), complete with a new undergraduate concentration, and would make nine new departmental and joint faculty appointments—accommodating rising student and scholarly interest and, no doubt, donor support as well. (See page 27 on data science locally.)

Nota Bene

Coming to the college. On March 30, the **College** announced that 2,056 of the 39,506 applicants to the class of 2021 had been offered admission: 5.2 percent, essentially level with the admissions rate last year. Some 15.1 percent of those admitted are the first members of their families to attend college. The bill for tuition, room, board, and fees for 2017-2018 (in other words, the list price, *before* financial-aid awards) is $65,609, up $2,584, or 4.1 percent, from the current academic year. Read full details at **harvardmag.com/admits-17**.

Better than entrepreneurship? The complex of innovation centers at the edge of the Harvard Business School campus—the **iLab**, **Launch Lab**, and **Life Lab**—has spawned a new kind of growth: early March job postings advertised positions for associate directors of business development and of social enterprise, each carrying the University salary range of $72,900 to $124,700; an assistant director of technology programming; and student "community assistant" positions.

How about working at harvard? **Charles Skorina**, who runs a San Francisco-based search firm focusing on investment managers, devoted his late-February and early-March newsletters to **Kim Y. Lew**, M.B.A. '92, chief investment officer of the Carnegie Corporation, in New York City. Turns out that Lew, who oversees somewhat more than $3 billion, has realized an 11.1 percent annualized rate of return for the 5 years ending in 2015, and an 8.3 percent rate of return for Skorina's most recent 10-year period, ranking among such leaders as the University of Virginia, MIT, Princeton, and Yale—and far ahead of the results for Harvard Management Company, where **N. V. Narvekar** is now making sweeping changes. Perhaps he should give Lew a call.

Miscellany. Classical philologist **Martha Nussbaum**, Ph.D. '75, Freund Distinguished Service professor of law and ethics at the University of Chicago, will deliver this year's National Endowment for the Humanities Lecture, on May 1....**Brian C. Rogers** '77, M.B.A. '82, chairman and chief investment officer of T. Rowe Price Group, which has more than $800 billion of assets under management, has joined Harvard Management Company's board of directors; he is also a Johns Hopkins trustee....The McGovern Institute for Brain Resaerch at MIT has conferred its Scolnick Prize in Neuroscience, an annual honor recognizing outstanding advances in the field, on **Catherine Dulac**, Higgins professor of molecular and cellular biology (see "The Mr. Mom Switch," May-June 2015, page 11)....Election-law expert **Heather Gerken** (Harvard Portrait, March-April 2002, page 65), who taught at Harvard Law School from 2000 to 2006 before decamping for New Haven, has been appointed dean of Yale Law School, the first woman to hold that office....**Sylvia Mathews Burwell** '87, who served as U.S. Secretary of the Department of Health and Human Services under President Barack Obama, has been appointed president of American University, effective June 1....**John Holdren**, who served as national science adviser in the Obama administration, has returned to Harvard Kennedy School as Heinz professor of environmental policy....**Hilary Lewis**, G '08, an expert on architect **Philip Johnson** '27, B.Arch. '43, has been appointed chief curator and creative director of the National Trust for Historic Preservation's Glass House, the celebrated house Johnson designed in New Canaan, Connecticut (see "Modern and Historic," September-October 2007, page 32F). Johnson also designed the Business School's soon-to-be-replaced Burden Hall.

JOHN NIENHUIS

Heather Gerken

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES

Sylvia Mathews Burwell

SALLY RYAN

Martha Nussbaum

NASA/BILL INGALLS

John Holdren

Maureen Scalia

LAW LEGACY, AND MORE. The family of the late Supreme Court Justice Antonin Scalia, LL.B. '60, has donated his papers to the Harvard Law School Library. Materials will begin to become available for scholars in 2020....Separately, whatever their original intent, students from diverse fields of study who decide to pursue the law can now submit Graduate Record Exam results, rather than the Law School Admissions Test, with their Harvard Law applications. The change takes effect this fall, and is intended to broaden access to the school and to diversify the academic backgrounds of prospective students in an era where scientific and technical knowledge is broadly relevant.

Photograph by Martha Stewart/Harvard Law School

growth; they enroll more than 2,500 students.

And in late February, Caroline M. Hoxby, Bommer professor in economics at Stanford, analyzed online learning in a working paper, "The Returns to Online Postsecondary Education." As summarized in the abstract, the research found "little support for optimistic prognostications about online education." Drawing on the cohort of students enrolled full time, or very substantially, in online programs (thus heavily at for-profit institutions, many of which have been discredited in recent years), she concluded that their online work was "not substantially less expensive than comparable in-person education," as measured by tuition or the schools' costs. Moreover, "Online enrollment usually does raise a person's earnings, but almost never by enough to cover the social cost of the education. There is scant evidence that online enrollment moves people toward jobs associated with higher labor productivity"—meaning that taxpayers are unlikely to recoup public costs through higher tax revenues, and, indeed, that many of the students would struggle to repay their loans. Many educators criticized Hoxby's student and institutional sample, and her aggregation of results among different kinds of learning situations; but most agreed her metrics are relevant for assessing online programs' costs and potential.

One interesting cost (which HarvardX has also encountered) involves making online content accessible to people with disabilities—usually by captioning. In March, the University of California, Berkeley, announced that it was ending public access to more than 20,000 legacy audio and video files, in response to a federal order that they be made accessible. YouTube, the iTunes U, and Berkeley websites will remove the items. Its edX courses continue to be made accessible, and future contents will accommodate users with constraints. ~J.S.R.

Developing Data Science

Harvard plans to build a data-science institute in Allston to support research, education, and entrepreneurship in what University leaders call "a new discipline." Data science is central to research in public health, the physical, social, and biological sciences, and medicine; it has become increasingly important in all fields that involve empirical research, such as law, government, and even the study of culture. The institute would provide a commons for collaboration among almost every school—especially the Harvard Paulson School of Engineering and Applied Sciences (SEAS, which will have a new home on Western Avenue by 2020), Harvard Business School, the i-lab incubator and its affiliates—and research-intensive businesses that the University expects to attract to its Allston "enterprise research campus." (For an overview, see "Why 'Big Data' Is a Big Deal," March-April 2014, page 30.)

Harvard has the ingredients needed to do "world-leading data science," said Colony professor of computer science David C. Parkes, area dean for computer science in SEAS, and co-director of the data-science initiative defining the path to an institute, together with professor of biostatistics Francesca Dominici, senior associate dean for research at the Harvard Chan School of Public Health (HSPH). Harvard has "methodologists; compelling applications questions; and...the context of society. That is the magic triangle," Parkes said. With leading professional schools and affiliated hospitals, each with its own data-science expertise, the University has many resources already in hand. "We need to somehow bring them together," he said, "and go from this distributed excellence" to creating a place where the people and their skills "sing together."

The initiative plans several early steps: creating an interdisciplinary postdoctoral fellows program in which each fellow works with multiple faculty members; outfitting new programmatic spaces—one in Cambridge and one in Boston ("to help us bootstrap what we want to be," Parkes said, "until we get to a permanent space"); and hiring professional data scientists to work with students and faculty members.

KRIS SNIBBE/HPAC

David Parkes and Francesca Dominici, co-directors of Harvard's new data-science initiative

These moves complement the launch of three data-science master's programs, one each at HSPH and Harvard Medical School, launching this fall; and one in the Faculty of Arts and Sciences beginning in fall 2018.

Dominici and Parkes declined to compare Harvard's data-science plans to those elsewhere, or to put a timeline on the physical data-science institute in Allston. But Dominici said, "I think we are going to end at an unprecedented scale and a most important impact." Read a complete report at **harvardmag.com/datascience-17**. ~JONATHAN SHAW

THE UNDERGRADUATE

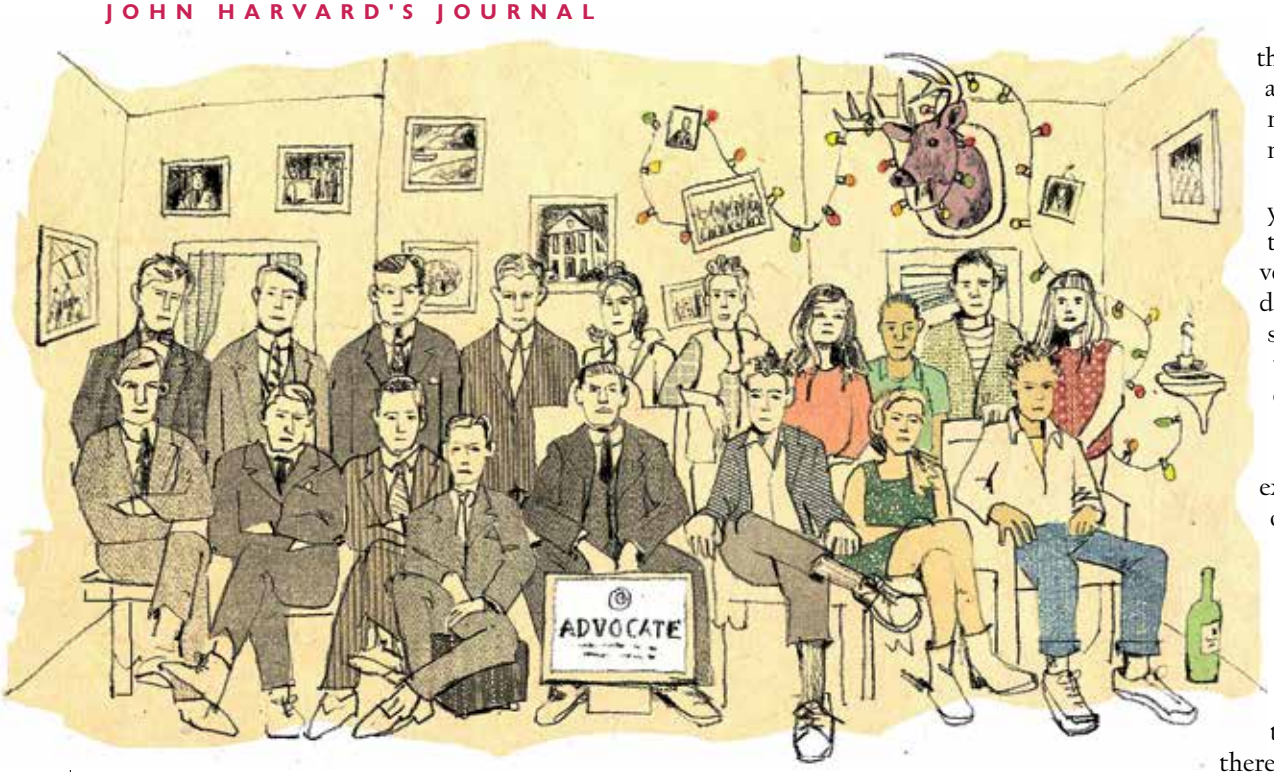
Exclusivity, from the Inside

by LILY SCHERLIS '18

I was the kind of kid who would actually respond to the mass email freshly appointed Dean Rakesh Khurana sent to the incoming freshman class. I didn't realize he was the kind of dean who would reply, asking to meet me.

At the time, I was deep in the throes of competing with other prospective undergraduate literati to join the staff of *The Harvard Advocate*, the College's long-lived literary magazine. I was very angry at having to prove myself to win a spot in an extracurricular. Here we all were, already at Harvard, still chasing after prestige. The social scene felt like a forest of ladders all stretching up toward the sunny warmth of feeling included, wanted, comfortable.

"I hate all these social hierarchies and power structures," I told him. "I just want to work on a magazine and make friends.



Why do I have to be formally assessed and declared good enough by my peers before they'll let me hang out with them?"

He told me *I* could be the one to change the socioextracurricular landscape. I shrugged. "I'm not positioned to do anything," I said, unwilling to be empowered by an inspired administrator. "Once you have enough power to change these spaces, you have no personal stake in doing so. You don't need them to change for you to feel included: you already are."

These days I'm the magazine's president. Most of my closest friends are *Advocate* members. I've forked almost all of my college experience over to this organization. I'm in its headquarters, a crumbling white clapboard home on South Street, a good 50 hours a week. I have laughed and cried on every chair and couch in the building.

But I haven't forgotten. The freshman-fall iteration of me has taken up residence in the back of my head. She likes to tease me about having sold out to the great machine of institutionalized validation. "Don't worry about it," she says sarcastically, "You're just personally responsible for perpetuating a mean and exclusionary system and too blinded by your position to see it."

In the two and a half years since I met with him, Khurana's push for more inclusive social spaces has come to define his administration. This has involved substantial cracking down on exclusive social spaces. These efforts force me to consider my own position more carefully. I don't want to attack the organization that has become my family here. I also don't want to make excuses on its behalf: it has been hard for me to make the *Advocate* into a home. I'm lucky to have it. Being irrevocably personally tethered to the *Advocate* makes me at once protective of it and obsessed with holding it accountable.

Op-eds and College-wide emails tend to skate over the human messiness of being an individual trying to navigate campus organizations responsibly. We are all learning how to handle having power over each other. At the *Advocate*, we are college kids selected by other college kids to select other college kids as the certified Harvard literati—and we're not always older or more experienced than the people we assess.

For most of us, this is the first time our social capital has been reified through an explicit institutional process. This process is called "comp," which stands for either "competition" or "competence," depending on whom you ask. It's the standard Harvard term for the semester-long training and assessment that some extracurriculars use to select and prepare new members. Most comps happen every semester, are open to all students, and can be repeated as many times as desired. Selective comps all claim to strive for meritocracy, but even if they always select those most deserving candidates, they're still exclusionary. The line dividing members and nonmembers persists.

Two and a half years later, it's weird to think that my conversation with the dean was a grain of sand in the administrative dune that may or may not be slinking toward South Street. Groups that exclude on the basis of a relevant skill—as opposed to organizations that select members using solely social criteria—have been largely ignored by the College, though there are rumors we're next after the final clubs. Nevertheless, comps are often accused of contributing to the power hierarchies that plague our social spaces. In early March, the Undergraduate Council announced that it would build a comp evaluation system to help students make informed decisions about which organizations to attempt to join—a system that will implicitly double as a way to hold organizations accountable to popular opinion.

The *Advocate* has a long-standing image problem grounded in frustrating historical realities. It was founded in 1866, and for most of its history, systematically excluded potential members on the basis of class, race, gender, religion, or sexual orientation (usually in tandem with the College's own barriers for admission). We have framed portraits of long-dead young white men on our walls and dusty tomes full of the juvenilia of major poets to match. When friends heard I was comping, they'd turn their noses all the way up and tell me the *Advocate* was pretentious, the worst accusation you can make of a Harvard organization besides insinuating that it doesn't have sufficient prestige. The organization has been accused of picking only its members' friends, or worse, being a home only for well-off private-schooled white kids. We hear about students who self-select out of comp due to the perception that only some kinds of people can feel at home in this organization.

Illustraton by Daniel Baxter

As a comper I would have been surprised to learn how fervently the *Advocate* tries to make its comp less daunting. We say things about the process that try to make it seem approachable, to dispel rumors of biased assessments, to increase transparency. We mean them. But the picture we paint also serves to reassure the membership that comp is just, and justifiable.

We say that our comp requires no experience, and will equip you with any and all skills you need. The idealized educational comp assesses how well you've osmosed the information and skill set we've supposedly provided, whether that involves analyzing poetry or fixing our website. This is a comforting thought: it makes the comp sound like a sort of benevolent free educational program, a productive use of time independent of prospective membership. Some members challenge that labeling the comp "educational" is condescending. I worry that claiming no experience is required obscures the preparation gap between, say, an English concentrator who went to prep school and a STEM concentrator who didn't. We say our comp is entirely non-social, that your chances are not remotely affected by whether our members like you on a personal level. But when many boards select members based on how well candidates analyze creative work in a discussion setting, how can social skills *not* play in? And still: many compers do sign up because their friends are members. Those members either cold-shoulder their friends at meetings or risk making other compers feel disadvantaged by their lack of connections.

There's uncertainty over whether to acknowledge the power differential, and how. Some want to professionalize the process, hoping that clarity and transparency will file down the ragged emotional edges of rejection. Others want to humanize it, earnestly reminding prospective members that they, too, were once terrified compers. Some attempt to undermine the hierarchy, insisting that the coming assessment is totally meaningless.

We feel the need to go over and over how we can be a positive force on campus, or at least not an arrogant menace. At first, such conversations gave me immense hope that change was imminent, or at least possible. I believed that there were correct answers to these questions: that if we were sensitive and good enough, we could design a kinder and more wholesome and more meritocratic comp.

Sometimes there are tangible ways to do so, like banning sexual relationships between compers and members during the comp. And we are always implementing little changes that seem like they might help—like serving refreshments to compers and cutting the part of the first meeting where compers schmooze with board heads one on one under the guise of "asking questions not covered." But the next semester we'd inevitably bring back the Q&A, because it put a face to the power structure. And we're still going back and forth about whether to hold a celebratory social event for compers: some say it's a nice treat, and gives a taste of the integral social aspect of the magazine; others complain that the event puts enormous, needless pressure on compers to impress us. At the very least, talking about comp sets a social standard among members of being nice to compers. But the ideological debates seem to swim in circles, week after week, semester after semester. I have begun to believe that a lot of these well-intentioned conversations serve as exercises in ethical reasoning or group therapy, assuaging our discomfort with playing a hand in the power relations that once made us feel small.

…a lot of these well-intentioned conversations serve as exercises in ethical reasoning or group therapy, assuaging our discomfort.

Nonetheless, I'm glad they exist. In the face of complacency, we need to insist that change, however superfluous, is possible. We find ourselves arm-wrestling with 150 years of history: it is tempting to feel that these hierarchies are the very bones of the organization, that all we can do is allow our small bodies to be pushed through its digestive tract.

"EXCLUSIVITY," in the vocabulary of current campus discussions, *denotes* only that there is a boundary between members and nonmembers, but *connotes* arrogance and unfair discrimination. "Inclusivity," in turn, comes to mean everything from demographic diversity, to goals the *Advocate* already considers imperative (like selecting members only on the basis of their ability to contribute to the publication), to vague fantasies of happy students holding hands.

True inclusivity would mean doing away with selection. It would mean saying, if you want to be a part of this, come on in. Why not? The response goes like this: first and foremost, we are a community. Our magazine is dependent on our social cohesion, which we feel (maybe incorrectly) depends on clear lines between inside and out. Our production cycles are fueled by how much members care, which might correlate to how hard they worked to join. And besides, we have only a small building and limited resources. Boards can't function if they're too big and if people don't develop working relationships with each other. Leaders can't lead an amorphous mass.

We feel the need to be selective because everything else is. Harvard itself employs merit as a grounds for exclusion. No wonder the student body subdivides into impermeable little social cells: many of us are trying to recreate the ecstasy of the moment of acceptance into the College, the moment when we first tasted real prestige.

SINCE 2014, we've been asking members to fill out an anonymous annual survey. It turns out that we are indeed disproportionately rich, white, private-schooled, and from New England. Based on this year's sample of 55 respondents out of 78 current members, we're 64 percent Caucasian, compared to 53 percent of the class of 2018. Though more than 65 percent of Harvard students receive financial aid, 68.6 percent of *Advocate* members receive none. (The *Advocate* does not have monetary dues: members are expected to spend two hours attempting to sell subscriptions to local businesses each semester, and may request an alternative two-hour task if they are uncomfortable doing so.) Just over 60 percent of us went to private schools. We're also perfectly gender balanced, and only 72 percent straight, compared to 90.2 percent of the class of 2018. The average member values the personal importance of the *Advocate* community at 7 out of 10. As members who have taken any statistics whatsoever frequently remind us, the numbers, which fluctuate 10 percent or more year to year, have little statistical significance. I still

think they mean something.

The survey also includes open-ended questions, asking members to report instances when they have been made to feel uncomfortable on the basis of class, race, gender, or sexual orientation. "I think the *Advocate* is in the process of developing a strong culture of inclusion and openness, which was not necessarily the case when I first comped," wrote one member. But mostly—as is expected when you ask people to complain—they're critical. "The Harvard public generally thinks of us as pretentious ivory tower aesthetes," another member wrote. Some are deeply upsetting: "I began to dread going to meetings to the point of feeling physically ill because I felt so stupid and uncomfortable around everyone."

Bias can make it difficult to distinguish between institutional problems and personal ones.

We've spent a lot of meeting time this spring trying to make sense of the responses. In a small organization where everyone knows everyone else, bias and other noise can make it difficult to distinguish between institutional problems and personal ones. Still, anonymity gives a megaphone to those who might otherwise never speak up, and I think it's important to take each response seriously in its biased yet vital subjectivity. As a whole, though, members are split between feeling things are getting better and getting worse, between prescribing modifications and feeling it's hopeless.

Our conversations about inclusivity inadvertently and almost invariably become conversations about comp. Comp is an obvious proxy for otherwise abstract issues: it's a concrete ritual with clear rules and clear outcomes, a ritual we explicitly control. We have a fresh shot at it every semester and can see our changes play out in real time. But this conversational slippage makes the line between members and nonmembers seem like the only frontier in the fight for belonging.

The most emphatic survey responses concerned the *Advocate*'s internal social scene. Many felt the community had "become tighter and more good-natured." Others still felt unwelcome: "I definitely feel like I need to put on a bit of an act to be in the building or to interact with people in it." "I'd be most proud," wrote one member, "if a nonmember left our building thinking not 'Wow, *The Advocate* is so cool I wish I were on,' but instead 'Wow, those people are so nice and really like each other.'" Some complained about cliques: "Oftentimes it seems like a certain group of people own the building and are not particularly welcoming to those who do not fit their mold."

As a new member I was confronted by a conglomerate of well-dressed upperclassmen who spoke eloquently about books I hadn't read and music I hadn't heard of. I was faced, like high-school students everywhere, with a clique I desperately wanted to be a part of and didn't know how to break into. When my parents visited that fall I cried to my dad for three hours about how I was never, *ever* going to make friends or be one of the cool kids. It turns out making it into the magazine's membership doesn't guarantee inclusion.

Eventually, with effort, you make friends. You're not necessarily happy or cool, but you're comfortable. You've had to wrench open a number of closed doors to get here, to grit your teeth through insecurity and exclusion. You assumed that when you finally got these doors open—the doors that keep compers from members and the *Advocate*'s social periphery from its core—they would stay open. You would be kinder and fight to make the community a better and more welcoming place. After you everyone else would be able to stroll through, as if you were Moses parting the Red Sea of exclusivity. But the doors lock behind you.

Being jaded won't help. The beauty of college organizations is their rapid turnover: you can make drastic changes and in four years no one will remember things were ever not that way. I cannot eliminate the barriers to full inclusion, but I still have an imperative to be kind and welcoming and to wring every last drop of cynicism out of my demeanor. We need to be encouraging, to remind those who come after us that doors can open, that belonging is possible—and so is change. Some doors will still stick, however frequently we apply the WD-40 of institutional self-reflection to their rusty hinges. We will keep applying it. This building with its sticky doors has become our home, and we do not want to be alone here.

Berta Greenwald Ledecky Undergraduate Fellow Lily Scherlis '18 has not yet left the building.

SPORTS

"Feeling Fast"

Nomin-Erdene Jagdagdorj's "very Mongolian attitude" toward water

With roots in Mongolia and Missouri, Nomin-Erdene Jagdagdorj didn't exactly have sailing in her blood. "Yeah, we're not really an aquatic people," says the senior, who last year co-captained Harvard's sailing team. "For Mongolians, and Missourians too...water is kind of a foreign concept." Maybe that's what drew her to it. Before trying out as a walk-on sailor during her first semester in Cambridge, she had been in a sailboat exactly once: on a "tiny, tiny lake" one summer day in Minnesota, where her friend's family had a cabin and a little Sunfish. "My friend and her siblings were bored with this boat," Jagdagdorj recalls. "But her grandfather was like, 'I love sailing.' And I was like, 'What is a boat?'"

She soon found out. After joining the team, she spent a year mostly on the practice roster, learning her way around the mast and the mainsail and the jib and the halyard and the bow and the centerboard—and the water. The Charles River, Harvard's home field, "is a famously shifty venue," she says. "A lot of people get frustrated with that. The para-

digms you expect on the water aren't there. Or you do something that gets you really far in one race, and the exact same thing puts you last in the next race." But she found that the river's unpredictability freed her to make mistakes and recover from them, knowing that a bad race or an upturned boat wasn't always her fault.

Collegiate sailing is both a spring and a fall sport, and after two semesters as crew to a new skipper each week, Jagdagdorj was paired with Nick Sertl '18, a skipper who'd been recruited out of high school, who'd led his youth teams to championships, whose mother was an Olympic skier. That year, he and Jagdagdorj took home numerous first-, second-, third-, and fourth-place finishes, helping Harvard to first place in the BU Trophy regatta and runner-up in the Sister Esther regatta in Newport, Rhode Island, plus other top-10 finishes. Then last spring, the two were voted co-captains.

"Nomin's a really good athlete," says head coach Michael O'Connor. Harvard recruits only a few sailors a year, and the team relies on walk-ons to fill out the rest of the roster—some with prior experience, others without. Jagdagdorj, he says, is the kind of newcomer he tries to cultivate: one who's smart, tough, adaptable, and who "doesn't mind being cold and wet a lot." Some years, he adds, a dozen or more students will come out in the fall with ambitions to sail. "And then after a month, two or three are left." Jagdagdorj was one of those. Last fall, O'Connor paired her with skipper Lucy Wilmot, a freshman who was this year's top recruit. "We have high hopes for Lucy and we felt it was important to give her an experienced crew right off the bat, someone very level-headed," O'Connor says. "Nomin fit the bill perfectly. We knew it would be a seamless transition for Lucy not to have to worry about anything going on in the front of the boat."

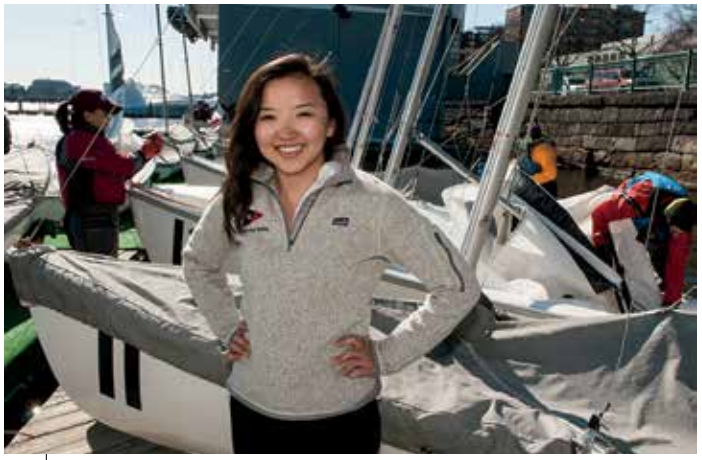
Jagdagdorj spent much of this spring's sailing with another of the team's top skippers, sophomore Nicholas Karnovsky, and at practice out on the Charles one brisk, sunny afternoon in late March, days after the two had helped Harvard take second place in a race at MIT, they scrimmaged with teammates. The Zakim Bridge and the rooftops of Boston gleamed in the distance as the team rehearsed complicated, difficult moves to slow another boat: by tacking upwind to "pin" it, or sidling up into the opposing boat's "shadow" to steal its wind. O'Connor, who was circling in a Boston Whaler, shouted instructions to his sailors through a red megaphone, while his black lab, Sophie, lounged on the bow. "One of the things that's hard here," he said, "is that the crews have to react to what the skippers are doing, and very often before the skippers have time to communicate what they're doing."

In the two-person Flying Junior dinghies that Harvard races, the skipper sits at the stern and controls the rudder and the mainsail, and the crew, in the bow, controls the jib. That barely begins to capture the role, though, says Jagdagdorj. While the skipper reads the wind and makes decisions for the boat—when to tack or jibe, when to ease or trim the sails—the crew is responsible for the countless tiny adjustments that can make the difference between winning and losing. And sometimes not-so-tiny adjustments: "When it's really, really windy," she says, "you hike." That's when she tucks her feet into the straps at the base of the boat and straightens out nearly parallel to the water, clutching a rope and leaning hard into the wind, with all the weight of her five-foot-two-inch frame, to keep the boat from rolling sideways. "Your thighs are burning, your abs are tight, you're choking on water, and you're thinking, 'Almost there, almost there, 30 seconds, almost there.' You start saying whatever you need to say to stay in that position. If you come up for even one second, you can lose a whole boat length." It's the crew, she says, who has to keep the boat flat.

That's true in more ways than one. Alongside the tactical responsibilities, crew must act, Jagdagdorj says, as an onboard sports psychologist and occasional mind reader. Tempering excitement, soothing despair, keeping things even: that's the job within the job. "You want to be aware of the skipper's mental state at all times," she says, "and make him or her feel OK about what's happening, even if they're making mistakes." Because, she adds, "feeling fast is almost as important as actually being fast." When you feel slow, the whole atmosphere in the boat changes, and sailors start wondering which one of them is to blame. Skippers steer more anxiously, the crew jerks at the sails, they fall out of synch. "And to maneuver the boat,

Far from Missouri: Nomin-Erdene Jagdagdorj on the choppy, cold Charles with skipper Nicholas Karnovsky '19

Photographs by Jim Harrison



Back on terra firma: Jagdagdorj at the Harvard Sailing Center

you have to be in unison and trust that the other person is with you; you have to be slamming your weight over at exactly the same time, to give the boat the momentum it needs."

She remembers a race at Tufts that sophomore year, one of the last regattas of the fall, when it began to hail. ("Unless there's lightning, we race," she says. "We've sailed in snow, in really torrential downpours, in 50-mile-per-hour winds—in zero wind. Sometimes you're wearing a drysuit and an entire winter outfit underneath it, and you're still frozen at the end of the day.") Jagdagdorj and Sertl were doing well, going fast despite the weather. But then, sailing around the last mark to head downwind to the finish, the boat flipped over. And the rudder, which wasn't tied down, fell out. They got the boat upright, but then they couldn't steer. Huddled in the hull together, they started to really feel it then: the hail and the cold and the wet. And the lost race.

That's when Jagdagdorj knew she was serious about sailing. She'd seen it at its worst and still came back for more. To her family, this was all somewhat baffling. Born in Ulaanbaatar, Mongolia, she came to the United States with her parents at five years old, when her mother began graduate school in journalism at the University of Missouri (she's now an instructor there; Jagdagdorj's father works for IBM). In the early months after Jagdagdorj joined the team, there were worried phone calls from her grandmother back home in Mongolia; her grandparents kept asking if she'd given up sailing yet. She kept having to tell them she hadn't. Then she had to tell them she'd been named co-captain.

And yet her origins in landlocked Mongolia, to which she returned during summers growing up and where her distant relatives remain nomadic herders, helped launch her into the sport. "Mongolians have such a strong tie to nature," she says. It is a country full of ancient beauty, where you can drive out into the desert or the steppe and look back 800 years. "A big part of the nomadic culture is sustainability," Jagdagdorj says. "There isn't really even a word for it, because there is no other way." (This same experience led her to major in environmental engineering.)

She talks about the particular hill in the southeast that she and her family return to whenever they're there, and the ritual they perform: the men climb to the top, while the women circle the base three times. "It's about respecting and being grateful for the land you're in....And I think what's really beautiful about sailing is that you can't help but respect nature. You're at the mercy of the wind. You're going out in a very tiny carbon-fiber boat into large bodies of water. People die sailing. Things can get out of control really quickly." She thinks about that, even now, whenever she pushes off the dock into high wind or heavy waves. "There's still that one flip of my stomach, like, 'All right, here we go.' You can't ever get complacent with water. And that's a very Mongolian attitude." —LYDIALYLE GIBSON

A Hardwood Foundation

Young basketball teams' seesaw seasons

DURING THE 2016-2017 season, a construction crew labored outside Lavietes Pavilion, the home of the Harvard basketball teams. Making incremental progress on a project to refurbish the 91-year-old building, the workers were mostly waiting for the season to end and the teams to vacate the premises, so they could gut the second-oldest arena in college basketball (see **harvardmag.com/lavietes-redo-16**).

The construction parallels the rebuilding projects under way this winter on the hardwood within. Both the women's and men's squads depended heavily on underclassmen: the men started four freshmen, and the women started two freshmen and a sophomore. These talented young players were striving for Ivy League championships, but they were also laying the foundation for several years of team growth. Among the goals for that growth: a twelfth Ivy League championship under the leadership of women's head coach Kathy Delaney-Smith, who just completed her thirty-fifth season leading the Crimson (see "'Acting As If' for 35 Seasons," November-December 2016, page 31); and a deep NCAA tournament run for the men, whose seven freshmen were rated by ESPN as the country's tenth-best recruiting class in 2016.

After both teams lost in the Ivy League tournament semifinals in March, what can the women (who finished the year 21-9 overall, 8-6 Ivy) and the men (18-10 overall, 10-4 Ivy) learn from their up-and-down seasons

Katie Benzan '20 was a first-team All-Ivy honoree and led the team in scoring (13.4 points per game) and assists (4.2 assists per game).

Photographs courtesy of Harvard Athletic Communications

to build toward future gains?

Co-captain Destiny Nunley '17 (above left) was an All-Ivy honorable mention designee. She and head coach Kathy Delaney-Smith (above) led the Crimson to a 21-9 overall record and a third-place finish in the Ivy League.

After a middling 2015-2016 campaign during which the Crimson went 14-14 overall, Delaney-Smith welcomed a freshman class headlined by forward Jeannie Boehm—just the third McDonald's All-American in conference history—and Katie Benzan, a highly touted point guard. Paired with a returning nucleus led by sophomore guard Madeline Raster and senior forward Destiny Nunley, the team had one of its most talented and balanced rosters in recent memory.

During the first two-thirds of the season, the newcomers successfully demonstrated their potential. The year started with a 103-87 loss at Minnesota, but then the Crimson reeled off 16 consecutive wins, tying the longest streak in school history. The run included victories at Kansas (from the high-powered Big 12 Conference); against Temple, which earned a seven seed in the NCAA tournament; and four consecutive wins to start conference play.

Looking back, Delaney-Smith suggested that, ironically, the win streak may have "hurt us more than it helped us." It raised the pressure and expectations on a young squad. And it camouflaged some weaknesses: inconsistency, turnovers, and rushed decisions. The Crimson won five games by five or fewer points and needed last-second heroics on several occasions—including a game-winner by Raster with 4.9 seconds left in a 70-68 home victory over Columbia.

Those flaws came into sharper relief during the last month of the season when the Crimson lost six of 10 games, including four against Penn and Princeton, the teams that finished ahead of Harvard in the Ivy standings. In those losses, a troubling trend emerged: if the Crimson's shots were not falling, and the other team made a run, Delaney-Smith's squad would fade. That happened in the Ivy tournament semifinals against Princeton. Harvard trailed by just one point (12-11) after the first quarter, but when the Crimson shot two for 14 from the field in the second period, the Tigers pulled away—ultimately, for a 68-47 victory. Among the factors separating the Quakers and Tigers from her own young players, the coach said, is the fact that "they believe in themselves."

The players had a chance to bolster their confidence when the Crimson received an at-large berth to the Women's National Invitational Tournament (WNIT), the most prestigious tournament after the NCAAs. Harvard capitalized on that opportunity, defeating the University of New Hampshire 69-56 in the opening round, before falling to St. John's University 62-57 in the round of 32. "The takeaway for those kids coming back," said Delaney-Smith, "is you can play with anybody in the Ivy League and then some of the stronger teams in the country."

Harvard Hardwood: Review the men's and women's seasons in detail with game dispatches, analysis, and profiles at **harvardmag.com/basketball.**

The women began the season on a tear, but the men lost their first four games against Division I competition, including an 80-70 defeat by Stanford in the season opener in Shanghai. The setbacks left some wondering if Stemberg coach Tommy Amaker could get his large, talented roster—which included proven All-Ivy talents point guard Siyani Chambers '16 ('17) and forward Zena Edosomwan '17, along with the highly regarded freshmen—to coalesce.

The team began to find its footing in a stretch from early December through late January, winning 10 of 11 games, including a 57-56 win over Houston, one of the Crimson's best non-conference opponents, and a sweep of Dartmouth and a victory at Cornell to start Ivy play. Still, Harvard's lone loss during that period—82-71 at Vermont, an NCAA tournament team—portended the difficulty of winning close games against more experienced squads on the road.

That problem recurred repeatedly. During the remainder of the Ivy season, the Crimson won all but one home game but lost three road contests—including the last two games of the regular season, at Princeton and Penn. Harvard's four Ivy losses came by a combined 11 points and, as Amaker said, stemmed in part from bad luck: three

Bryce Aiken '20—Ivy League Rookie of the Year and a first-team All-Ivy honoree—led the Crimson with 28 points in the league tournament semifinals against Yale.

teams defeated the Crimson after hitting challenging last-second shots. Still, turnovers (18 in a 73-69 loss at Princeton in the penultimate game of the season), spells of ineffective play (the Crimson fell behind Princeton by nine or more points in both games), and a defense that was good but not great yielded a second-place finish for Harvard.

The conference tournament gave the Crimson another opportunity to compete for a coveted NCAA berth. But many of the same problems that undid the team in the regular season reappeared in a 73-71 loss to Yale in the semifinals. The players struggled to defend the paint; in the second half, the offense was anemic except for Bryce Aiken '20, who scored 28 points; and although Harvard had just five turnovers, it gave the ball away on the final possession.

Coach Tommy Amaker (above) and co-captain Siyani Chambers '16 ('17), a first-team All-Ivy honoree (right), led a young Crimson squad to a second-place finish in the Ivy League before falling to Yale in the conference tournament semifinals.

Although both teams fell short of this year's goals, the women return Benzan, a first-team All-Ivy honoree; Boehm, who had seven blocks against St. John's in the WNIT; and four starters. The men lose Edosomwan and Chambers, who garnered first-team all-conference honors, but bring back four freshmen starters, including their top two scorers, Aiken and Seth Towns '20. When the refurbished Lavietes Pavilion reopens, fans can look forward not only to more modern amenities but also to two teams, with talented and tested nuclei, looking to make their own improvement to the spiffed-up arena: a pair of championship banners.

—DAVID L. TANNENWALD

Sports in Brief

Men's Hockey

Blazing through what a *Boston Globe* headline deemed a "season of redemption," the men's hockey team in late March, for the first time in 23 years, secured its return to the Frozen Four, the NCAA semifinals, with a 3-2 win over Air Force in the tournament's second round. That triumph, before a sold-out crowd in Providence, Rhode Island, capped a remarkable six weeks that saw the Crimson bring home its first Beanpot trophy since 1993, close out the regular season with an unbroken string of wins and a share of the conference title, and then capture the Eastern College Athletic Conference championship. Four players—forwards Ryan Donato '19 and Alexander Kerfoot '17, defenseman Adam Fox '20, and goalie Merrick Madsen '18—earned all-conference honors. The team was warming up for its first Frozen Four contest, on April 6, against Minnesota Duluth, at the United Center in Chicago as the magazine went to press.

MADDIE MEYER/GETTY IMAGES

In the momentum-building Beanpot victory: Crimson forward Alexander Kerfoot skates against Boston University.

Fencing

After a regular season during which both men's and women's fencing won Beanpot trophies—the tenth for each (Harvard has won the competition every year since it began)—the program sent 11 athletes to the NCAA tournament in Indianapolis, Indiana, in late March. Sophomore Eli Dershwitz, a 2016 Olympian, won an individual championship in men's sabre, and Harvard finished fifth overall, one spot behind rival Princeton. Senior Adrian Jarocki, the defending national champion in women's sabre, took fifth place this year.

Swimming and Diving

Led by freshman standout swimmer Dean Farris, men's swimming and diving routed its opponents to win the Ivy League championship in mid March, after an unbeaten regular season. Ulen-Brooks head coach Kevin Tyrrell was named Ivy coach of the year. Four swimmers and five relay teams went to the NCAA tournament, where Farris finished fourth behind a trio of former Olympians in the 200 freestyle. Men's swimming finished twenty-seventh overall.

Women's swimming and diving sent two athletes to the NCAA tournament: first-year swimmer Mikaela Dahlke, who competed in three events and finished thirty-sixth overall, and junior diver Jing Leung, who came in thirty-second after defending her title as NCAA Zone A platform-dive champ. With strong performances by Dahlke, Leung, and sophomore swimmers Brittany Usinger and Meagan Popp, the women's team took second place in the Ivy League championship, finishing just behind Yale and crushing third- and fourth-place finishers Penn and Princeton.

—LYDIALYLE GIBSON

FORUM

Harvard's Class Gap

Can the academy understand Donald Trump's "forgotten" Americans?

by RICHARD D. KAHLENBERG

The gap between coastal elites and America's white working class has been growing for decades, but in the wee hours of November 9, America's intellectuals discovered that they had been drowned in a tidal wave of anger and frustration. Harvard students may have supported Hillary Clinton over Donald Trump by 80 percent to 6 percent, and 91 percent of Harvard faculty members' campaign contributions may have gone to Clinton—but none of that mattered as non-college-educated whites delivered a convincing electoral college victory to a man whom many elites abhorred. If selective colleges are the place where smart high-school kids begin to enjoy the "revenge of the nerds," election day 2016 was something like the very opposite: the comeuppance of the intelligentsia.

For some, the gap exposed by the election has given rise to understandable feelings of moral superiority toward benighted Trump voters. Their candidate ran a hideous campaign in which he advocated banning Muslims from entering the country, claimed a federal judge was inevitably biased because of his Mexican-American heritage, and was exposed as bragging on camera about his ability to commit sexual assault. For many (myself included), voting for Trump was unthinkable.

Yet millions of our fellow Americans did so and, in a democracy, it is critical to understand why. Racism and sexism have always been potent forces in American history, and there was plenty of evidence of both at play in the election. But as commentator Van Jones notes, people voted the way they did "for complex reasons." The idea "that if you voted for a bigot, you are a bigot," is an oversimplification, he says. What explains the Barack Obama supporters who switched to Trump? Were the millions of female Trump voters endorsing sexism? Why were white workers so open to an appeal that they were "forgotten" by the political class? Might white working-class voters have noticed, as journalist Harold Meyerson wrote, that "deplorable"

Illustrations by Taylor Callery

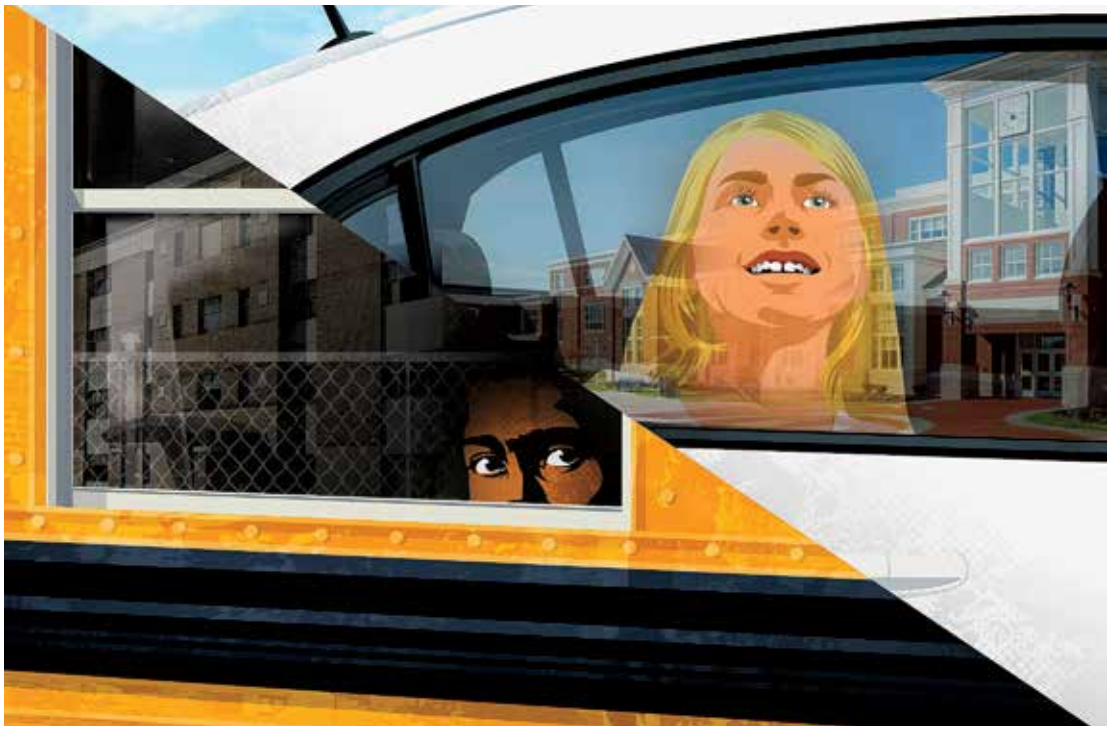
is a term Hillary Clinton ascribed to many of them, but never to Wall Street bankers who savaged the economy?

Robert Coles: Empathy for the White Working Class

It behooves the academy to understand the behavior of white working people. In a system of self-governance that values the opinions of everyday people, it is important to know why so many Americans were apparently so frustrated that they were willing to vote for a candidate bent on blowing up the system.

A good place to start is within the academy itself. No one there has promoted the understanding of Middle Americans more than Robert Coles, the brilliant professor of psychiatry, now emeritus, who began teaching at Harvard in 1965. Coles is well known for his Pulitzer Prize-winning books on *Children of Crisis* and has received the Presidential Medal of Freedom, but his greatest talent has been his ability to research and write about class in America in a way that connects people across color lines.

The son of a Midwestern mother and an English immigrant father, Coles grew up with both an American sense of racial injustice, in a country whose original sin is slavery, and a British sense of class inequality, rooted in that nation's feudal history. His father, Coles told me a number of years ago, had been raised in a society where people "knew what class they belonged to, and they used that word again and again and again, with much more sociological accuracy than we're inclined to find in ourselves in this country."



Coles graduated from Harvard College in 1950, went to medical school at Columbia, and ultimately specialized in child psychiatry. In the early 1960s, after a stint in Mississippi as an Air Force doctor, he became intrigued by the battles over school desegregation. He came to fame when he wrote an article for *The Atlantic* that provided a moving account of his interactions with a courageous six-year-old black girl, Ruby Bridges, who helped integrate the New Orleans schools in the face of virulent white hostility. He was particularly struck that as Ruby was tormented by the most hateful chants from white parents, she would silently pray for them. Coles later remarked that Ruby's parents, who had little formal education, had raised their child to have more empathy and moral strength than many children of the highly educated.

In 1968, Coles served as informal adviser to liberal hero Robert F. Kennedy '48 in his quest for the Democratic presidential nomination. (He wrote the last speech the candidate delivered before his assassination.) Coles was fascinated by the way Kennedy was able to connect simultaneously with black Americans, who appreciated his passionate support for civil rights, and with working-class whites, some of whom had voted for George Wallace for president four years earlier, by appealing to shared economic interests. He told the candidate, "There is something going on here that has to do with real class politics." Kennedy appealed to lower-middle-income whites, Coles told me, because they thought, "This guy isn't going to use us to show those rich Harvard-types what a great guy he is [by labeling us as backward]. He may be for them [African Americans], but he's for us, too."

A few years before Kennedy's assassination, Coles's research had taken a controversial turn. His writings about Ruby Bridges and his association with Kennedy earned liberal plaudits—but his decision to spend time with *white* blue-collar families who felt left out and ignored was not so well received by the liberal intelligentsia. In the early 1970s, he published *The Middle Americans: Proud and Uncertain*, which explained, with deep empathy, the experiences of white firefighters, factory workers, shopkeepers, and farmers. He was vilified for his new research by many of his friends in academia, who could not understand why Coles would devote his considerable talents to a group of Americans whom many progressives viewed as reactionary, racist, and sexist.

Then, in the mid 1970s, Coles crossed the line for many Harvard liberals again. When Boston was aflame over court-ordered busing to desegregate its public schools, most of the Harvard community was understandably aghast as white working-class people threw bricks at buses carrying black students to white schools. Coles condemned the violence but caused an enormous stir when he said that he understood white working-class resentment of compulsory busing policies that left out wealthier surrounding communities such as Wellesley, Newton, and Cambridge.

In October 1974, *The Boston Globe* devoted nearly the entire op-ed page to an interview with him. "I think the busing is a scandal," he said. "I don't think it should be imposed like this on working-class people exclusively. It should cross these lines and people in the sub-

urbs should share in it...." Coles argued that the "ultimate reality is the reality of class.... That's the real struggle here." Working-class whites and blacks, he said, have "gotten a raw deal....Both groups have been ignored. Both of them are looked down upon by the well-to-do white people."

Coles didn't romanticize blue-collar whites in Boston; they were known, he said, to hurl racial epithets not used in polite society. But he added: "I don't think that all these experts...these various social scientists and those in favor of integration like myself should be in a position to deliver sermons to the people of Boston... until we have been made a part of all of this." Of people living in wealthy suburbs, he said, "Their lives are clean and their minds are clean. And they can afford this long, charitable, calm view. And if people don't know that this is a class privilege, then, by golly, they don't know anything."

Both working-class whites and blacks, Coles said, "are looked down upon by the well-to-do white people."

Two decades later, Coles recalled that his comments about busing and his empathetic treatment of working-class whites in *The Middle Americans* constituted the "two times in my life when I got into a lot of trouble for what I've said." He continued, "I've never heard some of the scorn that can be mobilized against people expressed so vividly as on both of those occasions from people who take great pains—and commendably so—to try to understand people of different *racial* backgrounds [emphasis added]. The same people can speak about working-class people of their own race with no great charity and often times no great effort at understanding."

As an undergraduate in the early 1980s, I soaked up Coles's thinking on race and class in his legendary course, "The Literature of Social Reflection," in which we studied authors from Charles Dickens and Ralph Ellison to George Orwell and Flannery O'Connor. Dubbed "Guilt 101," the course was easy for cynics to ridicule, but students flocked to it. I well remember the class during which a member of *The Harvard Lampoon* burst into the room and, as part of an initiation rite, began imitating his style of lecturing. Coles asked the student to leave and then stood, in pained silence, clearly distressed. After a few moments, a student yelled out from the back row, "We love you, Doc." Four hundred students jumped to their feet and began to clap furiously.

I went on to take Coles's course on "The Literature of Christian Reflection," which stood out at secular Harvard, and came to know him better when we had long discussions for my senior thesis on Robert Kennedy's ability to reach working-class whites and blacks in his 1968 presidential campaign. As a law student, I took his "Dickens and the Law" course, which used novels such as *Bleak House* and *Great Expectations* to ask important questions about the role of lawyers in society. He later wrote the foreword to my 1992 book, *Broken Contract: A Memoir of Harvard Law School*, which played out those larger themes. His call to pay attention to larger class issues that affect black and white alike has been the touchstone for my writing during the last 30 years as I've tried to apply civil-rights remedies to larger issues of class inequality—in K-12 education, higher education, and employment law.

In writing a book on school integration, I discovered that Coles's insight about Boston touched on an important educational truth: the socioeconomic status of a child's classmates has a much more profound impact on student achievement than his classmates' race. (Today, 100 school districts and charter schools educating 4.4 million students in 32 states are pursuing integration policies by socioeconomic status.) In another of my books, Coles's lens prompted me to suggest that just as the Civil Rights Act protects against discrimination based on race and ethnicity, so it should provide similar protections to people of all races who are trying to organize a union in order to join the middle class. The neglected injuries of class that Coles emphasized also helped me think through my books on affirmative action and legacy preferences in college admissions (see page 38).

Inequality in Today's Academy

Today, a modest number of Harvard professors are writing powerfully about class, including William Julius Wilson, Matthew Desmond, Robert Putnam, and Theda Skocpol. Elsewhere, Nancy Isenberg of Louisiana State University recently explored the impact of economic inequality in *White Trash: The 400 Year Untold History of Class in America*, and Berkeley's Arlie Hochschild wrote of conservative whites in *Strangers in Their Own Land: Anger and Mourning on the American Right*.

But these are the outliers. Among sociologists, race and gender have swamped class. The University of Illinois's Walter Benn Michaels has observed, "Although no remark is more common in American public life than the observation that we don't like to talk about race, no remark... is more false." He explains, "[I]n fact, we love to talk about race. And, in the university, not only do we talk about it; we write books and articles about it, we teach and take classes about it, and we arrange our admissions policies in order to take it into account." In part, Michaels suggests, we talk about race to *avoid* talking about class.

Labor law, for example, grapples with the great issue of class inequality. Teaching the subject was a smart move for rising young Harvard academics like Derek Bok and Archibald Cox. But in recent decades, Harvard labor-law professors took to spending a lot of time on other topics such as sports law. If anything, many professors see labor unions as a threat, as graduate students seek to organize for better treatment.

The irony is that just as class inequality was becoming a less salient topic in the *academy*, issues of class were becoming increasingly urgent in American *society*. If you ask Americans what development they are most proud of during the last half-century, many will suggest the advance of the civil-rights revolution. To be sure, not enough progress has been made, as recent events remind us—and women, too, continue to face serious bias. But it is undeniable, as Putnam notes in his recent *Our Kids*, that over the past 50 years, "the power of race, class and gender to shape life chances in America has been substantially reconfigured."

Racial intermarriage, for example, has become more common—but marriage across class lines is less frequent than it once was. Where single-parent household formation used to be heavily predicted by race, now it is increasingly associated with social class.

Housing segregation by race is slowly declining, while such segregation by income is on the rise. And the achievement gap between black and white students has slowly diminished, but during the past 25 years, the income-achievement gap has widened by 30 percent.

Unconscionable racial gaps in life expectancy remain, but in recent years, the big news, as reported by Princeton's Angus Deaton and Anne Case, is that life expectancy has *fallen* for working-class whites, reflecting the ravages of alcoholism, drug overdoses, and suicide. When the findings were released, it is telling that some liberals immediately found an uncharitable racial explanation: in "What's Eating White America?" for instance, Jared Keller wrote about Deaton and Case's findings: "For poor whites who lacked much economic power in the first place, the ascendency of women and minorities is particularly alarming (just look at the racial anxiety of the Tea Party.)" Apparently, we are to believe, white working-class people are slowly killing themselves because of the gains of women and minorities.

Elite disdain of white working-class people has only increased since the 2016 election. The analysis of liberal pundits, as Barbara Ehrenreich notes, has boiled down to: "What's wrong with them?...Why do they believe Trump's promises? Are they stupid or just deplorably racist?" After the election, for example, the *Daily Kos* published a particularly cruel article entitled, "Be happy for coal miners losing their health insurance. They're getting exactly what they voted for."

The reaction to white working-class Trump voters raises a profound question: why do white intellectual liberals, privileged by both race and class, seem to have so much more race guilt than class guilt? And what is to be done about the liberal academic blind spot regarding white working-class people?

The Elite Academy: Who Belongs?

Changing policies to genuinely consider class disadvantage in admissions is an important place to start. In the context of race relations, Harvard professor Gordon Allport's well-known "contact hypothesis" suggested that prejudice is reduced when people of different races come into contact on a basis of equal status. Exposing professors and fellow students to more bright young men and women of working-class backgrounds may deepen empathy and reduce the likelihood that academics will stereotype blue-collar people as stupid or backward.

Harvard, to its enduring credit, has made great strides on racial diversity. The admitted class of 2020 is 13.7 percent African American, 22.1 percent Asian American, 12.6 percent Hispanic, and 2.6 percent Native American or Pacific Islander.

But its economic profile looks nothing like America's. Despite concerted efforts to boost financial aid in recent years, enormous gaps remain. Looking at individuals born between 1981 and 1991, Raj Chetty of Stanford and his colleagues found that Harvard students from the most affluent 10 percent of the population outnumbered those from the bottom 90 percent. Indeed, by income, about as many Harvard students came from the top 1 percent as from the bottom 60 percent.

Elite higher education as a whole faces the same problem. As Richard Sander of UCLA Law School notes, the underrepresentation of low-income students at selective law schools is "comparable to racial representation fifty years ago, before the civil rights revolution." In the recent best seller *Hillbilly Elegy*, J.D. Vance articulated how out of place he felt as a low-income white law student at Yale: "Very few people at Yale Law School are like me. They may look like me, but for all of the Ivy League's obsession with diversity, virtually everyone—black, white, Jewish, Muslim, whatever—comes from intact families who never worry about money."

The virtual absence of working-class students on elite campuses has consequences broader than those for the students themselves. It is detrimental to the *research* conducted by professors. It makes it easier for academics to engage in lazy stereotypes about groups of students they do not know. It also makes it more likely that faculty will avoid talking about hard issues of class. Moreover, because faculty members themselves are drawn mostly from the ranks of elite colleges, the paucity of working-class students in one generation becomes a paucity of professors with working-class origins in the next.

The economic segregation of selective universities is the highly predictable result of a number of admissions policies that generally exclude working-class students, particularly those who are white. While holistic admissions policies are supposed to include consideration of economic hurdles that students have overcome, careful analysis by the late William Bowen, a former Princeton president, published in 2005 found that elite colleges do not in fact weight economic disadvantage in the way they do other factors. Looking at 13 selective colleges (including Harvard), Bowen found that for a student with a given academic profile, being a recruited athlete boosted one's admissions chances by 30.2 percentage points. Being an underrepresented minority increased one's chances by 27.7 percentage points; a legacy, by 19.7 percentage points; a first-generation college student, by 4.1 percentage points; and in the bottom income quartile, not at all. Another study of elite private colleges, by Princeton's Thomas Espenshade and his coauthor, Alexandria Radford, found that, holding academic ability constant, upper-middle class whites were three times more likely than low-income whites to be admitted to selective private colleges.

Imagine how a white working-class student would think about these findings. Legacy preferences are the biggest slap in the face, because they give extra points to a competitor who already has enjoyed considerable educational advantage. (And research suggests legacy preferences don't even boost alumni giving.) Similarly, consideration of race obviously doesn't help white working-class students, and in fact tends to aid relatively advantaged minority students: Bowen and Derek Bok found in a seminal study that 86 percent of African Americans at selective colleges are middle or upper class. Is it any surprise that when a demagogue comes along and tells white working-class people that the system the elites have built is rigged against them, they follow him?

Legacy preferences give extra points to a competitor who already has enjoyed considerable educational advantage.

Progressive leaders used to know this. When faced with the question of how to remedy our nation's history of discrimination, Martin Luther King Jr. said class-based policies would disproportionately benefit black people but would also be inclusive of lower-income whites. "It is a simple matter of justice," he wrote, "that America, in dealing creatively with the

task of raising the Negro from backwardness, should also be rescuing a large stratum of the forgotten white poor." In addition, King was keenly aware of the politics of leaving out disadvantaged whites. He wrote: "It is my opinion that many white workers whose economic condition is not too far removed from the economic condition of his black brother, will find it difficult to accept a 'Negro Bill of Rights,' which seeks to give special consideration to the Negro in the context of unemployment, joblessness, etc. and does not take into sufficient account their plight (that of the white worker)."

I saw a beautiful manifestation of King's vision—and Robert Kennedy's political coalition—when I spoke last year at Harvard to a multiracial audience of first-generation college students from across the Ivy League and other selective institutions. The students, disproportionately African American and Latino, reflected the reality that race continues to affect economic status. But these students, who had impressively overcome odds, were fully allied with the white and Asian students in the audience, who also faced educational disadvantages. The group represented the very mix of students who had been pitted against one another in Boston's busing crisis, but here they were, fighting for a common cause: raising the tiny numbers of economically disadvantaged students at top colleges.

The Stakes in 2017

The exclusion of low-income and working-class students from selective campuses has always been an issue of serious moral concern, but the 2016 election raised the stakes: we now face a genuine crisis in American democracy. The failure to provide more avenues of success for lower-middle-income whites has created an opening for America's first presidential-level demagogue. And the failure to admit meaningful numbers of working-class whites to selective colleges has made it much more difficult for professors to understand an important and alienated swath of their own society. It is not a healthy thing for our democracy when many of America's leading minds know much less about white working-class people than do white nationalists like Steve Bannon [M.B.A. '85].

The heartening story of George Wallace voters turning to Robert Kennedy in 1968 has now been reversed, as a twenty-first-century version of Wallace—who attacked minorities, the press, and an independent judiciary—garnered the votes of some who had previously supported America's first black president.

The irony is that the faculty neglect of white working-class people is likely to have the most devastating impact on the very racial and religious minorities whom elite faculty members do, to their credit, care about. Journalist Fareed Zakaria [Ph.D. '93, LL.D. '12] noted after the election that if the primary sin of the right is racism, the cardinal sin of the left is elitism. Robert Coles has shown it is possible to avoid both vices. Now, driven to the precipice, will the academy follow his lead?

Richard D. Kahlenberg '85, J.D. '89, is a senior fellow at The Century Foundation, and the author or editor of 16 books including Broken Contract: A Memoir of Harvard Law School (1992); The Remedy: Class, Race and Affirmative Action (1996); All Together Now: Creating Middle-Class Schools through Public School Choice (2001); Affirmative Action for the Rich: Legacy Preferences in College Admissions (2010); *and (with Moshe Marvit),* Why Labor Organizing Should Be a Civil Right (2012).

Yellow Wolf

Brief life of a Native American witness to history: c.1855-1935

by DANIEL J. SHARFSTEIN

For the first 50 years of his life, Yellow Wolf preferred silence and solitude. As a boy, he journeyed alone into the mountains ringing Oregon's Wallowa Valley, fasting until animal spirits appeared and gave him his power as a hunter and warrior: to strike like thunder, to sense enemies from far away. The spirits instructed him to fight alone whenever possible during his first and last war, waged from June to October 1877 between the U.S. Army and several hundred Nez Perce families who resisted leaving ancestral lands for an Idaho reservation. Yellow Wolf was 21 during the Nez Perce War. In the decades that followed, while his uncle Chief Joseph drew large crowds for speeches about the injustice of his people's plight, Yellow Wolf said nothing of his months in combat, not even to his children.

But he spent his last three decades in running conversation. Exiled with Chief Joseph's band to the Colville Indian Reservation in Washington, he began spending summers in the Yakima Valley as a migrant hops picker, earning a dollar a box. On his way home to the reservation in October 1907, he left an ailing horse with Lucullus Virgil McWhorter, a local sheep rancher. The next year, McWhorter returned the horse and invited Yellow Wolf and the rest of his band to camp on his land. McWhorter, who had moved west from Ohio specifically to be near Native Americans, tried talking with his guests. The children knew enough English to say that they were Chief Joseph's band. McWhorter asked Yellow Wolf if he had fought in the summer of 1877.

Chief Joseph had died four years earlier. Yellow Wolf was 52. Despite fearing reprisals for the blood he had shed, he decided to find an interpreter. "I am going to say things, and I need you!" he told a young Nez Perce man fluent in English. "It is hard work for me—this talking. Like the heaviest lifting, it buzzes in my head!"

Yellow Wolf described himself as the son of a wealthy Nez Perce rancher and a woman who was close kin to Joseph. As a boy, he dreamed of being a warrior, designing a war club with a long handle so he could kill from the saddle. After his parents traded a horse for a 16-shot rifle, he hunted bear and buffalo. When he traveled home to Oregon from a hunt in Montana, he carried enough money to ride the last leg by stagecoach.

McWhorter, like many Americans, was familiar with the Nez Perce War, when 750 men, women, and children outran and outfought the army across some 1,400 miles through the northern Rockies and the buffalo plains, only to be captured a day or two shy of the Canadian border. But Yellow Wolf caught McWhorter by surprise. For one thing, his story gave the lie to official accounts, which greatly exaggerated the number of Nez Perce warriors, covered up a vicious massacre of their women and children along the Big Hole River in Montana, and wrongly hailed Joseph as a battlefield genius, some combination of Achilles, Hannibal, and Napoleon. Joseph, Yellow Wolf maintained, was not a war chief, tending instead to the women, children, and elderly and to the horse herd.

Beyond the factual corrective, Yellow Wolf's words had the allusive power of myth. At the conflict's outbreak, he was untested and carefree. By the surrender, when he hid his rifle in his pants leg, crossed the army's siege line, and escaped to Canada, he was a respected leader. His coming of age happened by degrees, from summer solstice to first snow, with each soldier he killed, each of his own narrow escapes from death, and every friend he watched die—with each new land that he encountered and every dream of the world he had left behind.

The story inspired McWhorter to spend decades tracking down Nez Perce War survivors. He hired Yellow Wolf and other warriors to perform at rodeos and fairs so he could interview them during off hours. To maintain off-season contact, he hired them to make feathered headdresses for movie studios and theater companies: some of the first filmed Westerns may have featured war bonnets made by Yellow Wolf. McWhorter also took Yellow Wolf on extended road trips to battlefields, so he could map the events of the war. And with every hops harvest, the two men would sit down and talk.

After 25 years of conversation, Yellow Wolf hoped he would live to see the book McWhorter was writing. Nearing 80 and frail, he understood the power of his words. The government, he told McWhorter, had "robbed us of all our country, our homes. We got nothing but bullets." But the stories he had held onto created an unimpeachable claim to land, liberty, and equality. "White people... are smothering my Indian rights," he said. "The young generation behind me, for them I tell the story. It is for them! I want next generation of whites to know and treat the Indian as themselves."

He died five years before *Yellow Wolf: His Own Story* was published. McWhorter died in 1944, struggling to write a larger, more general history of the war. His papers went to Washington State University, which expected a few Indian artifacts for its "Treasure Room." Instead, it received 26 linear feet of interview transcripts, correspondence, and other manuscripts about Nez Perce life, lore, and religion. The gift forced Washington State to change how it funded its library, and turned it, in essence, into a modern research university. The collection, rooted in Yellow Wolf's words, is one of the most important archives of the Native American experience.

Daniel J. Sharfstein '94, a professor of law and history at Vanderbilt, is the author of the newly published Thunder in the Mountains: Chief Joseph, Oliver Otis Howard, and the Nez Perce War (*W.W. Norton*).

LUCULLUS V. MCWHORTER COLLECTION/MANUSCRIPTS, ARCHIVES AND SPECIAL COLLECTIONS AT THE WASHINGTON STATE UNIVERSITY LIBRARIES

THE LIBRARY OF CONGRESS

A portrait of Yellow Wolf circa 1909, and a snapshot taken in 1909 showing him seated between rancher Lucullus McWhorter and their interpreter, Thomas Hart, a younger Nez Perce man who had served in the U.S. Army during the Spanish-American War and spoke good English.

The Lost Museum

Teachings of the Philosophy Chamber, recreated

by Jonathan Shaw and Jennifer Carling

FOUR YEARS AGO, Ethan Lasser was searching in Harvard's archives for clues to the whereabouts of a portrait by John Singleton Copley, missing since the American Revolution, when he stumbled across records of something even more compelling: a lost *museum*. Repeatedly, the archives referred to a place called "the Philosophy Chamber." This was "so intriguing and mysterious," says the Stebbins curator of American art, "that the name got me digging a bit deeper." He discovered that, in addition to three massive Copley portraits that once hung together on the east wall of Harvard Hall, "there were all kinds of other objects and activities in this room." This launched Lasser on a quest to find the objects, many now scattered in obscure attics and on dusty shelves at Harvard and beyond. "Uniquely in North America," he says, "a significant proportion still survive." He aimed to reunite them, to recreate this lost museum.

In the eighteenth century, when the collection was formed, objects were understood to hold information. They were instructive. Instruments such as pendulums and prisms, as well as paintings, minerals, natural history specimens, and plaster casts of classical sculptures were among the many objects used to teach students—and were considered as critical to pedagogy as books. When a 1764 fire destroyed an earlier Harvard Hall and the College's "philosophical apparatus," for example, Hollis professor John Winthrop suspended his course in physics, mathematics, and astronomy.

In an essay titled "Harvard's Teaching

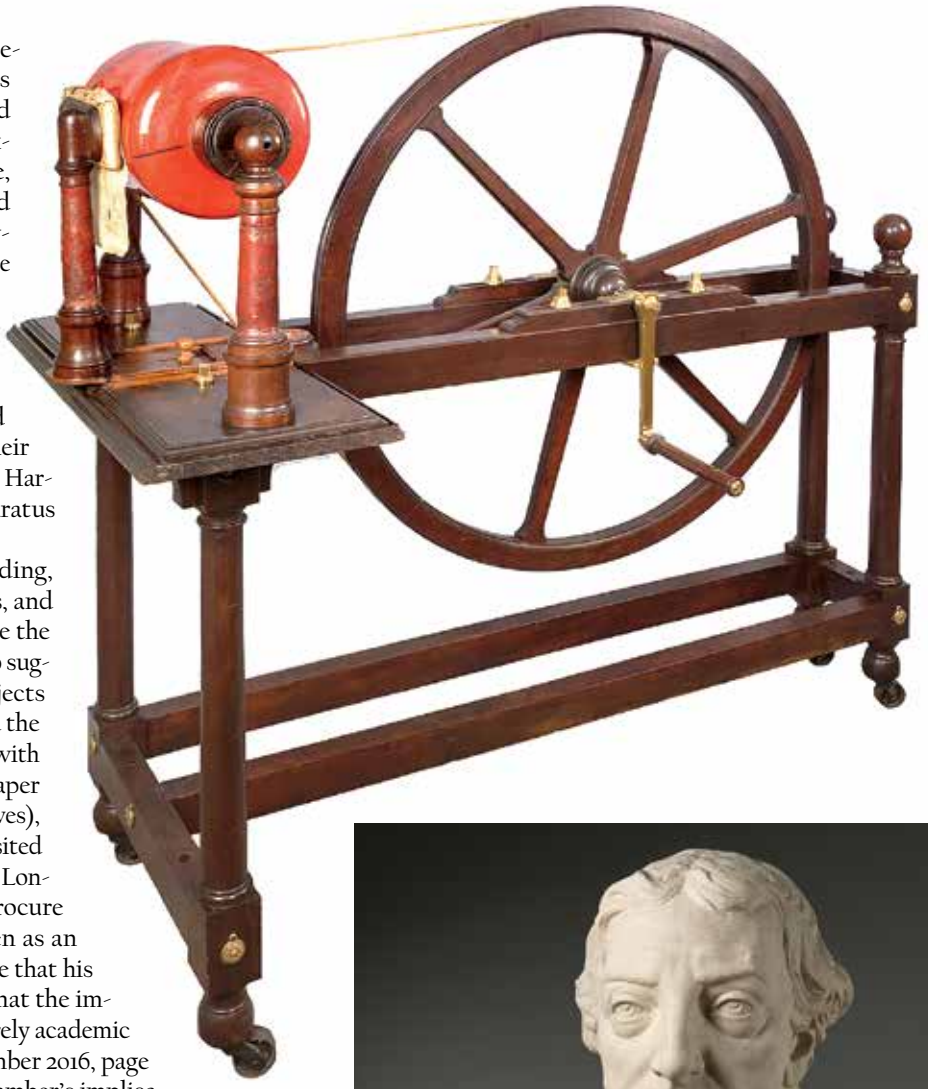
***South Front of Harvard Hall at Cambridge in New England* (1767), an ink, pencil, and watercolor drawing on paper by Pierre du Simitière. The Philosophy Chamber was on the second floor.**

Benjamin Franklin, A.M. 1753, while in England protesting the Stamp Act, helped Harvard secure new scientific instruments from abroad after a devastating 1764 fire. This jointed mahogany steeple (George Adams I or II, c. 1765) may have been among them. When struck with electricity from an electrical machine (see next page), the structure topples, unless grounded with a lightning rod—a Franklin invention.

AT LEFT: COURTESY OF THE COLLECTION OF HISTORICAL SCIENTIFIC INSTRUMENTS, © PRESIDENT AND FELLOWS OF HARVARD COLLEGE. ABOVE: COURTESY OF THE LIBRARY COMPANY OF PHILADELPHIA

Cabinet," Lasser writes that this was because "the central theories that students needed to master in order to understand the workings of nature" could not be explained without the use of "the balance, pulley, lever, screw, wedge, and inclined plane to illustrate the 'mechanical powers'...pendulums and projectiles to show the laws of motion...and prisms to separate light into the colors of the spectrum." Winthrop also used an orrery, a mechanical model of the solar system, to explain the "motion of the Moon round the Earth & of both round the Sun as their Center." His class resumed in 1766, when Harvard Hall had been rebuilt and the apparatus partially replaced.

The layout of the reconstructed building, where all Harvard's books, instruments, and collections of objects were housed above the first-floor chapel and common room, also suggests that, pedagogically, texts and objects were on equal footing: a library occupied the west room, and the Philosophy Chamber, with its elegant woodwork and flocked wallpaper (a fragment of which survives in the archives), occupied the east. George Washington visited the chamber; Benjamin Franklin, then in London on a diplomatic mission, helped procure scientific instruments; and Copley, even as an expatriate after the war, sought to ensure that his work was displayed there, suggesting that the importance of this space was more than purely academic (see "Facing Harvard," November-December 2016, page 42, on the Copley paintings). And the chamber's implications for pedagogy reverberate into the present: the idea that objects embody knowledge that texts cannot underlies the recent redesign of the Harvard Art Museums as a teaching machine for the modern University (see "Unleashing Harvard's Art Mu-



Turning the crank of this cylinder electrical machine (built by Benjamin Martin, c. 1766) generated an electrostatic charge used in scientific demonstrations.

The Harvard Corporation thanked Franklin in 1769 for sending from London this "fine bust" (c. 1766-69), by Joseph Wilton, of William Pitt the Elder, Earl of Chatham, "that great assertor of American liberties...." "The Great Commoner" advocated for the repeal of the Stamp Act in 1766. Among Harvard's first sculptures, this bust stood in the Philosophy Chamber in the years before the Revolution.

A faded sample of the bold, block-printed, and flocked wallpaper (British, 1764-66), donated by John Hancock, that hung on the Philosophy Chamber's walls.

CLOCKWISE FROM TOP: COURTESY OF THE COLLECTION OF HISTORICAL SCIENTIFIC INSTRUMENTS. © PRESIDENT AND FELLOWS OF HARVARD COLLEGE; HARVARD ART MUSEUMS. PHOTOGRAPH BY ANTHONY SIGEL. © PRESIDENT AND FELLOWS OF HARVARD COLLEGE; HARVARD LIBRARY IMAGING SERVICES. © PRESIDENT AND FELLOWS OF HARVARD COLLEGE

Could North America, then on the verge of creating a new society modeled on the Athenian city-state, trace an origin to the Greeks?

seums," November-December 2014, page 18). As Agassiz professor of the humanities Jennifer L. Roberts, a contributor to the exhibition that will recreate and reinterpret the Philosophy Chamber, puts it: "This is a great moment for this museum to consider its own place in the history of Harvard."

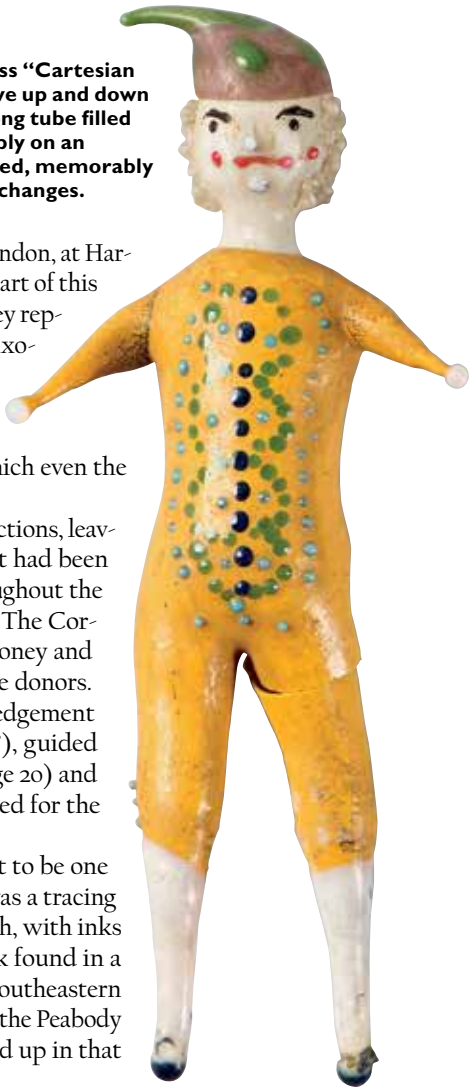
Transatlantic Exchanges

The creation of the Philosophy Chamber (named for natural philosophy, the study of nature and the physical universe) was hardly an isolated exercise in the 1760s. Mungo Campbell, deputy director of The Hunterian, the great museum at the University of Glasgow that originated around the same time, notes that a whole range of transatlantic investigations date to this period, rooted in collections like the one founded in the 1730s at the University of Göttingen by the Hanoverian dynasty. "Göttingen was a university with a museum at its heart," says Campbell, "guided by similar ideas that a collection should generate knowledge as readily from a Rembrandt as from insects, geological specimens, and art

After capturing the original marble sculpture *Laocoön and His Sons* during an invasion of Italy, the French began selling reproductions like this plaster cast of the head of Laocoön, by Jean-André Getti (c. 1803). These objects taught students about the wonders of ancient sculpture. Professor of Greek literature (and later Harvard president) Edward Everett, A.B. 1811, wrote that they hinted at the magnitude of what was lost during the destruction of Rome in antiquity.

Joseph Pope of Boston, a clockmaker, created this "grand orrery" (c. 1776-87), which is five and half feet in diameter. A model of the solar system designed to demonstrate the motions of six of the known planets and their 10 satellites, its purpose was equally to establish American prowess in science and the arts. The gilded statuettes that ring the mahogany case place Benjamin Franklin and Massachusetts governor James Bowdoin, A.B. 1745, a noted patron of science, alongside Sir Isaac Newton.

FROM TOP: HARVARD ART MUSEUMS DEPARTMENT OF DIGITAL IMAGING AND VISUAL RESOURCES. © PRESIDENT AND FELLOWS OF HARVARD COLLEGE; COURTESY OF THE COLLECTION OF HISTORICAL SCIENTIFIC INSTRUMENTS. © PRESIDENT AND FELLOWS OF HARVARD COLLEGE (4)



Rendered as clowns, acrobats, or devils, these glass "Cartesian Divers" (created by Benjamin Martin, c. 1765) dove up and down in response to pressure changes in a three-foot-long tube filled with water. As the instructor pressed imperceptibly on an elastic membrane atop the tube, the figures danced, memorably demonstrating the effect of hydrostatic pressure changes.

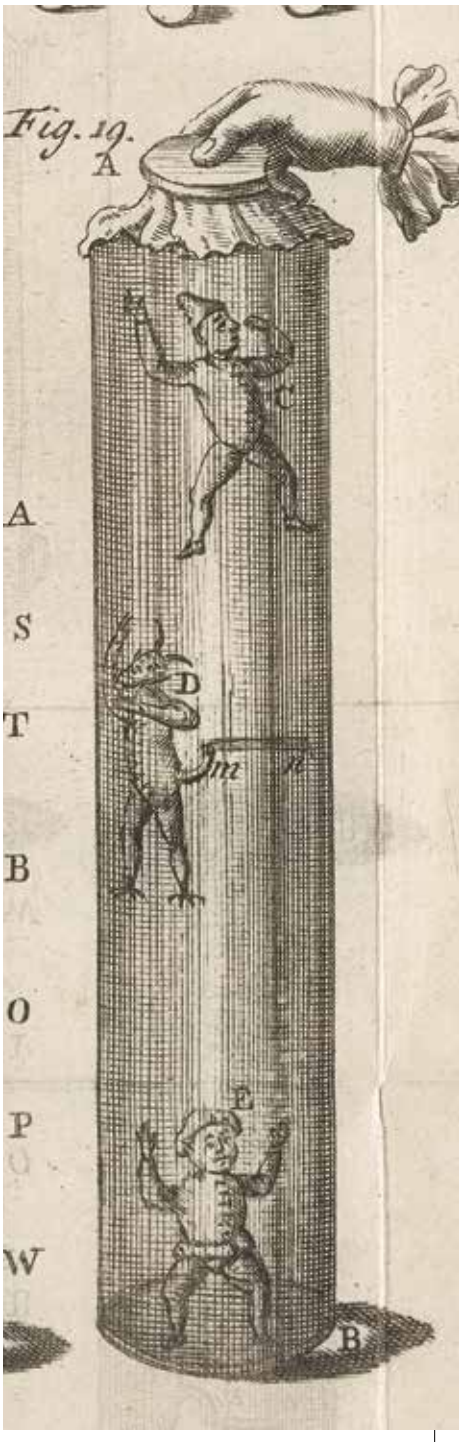
books." The repositories at the Royal Society in London, at Harvard, Yale, and Princeton were all, he explains, "part of this Hanoverian world of research and teaching." They represented a decisive movement toward ordered, taxonomically logical collections specifically gathered and catalogued to support the advancement of knowledge, says Campbell, and away from an antiquarian mode of collecting, the model on which even the British Museum had initially been formed.

After the fire of 1764 decimated Harvard's collections, leaving nothing but the books and instruments that had been out on loan, the College published appeals throughout the colonies and in England seeking replacements. The Corporation then recorded the numerous gifts in money and kind that arrived in Cambridge, and thanked the donors. These records, some vague at best (an acknowledgement for "a copy of the figures on a rock at Taunton"), guided Lasser (see Harvard Portrait, May-June 2016, page 20) and his colleagues in finding those objects designated for the Philosophy Chamber.

The "copy of the figures on a rock" turned out to be one of the most illuminating of Lasser's finds. This was a tracing on paper from 1768, 11 feet long and three feet high, with inks still vibrant, of an inscription on a massive rock found in a tidal zone at the mouth of the Taunton River in southeastern Massachusetts. Lasser, with help from curators at the Peabody Museum, had found the full-scale drawing rolled up in that museum's storage.

In the eighteenth century, the inscriptions on the rock were attributed by some scholars to Phoenician sailors. Could North America, then on the verge of recreating a new society modeled on the Athenian city-state, trace an origin to the Greeks? Or were the marks caused by erosion, the work of countless tides? As study of the rock continued, no two renderings of the inscriptions matched, though many were made. The Royal Society commissioned its own copy, so its experts could attempt to decipher the markings. Later theories centered on the Chinese, says Lasser, and then "in the nineteenth century, the Vikings." Consensus on the markings' meaning proved impossible.

"The drawing became the catalyst for all kinds of European, British, and French discus-



Wedgwood jasperware medallions depicting scenes from antiquity brought the classics to life for students in the eighteenth century. Here, Thetis dips Achilles in water from the river Styx to render him invulnerable (except where she grips him by the heel). The scene had pedagogic meaning, too: in the frontispiece to *Émile, Or, On Education* (which entered Harvard's library in 1774), Jean-Jacques Rousseau used the image to underscore his contention that children should be protected from the complexity of society, including formal education, until the age of 15.

sions about who was in North America first," Lasser continues. "So that mysterious entry unlocked not only this extraordinary object but also this story of transatlantic communication, America's role in global history, and Harvard's role in creating the specimens upon which global history was built."

Eighteenth-century attitudes toward indigenous peoples in North America and elsewhere blinded most of the scholars who studied the markings from seeing what now seems obvious: that the Wampanoag peoples of southeastern Massachusetts made them. (For more on evolving interpretations in anthropology, see the Treasure on the Peabody Museum, page 80.)

Denouement for a Collection

And then, for the Philosophy Chamber, "the end comes abruptly," Lasser says. "They are continuing to receive donations and then in the 1810s, comes a proposal. 'There are so many books coming in that there is no room for them all. Let's take over the Philosophy Chamber.' There is no record in the minutes of someone saying, 'No, that is a terrible idea,'" he recounts. "About five years later, the Corporation contracts with a carpenter to remove the partitions that separate the library from the Philosophy Chamber to actually make it one room."

"Why did it happen so easily?" Lasser asks rhetorically. "Harvard was growing and knowledge was breaking apart into disciplines, each taught in its own physical space. Whereas natural history, astronomy, physics, and biology were once all taught in one room, now there is a chemistry lab. [It's] an era of specialization with professors for different fields. The idea of a room to contain the whole body of knowledge—by 1810, it is just not how they think anymore." The centrifugal force of specialization was not limited to the academy. In Harvard's case, collections were spun off to the natural history museum in Boston, to a coin collection at the Boston Athenaeum, and to the Massachusetts Historical Society.

At the same time, Lasser says, "The objects are decaying. Bugs are getting into taxidermy, things are breaking, scientific instruments are checked out like a book and never returned. The collection is literally crumbling." Still, he continues, "It is not insignificant that the library takes over. Do you want to learn from things or from books? Clearly—and it is not unique [to Harvard]—the decision is to go with texts, not with coins, say, or minerals. That is another

This copy (1719-20) by American artist John Smibert of Anthony van Dyck's *Cardinal Guido Bentivoglio* (1623) was donated by artist John Trumbull, whose portrait of George Washington also hung in the Philosophy Chamber. The Bentivoglio was both given and received with the hope "that this copy will be highly useful to beginners."

In 1778, a "Miss Meriam" donated a flattened rattlesnake skin like this one for the study of natural history.

Professor of natural history William Dandridge Peck prepared fish specimens by slitting them in half, removing bones, organs, eyes, and flesh, and sewing the skins to paper. Specimens like this flattened lumpfish were used to teach Linnaean classification in the Philosophy Chamber.

FROM TOP: HARVARD ART MUSEUMS DEPARTMENT OF DIGITAL IMAGING AND VISUAL RESOURCES. © PRESIDENT AND FELLOWS OF HARVARD COLLEGE; COURTESY OF THE HERPETOLOGY DEPARTMENT, MUSEUM OF COMPARATIVE ZOOLOGY. PHOTOGRAPH BY JEREMIAH TRIMBLE. © PRESIDENT AND FELLOWS OF HARVARD COLLEGE; COURTESY OF THE ICHTHYOLOGY DEPARTMENT, MUSEUM OF COMPARATIVE ZOOLOGY. PHOTOGRAPH BY ANDREW WILLISTON. © PRESIDENT AND FELLOWS OF HARVARD COLLEGE




More than 800 minerals were housed in a custom cabinet 18 feet long, perhaps the largest piece of case furniture in New England at the time, and the largest object from the Chamber to remain missing. Shown (from left) are fluorite, barite sulfate, silver, and barite.

***Vesuvius Erupting at Night* (1767), by Pierre-Jacques Volaire, united art with science in the service of pedagogy. A similar work, now lost, hung above the fireplace near the bust of the Earl of Chatham, replacing the John Singleton Copley portrait of despised royal governor Sir Francis Bernard, from which the heart was cut out in the dead of night in 1768.**

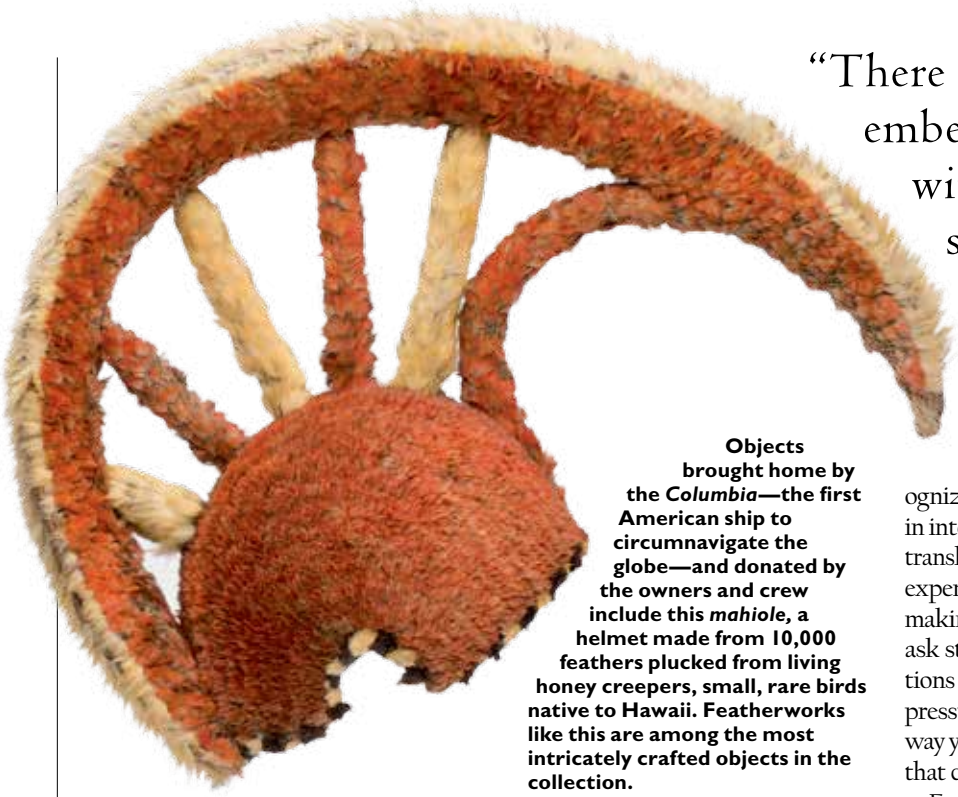
movement: that we don't trust the objects any longer."

The shift to pedagogy based on texts and lectures was swift and decisive. Jennifer Roberts points out that a collection of books in a library "allows you to imagine that you have created a truly comprehensive collection of knowledge in a much smaller space" than that required for a collection of objects or instruments. In this sense, "The book is a kind of economical information technology that can masquerade as a substitute for the objects. I imagine that in 1816, they are able to think, 'We are getting rid of the actual natural history specimens, but we have all these books on natural history, that is what is most important.' There is this kind of abstraction of knowledge into information that has been going on for the last 200 years." (Read more about her views on working with objects—focusing on a Copley painting—in "The Power of Patience," November-December 2013, page 40.)

The specialization of knowledge also affects the kind of knowledge students are expected to acquire. "Whereas anyone can read a book, presumably, not anyone can look at a piece of feldspar and tell you what it is and what it means," Roberts says. "Suddenly these objects are no longer universally legible, and there is no longer an ambition to have them *be* universally legible. An eighteenth century Harvard student, for example, might be expected to identify a mineral specimen. But by the twentieth century," she explains, "only a geology major would be expected to do that."

Art historians are still trained to extract information and meaning from otherwise mute objects. Outside the realm

TOP: COURTESY OF THE MINERALOGICAL AND GEOLOGICAL MUSEUM. PHOTOGRAPHS BY THERESA SMITH. © PRESIDENT AND FELLOWS OF HARVARD COLLEGE (4); BOTTOM: COURTESY OF COMPTON VERNEY ART GALLERY AND PARK, WARWICKSHIRE, U.K.



Objects brought home by the *Columbia*—the first American ship to circumnavigate the globe—and donated by the owners and crew include this *mahiole*, a helmet made from 10,000 feathers plucked from living honey creepers, small, rare birds native to Hawaii. Featherworks like this are among the most intricately crafted objects in the collection.

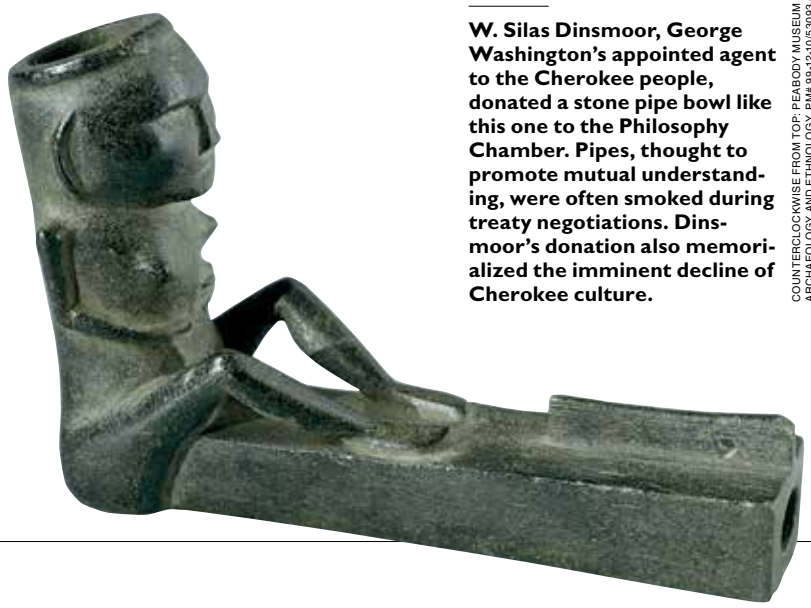
"There are forms of intelligence embedded in interactions with objects that aren't straightforwardly translatable into text."

of visual culture, however, such skills have become rare. Now, that may be changing. Roberts describes a renaissance in object-based teaching, one that recognizes that "there are forms of intelligence embedded in interactions with objects that aren't straightforwardly translatable into text." One such form is the kind of tactile, experiential knowledge that a skilled artisan acquires by making things. "The example that I use," she says, "is to ask students how they would write down the instructions for driving a stick shift. It is a bodily knowledge of pressure, sequence, and movement that is central to the way you exist in the world if you drive this kind of car, but that can't be efficiently translated into text."

Even in philosophy and literary studies, Roberts continues, an approach akin to the art historians' has arisen under the catchall term of "new materialism." Philosophers are allowing that "maybe there is philosophical knowledge in objects" and the field should not be only about "an ability to abstract away from things. So, there is a lot of movement right now in the academy toward unlocking the knowledge and information that is embedded in material objects, things that aren't textual or numerical."

More professors are accordingly integrating forms of experiential learn-

Sailors on the *Columbia* were fascinated by the wooden lower-lip ornaments worn by indigneous women in the Pacific Northwest. The use of these labrets to extend the lower lip is illustrated by the wooden doll, which was probably made specifically for trade with Western visitors.



W. Silas Dinsmoor, George Washington's appointed agent to the Cherokee people, donated a stone pipe bowl like this one to the Philosophy Chamber. Pipes, thought to promote mutual understanding, were often smoked during treaty negotiations. Dinsmoor's donation also memorialized the imminent decline of Cherokee culture.

Paintings (c. 1770-1790) by Agostino Brunias, an Italian artist working in the Caribbean, depict free and enslaved women of mixed and African descent. The works, donated by the Boston-born attorney general of St. Kitts, idealize plantation life, showing a *French Mulatress of St. Dominica and a Negro Woman* and *Mulatresses and Negro Woman Bathing,* as a white peeping Tom observes. Labels on the backs of these paintings suggest they may have been used to teach theories of racial classification in the natural-history curriculum.

ing into their teaching, she says. "Instead of having students sit and listen to you talk for an hour, you give them something to do with their hands, a puzzle to solve, some kind of multidimensional experience. In a way," she says, "we are circling back to this eighteenth-century moment, when it was assumed that if you wanted to understand a complex physical law, the most effective way to learn that was from a scientific demonstration in a classroom, where the instructor would show something or provide a bodily experience."

And so, at this moment of pedagogical rediscovery, after 200 years in obscurity, the "lost museum"—itself rediscovered—will reopen on May 19 as an exhibition at the Harvard Art Museums, with close to 100 of the original objects on display. (The exhibition will travel to The Hunterian in 2018.) Viewers who become especially intrigued, take note: many of the objects are still missing. ▽

The fame of Dighton Rock, a 40-ton boulder in southeastern Massachusetts that lay in the mouth of the Taunton River, outlasted the Philosophy Chamber itself, because the inscriptions on its face were thought to be key to understanding the peopling of America. In this 1853 daguerreotype taken by Horatio King of Seth Eastman, an artist active in recording Native American life, the rock face may have been "chalked" to enhance the visibility of the inscriptions.

In the eighteenth century, an indigenous origin for these petroglyphs was thought unlikely. The life-size, 11-foot-long by three-foot-high tracing (below)—which Stephen Sewall, A.B. 1761, made of the inscriptions in 1768—was seen variously as evidence of visits by Norsemen, ancient Phoenicians, East Asians, Egyptians, or Israelites. Yale president Ezra Stiles cited the carvings as evidence that Native Americans were the cursed children of Canaan destined by biblical prophecy to be the slaves of the white colonists.

CLOCKWISE FROM TOP LEFT: PEABODY MUSEUM OF ARCHAEOLOGY AND ETHNOLOGY, PM# 975-5-30/9416B (DIGITAL FILE 99320188). © PRESIDENT AND FELLOWS OF HARVARD COLLEGE; PEABODY MUSEUM OF ARCHAEOLOGY AND ETHNOLOGY, PM# 975-5-30/9416D (DIGITAL FILE 99320190). © PRESIDENT AND FELLOWS OF HARVARD COLLEGE; COLLECTION OF THE MASSACHUSETTS HISTORICAL SOCIETY, BOSTON; PEABODY MUSEUM OF ARCHAEOLOGY AND ETHNOLOGY, PM# 987-28-10/45474 (DIGITAL FILE 99270006). © PRESIDENT AND FELLOWS OF HARVARD COLLEGE

A Language Out of Nothing

Searching for the nature of speech, sign, and universal grammar

by Marina N. Bolotnikova

Kathryn Davidson discussing her research

For the first time in more than two decades, Harvard began offering an American Sign Language (ASL) course last fall. Assistant professor of linguistics Kathryn Davidson, who works on sign languages, happened to join the linguistics department in 2015—at the same time that students were calling for ASL classes—and signed the paperwork to get the course approved. When she was a graduate student at the University of California, San Diego, Davidson says, sign language researchers were everywhere; at Harvard, ASL is much less visible, and she hopes, through ASL classes and interpretations at events, to make sign language "a more natural part of what's going on." But she doesn't teach the class, and language instruction has little to do with her research. She isn't a signer of ASL—most linguists who conduct research on a language aren't necessarily fluent speakers. Davidson *is* a semanticist, which means she's interested in how human beings can hear (or see, in the case of sign languages) infinitely many new sentences they've never heard before and understand them. She gesticulates in excitement when she talks about language, almost flailing: "What is this *thing* that we're so good at?"

Even for the educated public, understanding what linguists do can be an ordeal. The simplest definition—that linguistics is "the scientific study of language"—does not say much. We all use language, so what could be so complicated about studying it? People often assume that linguists are concerned with enforcing prescriptive rules about language—one shouldn't end a

BACKGROUND: ISTOCK

Photographs by Jim Harrison

sentence with a preposition, use a split infinitive, and so on—but linguists actually have no interest in top-down rules. (At a dinner party, an especially bellicose linguist might point out that both of those "rules" were forcibly imported by nineteenth-century grammarians and have nothing to do with English grammar.) What they find much more interesting are the naturally occurring rules of language that people pick up effortlessly as small children. People's innate capacity for language might also explain why it's hard to understand what linguists study: we're so good at internalizing the rules of language that it's difficult to surface them as rules that even need studying.

But Davidson finds that when she tells people she works with sign language, they get it: "Somehow that gives people the signal that you're interested in the brain and how different languages differ." Davidson's work on sign languages spans the divide between applied and theoretical linguistics, contributing to both abstract debates about language in the mind and questions with immediate impacts on people's lives. Harvard's small but formidable linguistics department thrives on its interest in the union of theory and empirical research. "Our department retains its ties to languag*es*, plural, in a way that a lot of other modern linguistics departments don't," Davidson says. "We definitely have strong theorists...but all of them are really also strongly tied to working on specific languages that aren't English."

To explain the human capacity for language, MIT linguist Noam Chomsky, JF '55, LL.D. '00, supposed that there must be a uniquely human language "organ" embedded in the DNA, with neural hardware devoted specifically to acquiring and processing language. Chomsky composed the now-famous sentence, "Colorless green ideas sleep furiously," as an example of an utterance that makes no sense semantically, and yet any native English speaker could recognize it as a grammatically valid English sentence. He proposed the language organ to account for our ability to assimilate new sentences, regardless of their semantic content. Drawing on Chomsky, Johnstone family professor of psychology Steven Pinker popularized the concept of language as a discrete endowment in his 1994 book, *The Language Instinct.*

Whether such an endowment really exists remains an open question within linguistics. At the other extreme, some academics argue that language is merely a consequence of humans having a lot of gray cells—that it does not differ fundamentally from any other learned skill, like adding numbers or playing the piano. Those who believe the latter tend to come from fields outside linguistics, says Diebold professor of Indo-European linguistics and philology Jay Jasanoff. "Linguists are infinitely appreciative of how unique and special this language capacity is," he adds, and tend to take for granted that a language organ, in some form, exists.

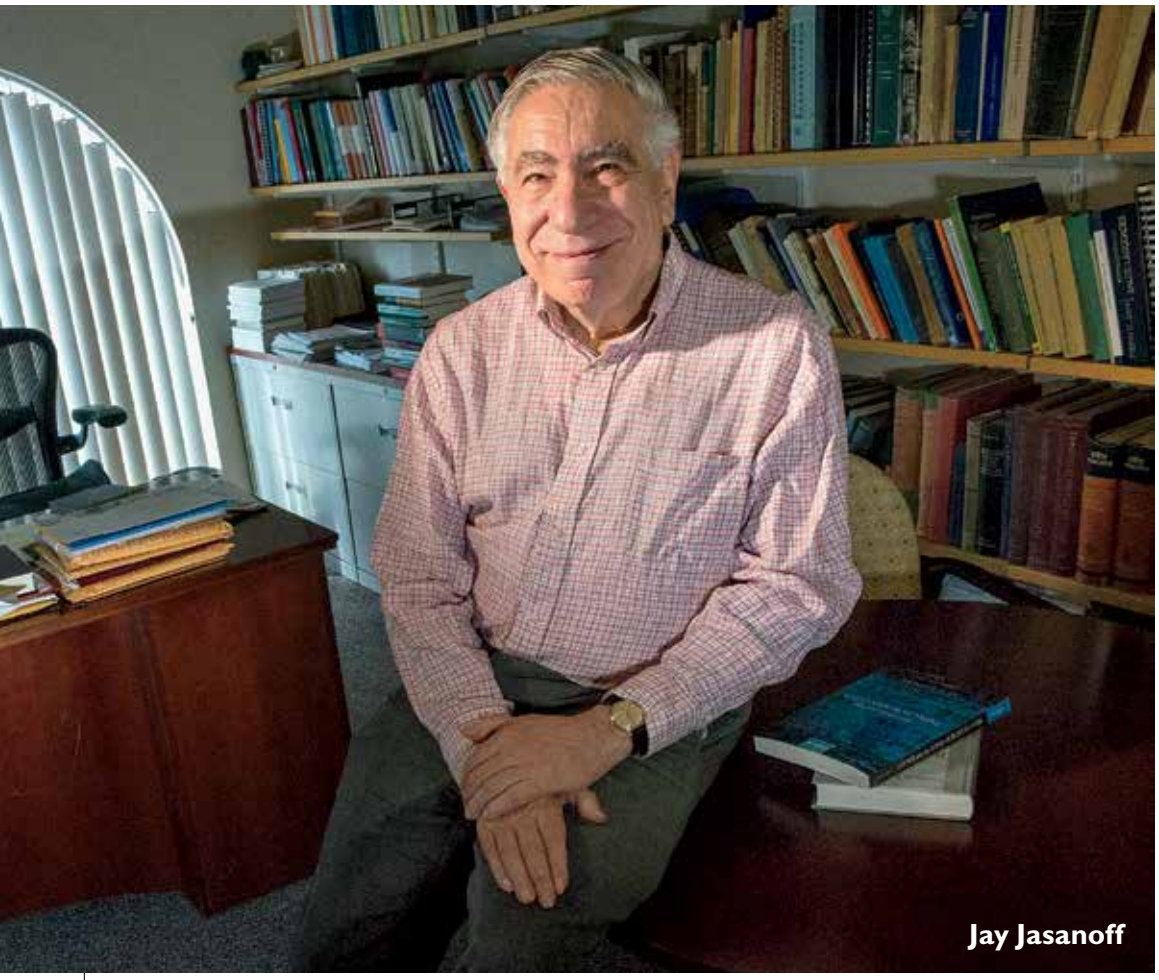
In the twentieth century, linguists recognized that ASL and other sign languages *were* languages in their own right, rather than just attempts to gesture in lieu of real language (see "Social Justice in Linguistics," page 78). That difference—between a full or "natural" language and any other system of communication—isn't a trivial one. A natural language has to be acquirable by children during the critical period for language acquisition, up to around age 12. It also must be able to say anything that a person might want to say. So the Bible, for example, can be—and has been—translated into Cherokee, or ASL, or any other language. (In the introductory linguistics course that she teaches, Davidson recalls students discussing whether emoji are a language. They aren't, because they can't unambiguously communicate anything that a speaker wants to say: you can't write the Bible in emoji.)

Sign languages are fertile territory for answering questions about human language capacity, because they stretch the medium of language transmission from the auditory to the visual. They're often used by people who had limited aural language input as children. While she was postdoctoral fellow at the University of Connecticut, Davidson studied the English abilities of deaf children with cochlear implants. Many deaf children born in the United States are given such implants early to restore their hearing, with variable rates of success, and often their parents are advised to focus on English and avoid sign language. "The medical community has expressed repeated concern about 'visual takeover,'" Davidson explains. "Under this view, if you're exposed to sign language, your brain will not put the effort into using the cochlear implant to process speech because sign language is just too easy in comparison." (Within the organized deaf community, cochlear implantation is an issue of some debate: restoring the hearing of deaf children allows them to communicate with the rest of society, without the use of an interpreter, but it also threatens the survival of deaf culture, of which sign language is a central part.)

To determine whether fears of a "visual takeover" could be supported, Davidson and her coauthors Diane Lillo-Martin and Deborah Chen Pichler focused on a group of deaf children with cochlear implants, born into deaf families, who had regular exposure to both ASL from their parents and spoken English from outside the home. She gave them standardized English tests—for comprehension, articulation, basic vocabulary, and literacy—and compared the group's results to a control group of hearing children born to deaf adults, who also grew up signing ASL with their parents and using English elsewhere. The deaf children performed just as well as the hearing group; in fact, they did better than deaf children with cochlear implants who *lack* exposure to ASL typically do. Those findings appear to confirm Chomsky's intuition about language capacity. "Early ASL input was doing whatever bilingualism would naturally do, but it wasn't putting [the deaf children] at any disadvantage for learning spoken language," Davidson says. "They were processing English phonology very well. They were on the high end of cochlear implant users, and they did much better than would be predicted by their age of implantation and other factors about their implants. You might conclude that this is *because* they had sign language, not in spite of it."

The worry that a visual language could "take over" the aural realm, making deaf children unable to process spoken language, seems consistent with what the medical community already knows about the brain. In deaf and blind people, for example, neuroplasticity allows the parts of the brain normally used for auditory or visual processing to be used to process other senses instead. If language is just another learned skill processed through the senses, then allowing a deaf child to use sign language could encourage her visual capacity to eclipse the auditory realm, making it harder for her to understand spoken language via cochlear implants.

Davidson's findings, and those of the linguistic community in general, provide evidence of a generalized capacity for language—a language organ—which is exercised with sign languages just as it is with spoken ones. Sign language doesn't appear to take over space used for processing spoken language. In fact, early exposure to ASL may aid processing of spoken English. Because early


Jay Jasanoff

language exposure is central to children's language acquisition, depriving deaf children of ASL input early in life, before they get implants, Davidson suggests, does much more harm to their language ability later.

The Chomskyan program

A central assumption of the Chomskyan paradigm is not just a language organ but a universal grammar: a notion that all natural languages must have a common, underlying structure in order to be processed by the language faculty. Linguists use the term *universal grammar* more or less interchangeably with *language organ* or *language instinct* to refer to the theoretical language blueprint innate to humans. Pre-Chomskyan linguistics, which arose from the work of Swiss linguist Ferdinand de Saussure, was concerned with the structure of languages: how they combine different sounds and pieces of words to form utterances. Saussure was also interested in how languages change over time, and made the important observation that words are arbitrary. Linguists are still invested in language change over time and the structure of individual languages, but those questions have been in significant part displaced by the debate over Chomskyanism. In his review of Chomsky's foundational book *Syntactic Structures*, the study that would begin a paradigm shift in linguistics, MIT linguist Robert Lees wrote that its approach would elevate linguistics to an abstract science with explanatory power, rather than a catalog of the world's languages and their grammars. "If you really believe strong claims about universal grammar," Jasanoff says, "you're not going to take a particularly generous view of research on the semantics of words relating to human relationships in a language of the Amazon. You're going to say that's all low-level stuff that doesn't concern the main questions."

Linguists now can name many things that all languages have in common, and many things that no language is able to do, but they remain far from understanding what the universal grammar actually consists of. Recently, more researchers from linguistics and other fields have come to doubt that a language instinct even exists, pointing out, for example, that it takes children years to successfully acquire a language, and they pick up the rules piecemeal, not systematically. The theory of a language organ, they argue, is so vague as to be unfalsifiable. Chomsky had famously refuted Harvard behaviorist B.F. Skinner's view of language as a form of behaviorist learning, where children merely learn to associate words with meanings. Like structural linguistics, behaviorist psychology was concerned only with behavior outside the mind, because mental processes weren't empirically observable. Now, Chomsky's opponents worry that linguistics has swung too far in the opposite direction, that his purely computational theory can't account for the role of learning in language. The more interesting views fall somewhere along the spectrum: "I think it's vain and arrogant to suppose that we're really at the point of being able to figure out exactly what the language organ is, and that our language abilities are due 100 percent to the language organ and 0 percent to generalized gray matter," Jasanoff says. "I think it's clear that there is some universal grammar, something that we are endowed with that apes don't have, but there's a great continuum between having an extremely structured view of what this is and having the view that it's nothing."

Jasanoff completed his undergraduate training in linguistics at Harvard in 1963, a few years after Chomsky published *Syntactic Structures*. The object of study in the Chomskyan tradition, also called generative linguistics, became not individual language systems but the human mind. Significant resistance to Chomsky emerged among the old guard of linguists—"violent anti-Chomskyanism," as Jasanoff calls it—but it never animated Harvard's linguistics department the way it did some institutional peers. It maintained good relations with MIT's department and remained generative in its outlook. At Columbia, once one of the strongest U.S. linguistics departments, the faculty was so unable to cope with the Chomskyan wave that it eventually disintegrated.

Linguistics at Harvard

Harvard's department remains one of the most distinguished linguistics programs in the nation, reflecting the strength of its faculty and its ability to draw on the University's language and area-studies programs and psychology department. But even at Harvard, linguistics suffered a crisis in the decades after Chomsky. Nearly all the department's current faculty members arrived during the last two decades; the department fell into disrepair in the 1980s and 1990s, during what Jasanoff calls a "perfect storm" of dysfunction among senior professors and low morale among junior faculty, who at the time lacked a straightforward path to tenure. "There was a contagion among Ivy League deans to save money by doing away with linguistics," Jasanoff says. (Linguistics was also nearly eliminated at Yale in the early 1990s.) By 1993, Harvard had announced it would eliminate its department: "The two senior professors who were leading [it] were called into the dean's office and told that a committee would be appointed to study ways of covering linguistics at Harvard without a department."

Recalling that period, the Slavic department's Michael S. Flier, Potebnja professor of Ukrainian philology, writes, "I immediately wrote a letter of concern to Jeremy Knowles [then dean of the Faculty of Arts and Sciences], emphasizing how important it was for Harvard to have a strong representation in linguistics." And the following summer, the department was placed into a kind of receivership under Flier, who was charged with putting it back in order. Linguistics was permitted to make new appointments (among them Jasanoff, who started in 1998 as the department's Indo-Europeanist), and to move, as Flier puts it, "out of its claustrophobic space in the basement of Grays Hall." The department now has three full-time tenured professors and a fourth shared with the classics department, and, during a period of general austerity for the humanities at Harvard, is conducting a search for a new senior colleague.

For years, Jasanoff has taught "Introduction to Indo-European," an entry-level historical linguistics course in which students reconstruct Proto-Indo-European, the parent language of the languages of Europe and parts of Central and South Asia, probably spoken more than 5,000 years ago. It has typically enrolled 20 to more than 30 students; when last he offered it, in spring 2015, 35 students signed up. This spring, 68 students did—so many that he moved the class to Boylston Hall's Fong Auditorium as "an emergency measure." Jasanoff attributes the growth to Harvard's new General Education system, which lets students take any linguistics course to satisfy the arts and humanities requirement. (Previously, linguistics courses didn't satisfy any Gen Ed requirements.) "The reason this is popular," he says, "is this stuff is *extremely* interesting. It piques the interest of a lot of kids. For a lot of students, when they first take linguistics, scales fall from their eyes."

For historical and bureaucratic reasons, linguistics is wedged into the Faculty of Arts and Science's arts and humanities division, but methodologically, it isn't a straightforward fit anywhere. There's little interpretive work in what Jasanoff does, he says, using old written records to reconstruct, for example, the accent pattern in a Slavic language. He first became aware of historical change in language in high school, a process he viewed with a scientist's eye: "My fascination with linguistic evolution exactly paralleled my fascination with biological evolution; the historical mutation of language forms into others is exactly like the historical mutation of a fin into a tetrapod limb."

> "The historical mutation of language forms into others is exactly like the historical mutation of a fin into a tetrapod limb."

Generative linguistics relies on formal logic to model meaning. Davidson entered linguistics through mathematics, thinking that she'd be a math professor. She stumbled into the field in college at Penn, through a general education requirement. (Had she gone to Harvard in that era, she might never have found it.) "A very common entry into linguistics in the post-Chomsky era *(please turn to page 78)*

Annemarie Kocab

(continued from page 53)

is people who have really math-y and analytical minds and like to think about cognitive science, how you model mental processes, how you translate from one language to another," she says. "Those are questions that don't involve any lab science, but still scientific questions you could approach with a mathematical apparatus."

Plenty of students enter the field through humanistic passions, too, like a love of language, or anthropology. Entire subfields are devoted to the social and political dimensions of language, though they have a lesser presence at Harvard than elsewhere. Davidson points out that Harvard attracts the kinds of undergraduates who don't like to be limited by the arbitrary boundaries between disciplines; for them, linguistics can feel liberating, allowing them to draw on many different intuitions. "Harvard students in particular were good at learning all their high-school languages *and* were taking advanced calculus," she says. "It's natural for those kinds of people to be excited about linguistics."

The birth of a language

When she was in college at Wellesley, Annemarie Kocab (now a psychology graduate student who will be a postdoctoral fellow in Davidson's lab next year) worked with Jennie Pyers, a psychologist who studies Nicaraguan Sign Language (NSL), a language that emerged in Managua in the 1980s, and today has more than 1,000 native speakers. For linguists interested in language emergence, NSL offers a rich and rare natural experiment. "[I]t's the first and only time that we've actually seen a language being created out of thin air," Steven Pinker has said.

NSL's origins trace to an attempt by the Nicaraguan government in the late 1970s to establish a special-education school that drew dozens of deaf students. The program initially tried to teach them Spanish through techniques like lip-reading; these largely failed. What followed was much more interesting: the children began to use gestures with one another that weren't comprehensible to their teachers. Within several years, it became clear that this was the birth of a new language. American academics have been traveling to Nicaragua since the late 1980s to gain insight into how languages emerge.

In spoken language, the closest analogy to NSL's emergence might be pidgins and creoles. Pidgins arise in situations of cross-cultural contact, like trade or colonialism, where adults speaking two different languages must find a way to communicate. The resulting pidgin, a makeshift mixture of both languages, lacks the grammar and vocabulary of a natural language. When a new generation of children acquires the pidgin, they rapidly fill in semantic and syntactic gaps, producing creoles: full, stable languages, like Haitian Creole.

A similar pattern emerged in Nicaragua. The first cohort of NSL signers, from approximately the late 1970s through the mid 1980s, began to converge on a common vocabulary and sentence structure. "The first cohort tends to sign more slowly, at a more measured pace, and they don't consistently use what we would call grammatical 'space,'" Kocab explains. (In sign languages, the space in front of the signer is used systematically to communicate grammatical information. A signer might introduce someone in a particular location, for example, and refer back to that location to talk about that person.) The next cohort began to sign faster and more fluently, and made grammatical use of space. More than 30 years have passed since the emergence of the first cohort of speakers, allowing Kocab and other researchers to begin to make generalizations about the language's development.

Kocab is interested in how NSL signers

"Social Justice in Linguistics"

Kathryn Davidson's role in bringing an ASL class to Harvard, on one level, was incidental. The students calling for the class needed a faculty member's signature, and an ASL researcher happened to arrive at the right moment. On another level, it mirrors the much more substantial relationship between the linguistic and deaf communities. Though it contributes to the debate over the language organ, Davidson's work on deaf children is much more applied than most of her papers, which wade deep into theoretical semantics. She views applied research as part of "the social responsibility of running a lab that studies sign languages." The study on children with cochlear implants became her most cited paper, because of its importance to studies of the deaf community. Linguists have been the first to discredit unsupported myths about language, like the notion that it's harmful to raise children to be bilingual, or that sign languages were merely systems of gesture.

ANNIE CUSACK /*LOS ANGELES TIMES*/GETTY IMAGES

ASL "is one of the best cases of social justice in linguistics," Davidson says. During the last half-century, linguists, led initially by the late William Stokoe, have documented the ability of sign languages to do all the things spoken languages can, but do them by using three-dimensional space instead of sound. Stokoe is widely credited with securing ASL's status as a real language. During the same period, disability-rights activism produced the Rehabilitation Act of 1973, and later the Americans with Disabilities Act, the federal laws that gave people with disabilities rights to certain accommodations, like sign-language interpretation.

Psychology graduate student Annemarie Kocab, who is deaf, grew up going to a hearing school with a sign-language interpreter. ("I was what you would call 'mainstreamed,'" she signs, as the interpreter by her side simultaneously translates her words.) Her hearing parents took the unusual step of learning ASL to communicate with her. Whatever progress has been made to advance the rights of deaf people, Kocab is bothered that many physicians remain at odds with the deaf community, and with linguistics research, in their view of language: "Many doctors advise parents to give their deaf children cochlear implants, and say, 'You need to focus on spoken language only and don't sign or use ASL,'" she says. "If the spoken language approach fails, well, then, they say, 'Maybe you could try ASL.' But we know that's *not* how language works." That may be changing, though: a widely cited 2015 paper in *Pediatrics*, titled "Should All Deaf Children Learn Sign Language?" advised, "The benefits of learning sign language clearly outweigh the risks."

develop ways of communicating about complex topics, like events ordered in time. In one study, she and her coauthors, psychology professors Ann Senghas of Barnard and Jesse Snedeker of Harvard, showed signers videos of events in different times and asked them to discuss them. Participants were drawn from the first cohort, the second cohort, who entered the signing community in the late 1980s, and the third cohort, who entered in the 1990s. All of them began signing as young children, and today are adults in their twenties, thirties, and forties. Some of the findings seem intuitive: signers from all three cohorts successfully described simple, linear successions of events, like a woman drinking from a bottle, then buttoning a coat, then hanging a picture.

The more complex tasks asked signers to describe overlapping actions that took place at the same time, but started and ended at different times—events that in English would require words like *while* and *during*. The first-cohort signers had the most difficulty completing the task, successfully communicating the events less than half the time; they tended to use words like *stop*, *wait*, and *next* to signal divisions between the actions. Second- and third-cohort signers were more likely to express overlap and simultaneity through dual use of hands, a technique common to sign languages that uses each hand to describe a different event. The technique may take time to develop because of the cognitive difficulty of using the hands asymmetrically. But, strikingly, NSL speakers appear to have taken only a few generations to converge on an effective means of conveying complex temporal language.

William Stokoe, the linguist who first suggested ASL was its own language, believed that human language in general, both spoken and signed, emerged out of hand gestures. Gesture evolved into sign language, he argued, and only *after* this did language become primarily spoken. Any "big-bang theory" of language emergence is difficult to test empirically, but NSL might be instructive. A key assumption in linguistics is that words are arbitrary: there's nothing inherent in the word *pen* that resembles a pen. Iconic words, on the other hand, do resemble the things they represent. In spoken language, iconicity is observed in onomatopoeic words like *meow*. Because words in sign languages exist in the same space as objects in the real world, they exhibit much more iconicity than spoken languages. ASL uses movement with the hands, for example, to discuss movement in the world.

The study of language has shown that there is no need to discriminate against people who use signed languages, because they, too, offer the full range of human expression.

There's an active, heavily debated line of research, in fact, into whether NSL began as a system of hand gestures that evolved into a full language, Kocab explains. Before deaf children in Nicaragua came together to form NSL, they used their own "home sign" systems: gestural systems that are used to communicate with parents and caretakers. The first cohort of signers developed a language distinct from each of their home signs, she explains, though the words frequently display iconicity. Over time, NSL words appear to have become less iconic, suggesting that a greater degree of abstraction develops after a word has been coined.

There are important limitations to using NSL as a window into language emergence. It arose within the confines of an institution. Whatever the barriers to their language acquisition, the deaf children who formed NSL still grew up in a contemporary society, with access to modern notions like time. And, of course, because NSL signers are deaf, they don't necessarily model how pre-lingual *hearing* humans would have behaved.

Language and mind

Much linguistic research today, like Davidson's work on deaf children and Kocab's on language emergence, contributes in some way to understanding how language functions in the mind. It's odd, then, Davidson says, that linguists are so often asked to justify why their research is of any use to society. "Language is basically as complex as memory, and it can be hard to live a good human life if you're struggling with language or memory," she continues. "But no one asks computational neuroscientists, 'Why are you coming up with a model of how memory works in the brain?' even if it's not immediately applicable to medical research. We're doing the same thing with language." Building a model of how language works in the mind will in turn enable linguists to understand how human problems like language disorders work. More ambitiously, it could contribute to better and more human-like translation algorithms.

Other branches of linguistics, like Jasanoff's research into the mutations languages underwent hundreds of years ago, have even less obvious applications. Why might that work matter? Jasanoff probably speaks for many linguists when he replies acerbically, "Because we're human beings and we like to know stuff." Knowledge of language represents another way of understanding human history and the human experience.

Another answer comes from Saussure, who famously wrote, "[O]f what use is linguistics? Very few people have clear ideas on this point…there is no other field in which so many absurd notions, prejudices, mirages and fictions have sprung up…the task of the linguist is, above all else, to condemn them and to dispel them as best he can." The study of language has shown, for example, that there is no need to discriminate against people who use signed languages rather than spoken ones, because sign languages, too, offer the full range of human expression. Much as Saussure and the early linguists couldn't have known the social contributions their field would make, today's linguists can only imagine what social problems the study of language has yet to answer.

Marina N. Bolotnikova '14 is an associate editor of this magazine.

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Montage

Art, books, diverse creations

Claudia Schreier (shown near left in rehearsal) won the Breaking Glass competition for emerging female choreographers in 2014 with her ballet *Harmonic* (far left).

Ballet's Geometry, Torqued

A choreographer's career taking shape

by SOPHIA NGUYEN

In an overheated basement studio at Barnard College, a dancer twirls with smartphone in hand, eyes fixed on an inches-wide video of the steps she should take. Two others windmill their arms, looking like Olympic swimmers warming up poolside. They're practicing a piece called "Harmonic," trying to get the swings' arc and momentum just right. "It's really unnatural!" one of them says. Supervising, choreographer Claudia Schreier '08 instructs, "Don't let those get too pretty."

Schreier creates neoclassical and contemporary ballets, and has worked with professionals from companies like the New York City Ballet and American Ballet Theatre, as well as students from top academies like the School of American Ballet and the Ailey School. In this rehearsal, she is setting her dance on members of the Columbia Ballet Collaborative, for the group's tenth-anniversary performance in April. "To set a dance on" someone basically means to teach them the sequence of steps, but the phrase evokes something deeper: a choreographer's idea made concrete. Doing this requires that she convey to the dancers not just how the piece should look, but how it should feel.

"Harmonic," driven by busy, rhythmically complex music by Dutch composer Douwe Eisenga, feels restless, almost anxious. The piece asks the dancers to hold themselves in suspension—Schreier has likened the sensation to the tipping point at the top of a roller-coaster—and also for them to make themselves miss the music's beat and then rush to catch up. The press of time, of course, is something that ballet dancers—like few artists but many elite athletes—know intimately. Training starts in early childhood; the extent of an individual's potential is commonly thought to have revealed itself by adolescence; performance peaks not long afterward.

Growing up, Schreier studied classical ballet and dreamed of being a dancer, but was frustrated by her physical limitations: "Ballet is built to make you hate yourself. You're striving for perfection every time, and it's un-

Photograph at left by Lindsay Perry, and at right by Rosalie O'Connor

attainable." The trick is to find a sense of freedom in the art, she says, and not fight against its impossible ideals. Then she adds, with a laugh, "It's the love of my life, so..."

This trajectory seems to have defined her idea of choreography's essential joy: "You envision how you want to dance, or how you think dance should look, and you're provided with bodies that can achieve what you can't." When Schreier went to college rather than conservatory, she found kindred spirits in the undergraduate ballet company and contemporary dance ensemble: unsure if they wanted to, or could, pursue dance professionally; unsure what they would do instead. "I got to work with these dancers who were—fearless, in a way that I can only truly appreciate now. It's part of the Harvard mentality," she continues. "You just go, go, go, go." Her classmates were energetic and unjaded, and they trusted her enough to take physical risks and test out her ideas.

Through the Harvard Dance Program, Schreier took classes that exposed her to modern dance technique and training. They stoked her interest in exploring moves outside the ballet lexicon: heaving chests, undulating backs, hips turned in a different way. The challenges of her in-between style became most apparent last spring, she says, when she crisscrossed Manhattan each week to choreograph at the Ailey School and Ballet Academy East. The Ailey students all had ballet training, but gravitated toward modern material, and had to be reminded to hold themselves up and their cores in. On the flip side, with the classically tutored BAE students, "I had to kind of take them on this journey through realizing that I wasn't trying to undo their ballet training, I was just trying to use it in a different way."

Pieces like "Harmonic" torque ballet's usual geometry. The shapes look familiar, but the way the dancers get into them seems less placed, and more organic. The rhythm is deceptively loose. At the same time, Schreier's work often seems governed by a sense of cool rationality. At times, the dancers look like marionettes testing the hinges of their bodies, systematically measuring their range of motion. The way she arranges them in space is reminiscent of Muybridge photographs, breaking down a horse's gallop or a bird taking wing. Because she never danced professionally, Schreier told an interviewer in 2015, she hasn't felt confident creating partnered dances. But when she was

OPEN BOOK

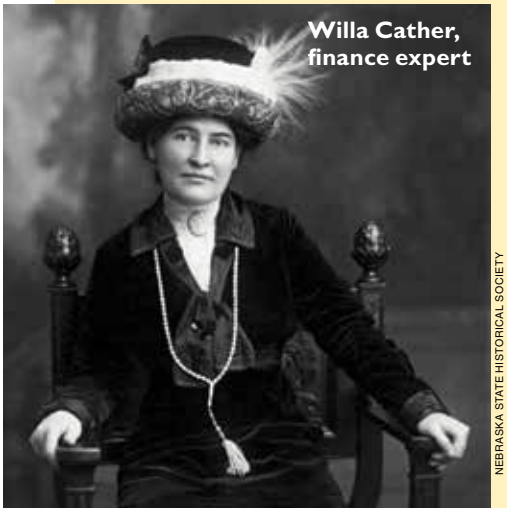
Humanizing Finance

Harvard Business School has a venerable tradition, anchored in its general-management unit, of drawing on the humanities to illuminate problems in capitalism (see "Questions of Character," July-August 2006, page 12). Now Mizuho Financial Group professor of finance Mihir A. Desai, an expert on taxation, aims to "humanize finance" through literature, history, and more. His new book, *The Wisdom of Finance* (Houghton Mifflin Harcourt), is an effort to rescue the field from excessive focus on self-enrichment; along the way, Desai also applies financial tools to the humanities. Recoiling from the villains like Theodore Dreiser's *Financier* and Gordon Gekko, he makes this discovery, from the final chapter of *O Pioneers!*

...Willa Cather's portrait of Alexandra Bergson is the story that truly belongs in every finance textbook. Alexandra is a first-generation immigrant from Sweden living on the plains of Nebraska, responsible for a family farm and three younger brothers at the turn of the last century. She is a model financier who employs many of the lessons of finance without slipping into the traps that those antiheroes do.

Consider Alexandra: just as her brothers exhort her to sell their land at rock-bottom prices during a crisis, she proposes…using leverage to go in the exact opposite direction by buying more nearby land.…Her complex financing plan, which involves mortgaging the homestead, features debt service payments well into the future that will only work if she's right about the future of land prices.

…How does she assess the risks? She samples. She and her youngest brother, Emil, take a trip to explore all the neighboring counties and "talked to the men about their crops and to the women about their poultry.…She learned a great deal."



Willa Cather, finance expert

NEBRASKA STATE HISTORICAL SOCIETY

She discovers option value in the nearby land. Other properties hold limited risk and limited return. "Down there they have a little certainty, but up with us there is a big chance."…

Her brother Lou seeks certainty about her prediction: "But how do you *know* that land is going to go up enough to pay the mortgages?" Alexandra knows that the risk is insoluble and replies, "I *know,* that's all. When you drive over the country you can feel it coming." Experience and imagination allow her to confront the uncertainty.…

Finally, as Alexandra contemplates what to do with her land and the legacy of her success after she is gone, she considers gifting it to her nieces and nephews.…"The land belongs to the future…; that's the way it seems to me. How many of the names on the county clerk's plat will be there in fifty years? I might as well try to will the sunset over there to my brother's children. We come and go, but the land is always here. And the people who love it and understand it are the people who own it—for a little while." She understands herself to be a steward, a link in an ongoing chain, charged with taking care of resources.…

For Cather, there are ultimately only a few stories that all of our lives end up resembling. Some of them, as we've seen, are tales of hollow accumulation and insatiable desire. Some are tales of heart and hard work. It is up to us to choose amongst them wisely. I recommend Alexandra Bergson's story.

Schreier works with New York City Ballet soloist Unity Phelan in preparation for *Solitaire* (left); the piece culminated in a duet between Phelan and fellow NYCB soloist Zachary Catazaro (top).

invited by her mentor Damian Woetzel, M.P.A. '07, to show new work at the Vail International Dance Festival last summer, a duet became the centerpiece. Her piece "Solitaire" begins with three male dancers dexterously spinning a female soloist into various positions, then supporting her in triumphant, acrobatic lifts with her limbs fully extended. Then two of the men exit; in Schreier's telling, "It goes from very presentational and very regal, and all of a sudden, everything goes awry." Scored with Alfred Schnittke's dissonant strings and tinkling music-box piano, the woman gets maneuvered, almost manipulated, into different shapes by her partner. He holds her in what comes to seem like Svengali-like sway; at one point, she's almost completely hidden from the audience's view, encased in his arms and torso. The romantic ideal so central to many *pas de deux*—of femininity made virtuosic, and put on display—takes on a disturbing cast. This is one of Schreier's most narrative works, and in it, exploration of form gives way, just a little, to feeling.

This summer, Schreier will return to the Vail festival, and present two evening-length performances of her work at New York's Joyce Theater. Only recently has she gained a stream of commissions sufficient to enable her to leave her day job in arts administration and pursue choreography full-time. (Her work has also been enabled by a program at the New York Choreographic Institute and a fellowship from NYU's ballet center, both offering financial support and studio space.) Dancers, Schreier jokes, can be fatalistic, and she's come to accept that her career will be unpredictable. She sees her recent successes less as growing momentum than as a run of good luck: "It makes me appreciate the moment more, because it's not promised." A recent knee injury—and her thirtieth birthday—triggered another realization about her craft: "The beauty of it is, it can be forever. Dancing, I would be done by now." As a choreographer, her career is just beginning.

After the last run-through of that day's rehearsal, the Columbia dancers wait for Schreier's notes. She begins by thanking them for their good work; her biggest critique is that everyone is anticipating the music too much, so they're a little ahead of the count. Instead, she tells them, "Sink into it."

How Buildings Move People

Museum exhibition designer Justin Lee

by LILY SCHERLIS

THE MUSEUM GALLERY is a space designed to be in permanent flux. In 2008, artist Michael Asher sat down with 10 years of exhibition blueprints from the Santa Monica Museum of Art, reviewing the designs of 44 shows that had gone up in the main gallery. He then reinstalled the underlying armature of each and every temporary wall, now only metal skeletons stripped of the drywall that formerly gave them substance. All past configurations were present simultaneously, filling the room with a dense metallic labyrinth. The original walls had been built to disappear into the background, in order to highlight the art they displayed; Asher's reconstructions exposed the transience of that art, and the off-putting flexibility of the space it inhabited. Looking at images of the work feels like catching a glimpse of something the institution wants to hide: the bones of the gallery itself.

A similar sensation comes up in conversation with Justin Lee, exhibition designer at the Harvard Art Museums. He knows the new museum better than anyone, having designed the building as project architect while affiliated with the Renzo Piano Building Workshop, which Harvard hired to renovate the museums. Lee earned a master's in architecture at Harvard's Graduate School of Design in 2004, so when the workshop took on the project, he was the natural pick for the job. (As a student, Lee lived on the corner of Prescott Street and Broadway, mere feet away. Each morning and evening, he strolled past the museums' previous incarnation, unaware that he would effect a

Photographs by Erin Baiano

drastic change in the landscape of his design education.)

To Lee, the museums' activities fall roughly into two categories. First, there's the internal: the business of collecting items, and then researching, storing, and preserving them. Then there's the more visible task of making these works available for visitors to experience. Harvard Art Museums' attachment to a university further complicates matters: the museum caters first to the needs of students, classes, and instructors, and second to those of the general public. The space was specially designed to facilitate each of these functions without inhibiting any of the others, he explains. The building channels different groups—staff, students, and the public—along distinct routes, designed so each type of museum-goer becomes invisible to the others. You see only what you are supposed to see.

He points out the elevators as an example: if you visit frequently, he says, you'll notice that one set of doors never opens. Though it looks like the other two, this particular lift is for staff moving art between the research centers on the upper floors and the compact high-density storage below ground. The button visitors press will never call it. On days when one of the other two public lifts is out of service, a flip of a switch makes that special third lift available to museum-goers, none the wiser that they've been given special access to something normally off-limits. Lee's work requires him to deeply consider how people move through buildings—or rather, how buildings move people. His explanation is reminiscent of the body's circulatory and lymphatic systems: two entirely separate circuits of sealed-off channels carrying distinct substances through a single body. Good architecture makes navigating a space fluid and unconscious.

After the renovated museums complex opened its doors, Lee stayed on to design the exhibitions. He's responsible for translating vast curatorial dreams and concepts and narratives into concrete physical space. Exhibition designers are always playing catch-up, he says. By the time he arrives on the scene, the curator has already been researching and conceptualizing an exhibition for months, if not years. Usually there are far more pieces that fit well with an exhibition's theme than can actually fit into the space. Every piece has a different story to offer, a whispered message which, together with all of the other works, crescendos into the overarching narrative of the show. It's the curator's job to decide which message to send; Lee's is to make sure each little voice is heard.

When he's designed an exhibition well, he says, no one can tell he's done anything at all. When he's visited spaces by designers who flaunt their personal style, his experience of the art got lost beneath thinking about the layout. This isn't his way. If his gallery space does its job right, it enables visitors to get lost in the artwork, oblivious to the room around them, and then to find their way out again.

Lee has worked on diverse exhibitions, including "Everywhen: The Eternal Present in Indigenous Art from Australia," which ended this past September, and "Inventur," a show on 1940s and '50s German art that will open in February. On view in May is "The Philosophy Chamber: Art and Science in Harvard's Teaching Cabinet, 1766-1820" (see "The Lost Museum," page 42), featuring some of the earliest items Harvard collected. In the beginning, the museum was a single large room. Well-to-do patrons and ordinary citizens who traveled the world would return with mysterious trinkets and artifacts and add them to the College's holdings. Rarely did these early collectors know anything about the items on display; objects were categorized merely by their date of arrival. Knowledge of the world, as embedded in these artifacts, was not yet differentiated. As the collection grew, its caretakers learned more about its contents and about how to classify and categorize them accordingly; the campus grew and divided in tandem with its museum. Vari-

Justin Lee's rendering of an exhibit on Iranian art, opening next fall

Photograph by Jim Harrison. Sketches © Justin Lee Architecture + Design

Off the Shelf

Recent books with Harvard connections

The Crucible of Islam, by G.W. Bowersock '57 (Harvard, $25). The staggeringly learned professor emeritus of ancient history at the Institute for Advanced Study provides a brisk, succinct, and bracingly clear account of the chaotic conditions in sixth-century Arabia, where Muhammad's message took root—amid intersecting empires and contending Christianity, Judaism, and polytheistic beliefs.…The faith that spread from those origins is, as Cemil Aydin, Ph.D. '02, makes clear in **The Idea of the Muslim World** (Harvard, $29.95), now followed by 1.5 billion people worldwide who are anything but unitary in their national, political, and cultural identities. The sooner other humans around the planet understand that, the better.

A Meeting of Land and Sea, by David R. Foster, senior lecturer on biology and director of the Harvard Forest (Yale, $40). A beloved, high-end island retreat/resort, Martha's Vineyard is also endangered: it is "disappearing," Foster notes, as climate change accelerates erosion, and being consumed from within by rapid development. A comprehensive natural and cultural history, and a guide for conservation. Sumptuously illustrated.…Meanwhile, back at the Harvard Forest, *Seattle Times* environmental reporter Lynda V. Mapes tells a similar story, subtly, in **Witness Tree: Seasons of Change with a Century-Old Oak** (Bloomsbury, $27). She observes well, beginning with the "garage band of trees, talking back" as their trunks, in distinct timbres, resisted curious scientists' hand-turned coring tools, extracting the story embedded in each bole.

The Corruption Cure, by Robert I. Rotberg (Princeton, $35). The former director of the Kennedy School's program on intrastate conflict and conflict resolution conducts a searching, global review of the graft and rot that undercut public and business institutions—"the harsh political disease of our era"—and points to the cleansing effects of civil society and, where available, capable leadership.

The Fact of a Body: A Murder and a Memoir, by Alexandria Marzano-Lesnevich, J.D. '05 (Flatiron, $26.99). As the subtitle suggests, the author's notions about the death penalty abruptly confront the facts of a murder case, and, at a deeper level, her unexcavated family history.

One Nation Undecided, by Peter H. Schuck, J.D. '65, A.M. '72 (Princeton, $29.95). The author, now emeritus from Yale Law School, presumably having begun this long book before the advent of "fake news," proposes "clear thinking about five hard issues that divide us" (the subtitle). In an era of "woefully deficient" public debate and public-policy disputes that have become "more protracted, more impervious to reasoned debate," he offers fresh perspectives on poverty, immigration, campaign finance, affirmative action, and religious freedom. A welcome contribution, especially when the current forms of discourse fall out of fashion.

Singapore: Unlikely Power, by John Curtis Perry, Ph.D. '62 (Oxford, $29.95). The author, professor of maritime history at Tufts University's Fletcher School, traces the city-state's ascent in terms of geography (at the neck of the Straits of Malacca), history (British governance, clearly separated from local commerce), and (of relevance at the current moment) coexistence among a radically heterogeneous mix of resident nationalities and ethnicities.

My Father & Atticus Finch, by Joseph Madison Beck, LL.B. '68 (W.W. Norton, $25.95). An Atlanta attorney mines the family history to reconstruct the role of his father ("a real Alabama lawyer") in *State of Alabama vs. Charles White, Alias*, representing a black man who had been arrested and charged with raping a white woman—a trial that took place when Harper Lee was 12.…A very different life appears in **Fake Smiles: A Memoir,** by Tony Rogers, J.D. '66 (TidePool Press, $26.95). An antiestablishment son's growing up with an establishment father, William P.—attorney general and secretary of state, respectively, in the Eisenhower and Nixon administrations ("I could safely bet I'd be the only cab driver whose father was secretary of state").

Adaptive Markets: Financial Evolution at the Speed of Thought, by Andrew W. Lo, Ph.D. '84 (Princeton, $37.50). The author, of MIT's Sloan School, observes that "financial markets don't follow economic laws." Fear and emotion undercut the rational assumptions of efficient markets, prompting him to explore at length biological, evolutionary, and adaptive models—a major challenge to the prevailing worldview.

The Murder of Willie Lincoln, by Burt Solomon '70 (Forge Books, $25.99). A reimagining, in fiction, of the death that further darkened Abraham Lincoln's White House during perhaps the darkest days of the early Civil War.

North Korea's Hidden Revolution, by Jieun Baek '09, M.P.P. '14 (Yale, $30). Tapping her contacts with defectors, the author explores the emerging "information underground" that is, she says, opening perhaps the world's most closed society. Given recent developments—missile tests, the murder of the leader's relative outside the country's borders—one hopes she is right.

DAVID R. FOSTER

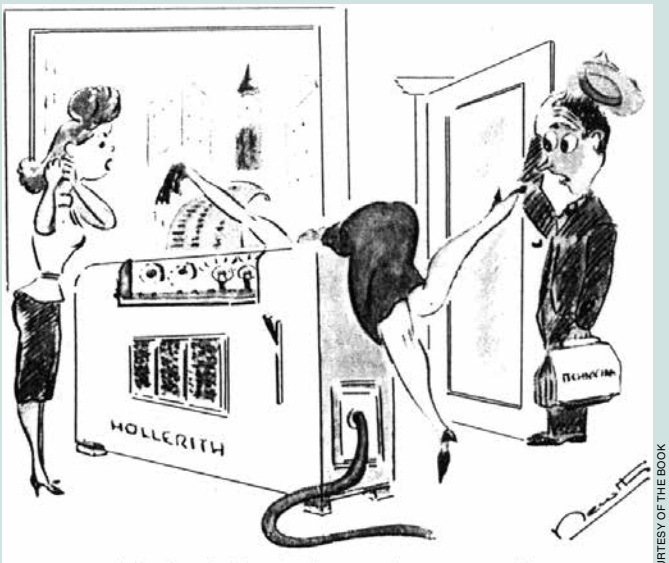
The Vineyard's south shore, from the Wequobsque Cliffs to Lucy Vincent Beach: inviting—and endangered

Barney, by Michael Rosenthal '58 (Arcade, $24.99). Rosenthal, an emeritus English and comparative literature scholar at Columbia, has undertaken the biography of a champion of unpopular literature: Barney Rosset, of Grove Press and *Evergreen Review*, who fought the legal battles to publish *Lady Chatterley's Lover* and *Tropic of Cancer.* (Later transgressions included distributing *I Am Curious Yellow.*)

The Age of Responsibility: Luck, Choice, and the Welfare State, by Yascha Mounk, Ph.D. '15, lecturer on government (Harvard, $29.95). In an age of workfare and other efforts to tie social, public assistance to personal, individual "responsibility" or worthiness, the author thinks through the consequences for equity, what were presumed to be common values, and the terms on which we are all going to plan to live together.…At the same time, as Jonathan Morduch, Ph.D. '91, and Rachel Schneider document in **The Financial Diaries: How American Families Cope in a World of Uncertainty** (Princeton, $27.95), it is harder than ever to be "responsible," even for those with the training to do so, given contingent and outsourced jobs, self-managed retirement plans, and pervasive economic volatility. Revealing data based on current families' narratives of their straits.

Read My Lips: Why Americans Are Proud to Pay Taxes, by Vanessa Williamson, Ph.D. '15 (Princeton, $27.95). The subtitle may appear to overreach, but the author has looked beyond the headline hatred of paying taxes to "attitudes about public spending," giving lie "to the notion that Americans are knee-jerk opponents of government." Useful background, perhaps, at a moment when doing in the Affordable Care Act is proving to be more than a click of the heels.

Tinker Dabble Doodle Try, by Srini Pillay, part-time assistant professor of psychiatry (Ballantine, $28). All those exhortations to focus? The author, who is also an executive coach, urges you to junk that "cult," creating space to "unlock the power" of mindless (but strategic) wandering—the fount of creativity and innovation. He concludes with "The Tinker Manifesto."



COURTESY OF THE BOOK

Inequality illustrated, from *Tabacus: The Company Magazine of the British Tabulating Machine Company* (1957)

Programmed Inequality, by Marie Hicks '00 (MIT, $40). Fans of the movie *Hidden Figures* may be interested in this scholarly analysis of goings on across the Atlantic, by an historian of science at the Illinois Institute of Technology. Her deep dive into "how Britain discarded women technologists and lost its edge in computing," the subtitle, is a sobering tale of the real consequences of gender bias—a problem that persists in many technical fields today.

Inventing American Exceptionalism, by Amalia D. Kessler '94 (Yale, $35 paper). Much as the Constitution itself was activated in formative early cases like *Marbury v. Madison*, which established judicial review, the adversary legal system evolved from alternative, judge-driven procedures, as a young Stanford legal historian demonstrates—a development that reflected and in turn shaped broader developments in the nation's institutions and practices.

Our Bodies, Our Data, by Adam Tanner (Beacon, $28.95). Not the most original title, but the author, a journalist and fellow at Harvard's Institute for Quantitative Social Science, probes the market for your medical information. The first sentence—"Soon after you tell your doctor about an intimate medical problem, data about your condition are sold commercially to companies that have nothing to do with your treatment…"—should be arresting enough.

A Fraught Embrace, by Ann Swidler '66 and Susan Cotts Watkins (Princeton, $35). What could be more worthy than the altruistic extension of AIDS support for devastated Africans? Two sociologists examine the aid-givers, their beneficiaries, and brokers who connect them, in Malawi, and point toward "a tempered modesty," aimed at helping the Malawians pursue their own aims, rather than altruism framed as a "romance" intended to transform their lives.

Boston's Massacre, by Eric Hindraker, Ph.D. '91 (Harvard, $29.95). A University of Utah historian reexamines the storied confrontation of March 5, 1770, from its context and the initial, conflicting accounts through the uses to which the events were put in later eras.

BRIDGEMAN ART LIBRARY

An 1856 version of the death of Crispus Attucks during the Boston Massacre

ous buildings sprang up to house the newly distinct departments, and the museum's contents were scattered across campus. In the exhibition, Lee is interested in breaking down these barriers to allow these objects to once again inhabit the same space, centuries later.

Indeed, permeability is a major ethos of the post-renovation museums. Passers-by should be able to tell clearly from any vantage point what the building contains, and be able to enter from both sides. The individual rooms of the galleries should melt into one another, facilitating a seamless viewing experience. Daylight is crucial: Lee doesn't want a labyrinth of sealed, artificially lit ice cubes. For him, blocked daylight provokes suffocating claustrophobia that disorients visitors and detracts from the art.

The building has its own set of rhythms. Visitors float in and out; Lee's exhibitions materialize and dematerialize on seasonal cycles. The museum itself gets renovated and eventually will be renovated again. The institution is designed to accomplish the paradoxical task of harnessing transience to ensure permanence: it has to make the slice of the past with which it has been entrusted both secure and accessible. Lee makes it look effortless.

Making Liberal Democracies

Lessons from Europe

by DANIEL J. SOLOMON

In the wake of Brexit and last November's U.S. election, with many citizens and scholars fretting over the fate of the liberal order, a Harvard government professor is offering a novel argument about how that order arose in the first place. According to Daniel Ziblatt's *Conservative Political Parties: The Birth of Modern Democracy in Europe*, the continent's liberal democracies in the nineteenth and twentieth centuries lived or died not as a result of rising living standards, the agitation of the working and middle classes, or quirks of national character, but rather due to the factional strength of the countries' old-regime elites.

Conservative Political Parties and the Birth of Modern Democracy in Europe, by Daniel Ziblatt (Cambridge University Press, $99; $34.99, paper)

Democracy menaced the socioeconomic power and basic moral ideas of these notables. But the elites themselves were hardly monolithic, navigating different options with different implications for democracy in different countries. Where conservative factions developed parties that could win at the ballot-box, old-regime elites tolerated the extension of voting rights and the expansion of political competition. Where this proved difficult or impossible, they thwarted political change, causing democratic transitions to collapse into far-right or fascist regimes.

Ziblatt focuses the bulk of his analysis on two test cases, democratic evolution in Britain and Germany, though he applies his conclusions to the whole of Western Europe.

In the first case, he argues, the United Kingdom's Tories built a robust party organization that attracted the votes of middle- and working-class people drawn by nationalist and religious appeals. British conservatives spent critical decades in the mid-nineteenth century cultivating social clubs, interest groups, and grassroots activists that drove success at the polls.

Theirs was a difficult road, and some worried they might be the country's last conservatives. Both elites and their opponents suspected mass voting would upend class relations and lead to land reform—or, even worse, revolution. And political competition contained a paradox for conservatives who believed influence and money were theirs by right. As Ziblatt writes, electoral appeals, in grounding old social relations in a new language of consent, "would alter the very inegalitarian and hierarchical world that mid-century conservatives sought to preserve."

But the party's central leaders achieved mastery of mass politics sufficient to risk the extension of the franchise and the edging out of undemocratic institutions like the House of Lords. And their bet paid off: Conservatives crushed their Liberal and Labour opponents in the two decades that followed the 1884 adoption of near-universal manhood suffrage.

GETTY IMAGES

A Conservative Party poster, circa 1900, the year the precursor of the Labour Party first participated in a general election

Germany, Ziblatt asserts, presented a reverse image. After the country's 1870 unification, all males had the franchise, but that mattered little. The German Conservative Party, the voice of the semi-authoritarian kaiser, managed to hold onto power through an elaborate scheme of electoral manipulation

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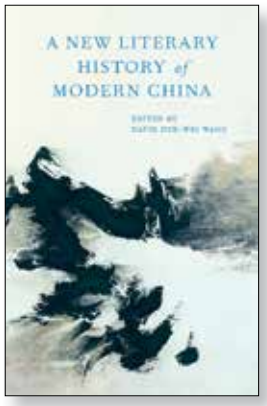

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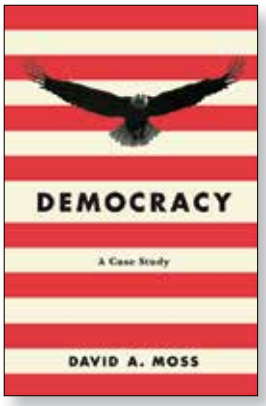

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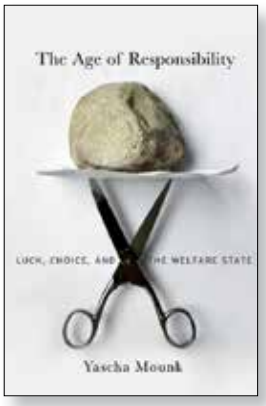

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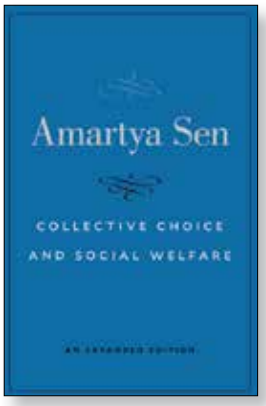

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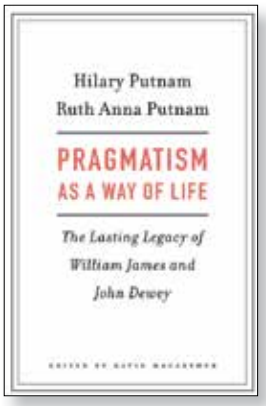

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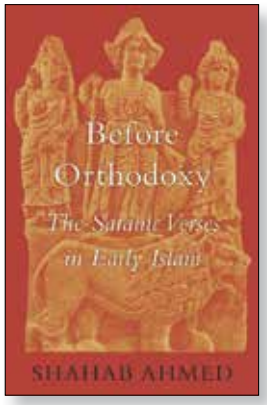

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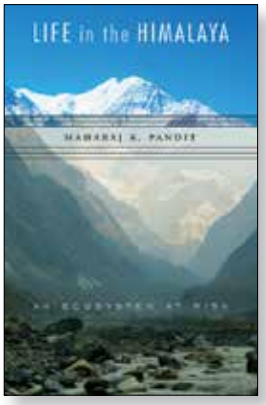

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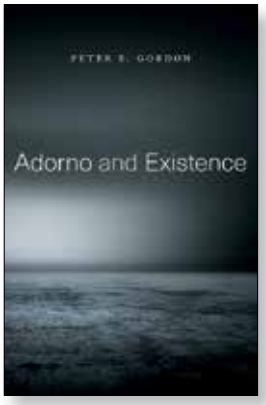

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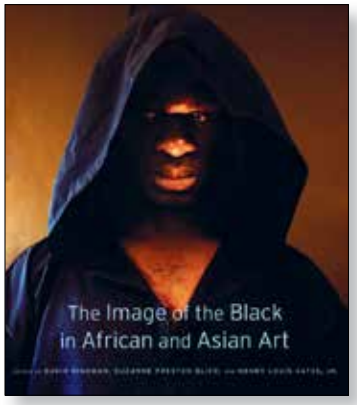

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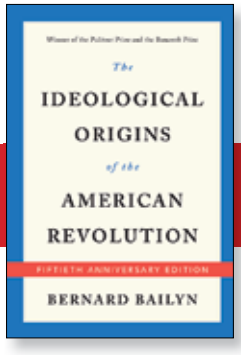

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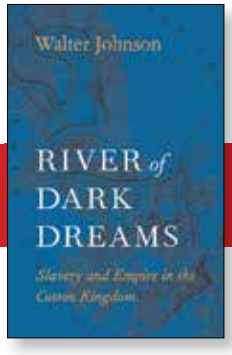

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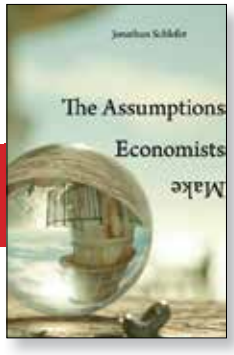

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and tiered voting systems that overvalued the voices of elites. That permitted conservatives to run the country until the First World War, even without much of a popular mandate.

But their power in the Reichstag belied their organizational impotence. Lacking much central structure or electoral machinery, the party was a bottom-up affair, with local grandees getting out the vote and determining office nominations. And because it lacked facility in mass politics, the party refused to countenance slight measures to expand democracy.

It also rendered the German Conservative Party vulnerable to the predations of the outside interest groups it relied on for votes: the country's Agrarian League and, far more dangerously, anti-Semites. Gaining leverage for a brief spell in the 1890s, that second constituency inserted a denunciation of Jewish "influence" into the party platform. Weakness on the right outlived the Second Reich, overthrown in 1918 and replaced with the Weimar Republic. And Ziblatt argues that, as much as structural forces, this failure to build a healthy right or center-right party created space for the Nazis to fill.

He posits that much of the divergence between German and British conservatives had to do with timing. The Tories laid the groundwork for their party structure in the middle of the nineteenth century, prior to the working class getting the vote and socialists incorporating them into their new political networks. German conservatives scrambled to organize themselves while facing an organized Social Democratic Party in the 1880s and '90s, a far more daunting prospect. Tories also had more incentive to adapt to the new age. Their leaders did not enjoy the capacity to coerce votes and rig elections that ultimately damned German conservatives.

Ziblatt marshals an impressive set of evidence to argue his point, tallying statistical analyses, sorting through the ancient Tory political memos—even using bond rates to discern the attitude of old-regime elites: volatility in markets for government securities, in his view, reflects elites' level of confidence in the survival of a regime. As the British working classes began to demand greater rights in the 1830s, for example, the markets appeared far stormier than usual as Parliament enacted the First Reform Act expanding suffrage. A few decades later, the securities exchange hardly registered the Second and Third Reform Acts—which Ziblatt asserts bears out his thesis that the elites grew less worried about democracy as their ability to compete at the polls increased.

Previous writings have traditionally focused on other explanations to make sense of democratization, such as a rise in society's wealth or the formal institutional design of a country's political system. Ziblatt's work adds to a nascent literature that explores how informal structures, i.e., parties and interest groups, exert strong influence over democratic evolution, and is part of an ever-more critical field of political science: the study of democratic quality and transition.

Still, Ziblatt's theory has its limitations. He emphasizes that differences in national wealth between Britain and Germany could not explain their variable outcomes for democracy, because both countries were almost equally prosperous. But his argument appears harder to sustain when he applies that logic to Western Europe writ large. He judges that Belgium, Holland, Britain, Sweden, Norway, and Denmark succeeded in their democratic transitions, whereas Italy, Germany, Portugal, and Spain failed. France, he avers, moved from the second to the first category in the 1880s.

But with the exception of Germany, an industrial powerhouse with a high standard of living, the second group was considerably poorer than the first, as southern European nations lagged their northern peers on most indicators of economic and social health. As Ziblatt himself acknowledges, his theory works best when it explains "specific and important anomalies" that a wealth-based account of democracy would not clarify. It might help us grasp disparities in democratic evolution between Germany and Britain, or Germany and Sweden. But the wealth explanation remains critical when examining Western Europe as a whole.

Ziblatt also comes up short in treating religious cleavages within Western Europe. Protestant sects dominated in Britain, Scandinavia, and Germany, while Catholicism was the religion of the vast majority in Portugal, Spain, Italy, and France. Religious establishments in these countries resisted the march of liberal democracy to various degrees. But it's important as well to recall the Catholic Church's unique role in stymieing and reversing democratic transitions in southern Europe. Pope Pius IX forbade Catholics to participate in the new Italian state's parliamentary elections and denounced liberalism in the 1864 document known as the Syllabus of Errors. France's post-1870s democratic consolidation owes significantly to the steps leaders took to remove the Church from its role as a provider of education and other services. More than a half-century later, Spanish clerics actively helped Francisco Franco overthrow republican government in the run-up to World War II.

Despite these gaps, Ziblatt's book resonates in the present context of democratic retreat in Europe and the United States. As the author points outs, both "face a ferocious right-wing populist politics, which threatens to swallow older, self-identified conservative political parties." Calling this development "ominous," Ziblatt expresses a hope that "the age of democracy's birth may serve as a vital and cautionary tale for our age of democratic crisis."

And indeed, it's difficult for the contemporary reader not to see disturbing parallels between Donald J. Trump's co-opting of today's Republican Party and the far-right takeover of the turn-of-the-century German Conservative Party. But Ziblatt also reminds

Chapter & Verse

Correspondence on not-so-famous lost words

Orrin Tilevitz is seeking the origin of "That's right, Private Aberthistle, put my stump right over there, and give me a hand up." He found the quotation in a letter from his late father-in-law, "a well-educated officer in Europe during World War II."

"the thing which man will not surrender" (January-February). Jeanne Heifetz sent word that this slightly misquoted phrase comes from the poem "Running," by Richard Wilbur, A.M. '47, JF '50. It appears in part III, "Dodwells Road (Cummington, Massachusetts)."

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

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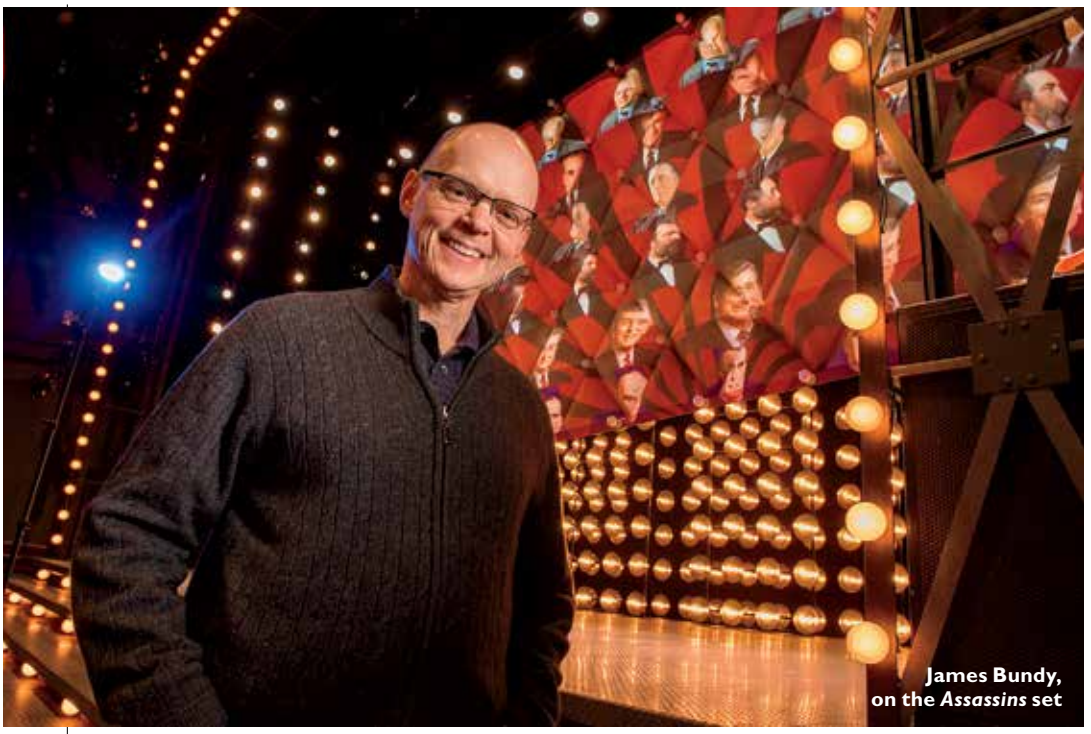
readers that a nation's fate is rarely sealed on a single election night. Even the most robust democracies have experienced backsliding; one must be wary of reading too much into the headlines. In his words, "[I]t is a fool's errand to be "chasing ever-changing facts with ever-changing explanations."

Britain experienced its own democratic scare, brought on by the Tories, right before the First World War. As Irish Catholics pushed for more autonomy from the central government, the Tories' Unionist activists threatened to swamp the party regulars. And for a time, as the then Liberal majority pressed its pro-Irish legislation, the Tories' leader Andrew Bonar Law flirted with violence and extra-constitutional measures. In one speech, he announced that he could "imagine no length of resistance" that he would not support in the drive to defeat the bill.

Drawing on their experience within the system, the Tories managed to avert a crisis, freeze out extremists, and broker compromise once world war broke out. Their actions did not spare Ireland from bloody conflict over independence, but their restraint saved Britain's liberal democracy. One hopes that mainstream conservatives in the United States and Europe will be able to exercise a similar restraint.

Daniel J. Solomon '16 is a writer at The Forward *in New York City.*



James Bundy, on the *Assassins* set

ALUMNI

Dual Dean

The man behind the curtain of Yale theater

by SOPHIA NGUYEN

While John Wilkes Booth looks on with something like fatherly pride, Lee Harvey Oswald kneels in the Texas Book Depository and sights the scope of a rifle, right at James Bundy '81, artistic director of the Yale Repertory Theatre and dean of the Yale School of Drama (YSD). Bundy's default expression—genial, watchful—doesn't change. He's directing a rehearsal of *Assassins*, the spring production of the Yale Rep's fiftieth anniversary season. The musical, by Stephen Sondheim and John Weidman, brings nine attempted and successful killers of U.S. presidents together in a hallucinatory revue. The gun's a period-appropriate prop; the "scope," though, is made from a disposable paper cup wound in masking tape.

"What'll we do without these?" grins the actor playing Oswald.

"He's teasing me," explains Bundy. "We're cutting cups from the budget next year." At the exaggerated outcry, he continues, "It's a big sustainability measure. We're going to save $2,000. And a tree!"

Today is mostly devoted to combat: teaching the actors how to handle their prop weapons in a way that looks realistic, and how to scrap and scuffle in a way that is safe. The fight choreographer goes through a few options for blocking the scene. Oswald could throw the rifle back to Booth like this, or he could hand it back like that, the way Oswald's U.S. Marine training would have taught him—"it all depends on what the boss wants."

Mostly, the boss listens—legs crossed, chin in hand—and during the six hours of rehearsals on this late February afternoon, he gives nary a "no." What if, in this number, the narrator gets lifted into the air by the throat? "Try it!" What if, in that song, the murderer gets blocked from the microphone? "Sure, let's try it." When Charles Guiteau manhandles Sara Jane Moore, should he grope her left or right side? Bundy considers the audience's perspective. "It should be her right, for storytelling." The next day—for storytelling—they head to a local gun range, so the actors can learn how it really feels to shoot.

Bundy's pedigree—familial and professional—feels like the natural outgrowth of Harvard and Yale's entwined institutional histories. In 1925, English professor George Pierce Baker left Harvard, taking his playwriting course with him, to found the Yale School of Drama; in 1980, YSD dean and Yale Rep founding director Robert Brustein reversed the trip, decamping for Cambridge to start the American Repertory Theater. Bundy's grandfather and paternal uncles were all Yalies, as was his father, McGeorge Bundy, JF '48, LL.D. '61, who was the dean of the Faculty of Arts and Sciences at Harvard before serving in the Kennedy administration. James was a senior at Groton, applying to conservatories and intending to study acting, when "My parents arranged for me to speak to Robert Brustein," he recalls, with a faintly embarrassed laugh. "He made a very cogent case. He said all of the interesting artists he knew had great educations, and that there was plenty of time to train after I went to college." Bundy matriculated at Harvard, "a very desultory English major" who got deep into the College's drama scene, acting under the now acclaimed director Peter Sellars '80 and staging Brendan Behan's *The Hostage* and Tom Stoppard's *Albert's Bridge*.

After graduation, he trained as an actor at the London Academy of Music and Dramatic Arts, and for five years took roles in various productions in California and Oregon. But he began to sense his limits as a performer: "I knew I was a skilled actor and I could do the work, but I also knew I was a balding 24-year-old—well, actually, by that time I was 29, and even balder."

In 1989, toward the end of his acting career, Bundy was playing Feste in the Oregon Shakespeare Festival's (OSF) *Twelfth Night* when his friends Bill Rauch '84 and Alison Carey '82 came to town with their traveling ensemble, the Cornerstone Theater Company. Taking the chance to transition to arts leadership, he joined the board and

Photographs by Jim Harrison, unless otherwise noted

CAROL ROSEGG (3)

In these scenes from *Assassins,* American history is a nightmare from which nobody can awake. "It is definitely not the feel-good musical of the year," James Bundy allows, "but the music itself is transcendent."

became managing director. "It was a really vital two years," says Rauch, during which Bundy opened the group's office in New York City and produced its 10,000-mile national tour.

But he found himself in a depressive spiral. After he and his wife, actress and singer Anne Tofflemire, had their first child, "I discovered being in the office was no good for me," he told the audience at a Yale event celebrating the Rep's anniversary last September. "And it became clear to me—in a therapeutic context, frankly—that I wasn't going to be a good parent if I couldn't be in an artistic environment." They moved to New Haven so Bundy could pursue his master of fine arts in directing. Then and now, it was unusual for students to have young families. "The prerequisite for being a graduate student at Yale with children is having a spouse who is a saint," he says. "My wife did the lion and a half's share of the childcare."

After earning his degree in 1995, Bundy worked at The Acting Company in New York, and then as the artistic director of the Great Lakes Theater Festival in Cleveland, where he lowered debt, raised attendance, and started a new educational program. In 2001, six years after he graduated from Yale, Bundy—noticeably young, and still a relative unknown in the theater world—succeeded his mentor Stan Wojewodski Jr. as dean and artistic director. The search had been public and difficult, with rumors flying anytime a big name in regional theater came to New Haven for lunch. Its dual responsibilities made the position particularly tough to fill: "I know people who wouldn't touch that job," says Chris Arnott, longtime theater critic at the *New Haven Register* and *Hartford Courant.* Few people had the appetite to wrangle theater professionals and academics and donors, run a school, teach students, and direct shows. What's more, Yale was going through a difficult period: as with many drama schools at the time, enrollment was down; so was theater attendance.

It did take time to adjust to the institution's split focus, Bundy acknowledges. While discussing technical notes for a Yale Rep show, he'd suddenly realize that three-quarters of the room was thinking about the homework that awaited them after rehearsal, and the classes they had to wake up for the next morning. "I would actually argue that if you're going to run the best school in the nation, that school has to be in charge of a professional theater," he says. "If you were going to run the absolute best professional theater in the nation, I think you probably wouldn't commit to running it with a school."

Both institutions have grown during his tenure. More students receive financial aid; at the theater, compensation doubled. So did the amount spent on productions, reports Rep managing director and YSD deputy dean Victoria Nolan: "The scale of our work grew exponentially, in a good way." The school has also gained a new department for projection design, and Bundy drew the largest gift in YSD history, $18 million, to finance the Binger Center for New Theater, which commissions and develops plays. "We've had great deans and great artistic directors," says Sterling Professor of theater and English Joseph Roach, who headed the search committee, "but some of the incumbents have favored one role or another." Bundy somehow made it all seem like one job. And while his predecessors (like U.S. presidents) typically have served two terms, he was named to his fourth last fall.

Colleagues describe Bundy as hyper-articulate and humble, easy to work with. But his most useful gift, both as an administrator and as an artist, might be his eye for talent. "He's got a real sense of pageantry, including getting important actors and giving them challenges," says Arnott, the theater critic. "He takes people seriously when they talk idly about a project they'd like to do." "He was really masterful with dealing with people," James Bland, an actor in Bundy's M.F.A. thesis show, told the *Yale Daily News* in 2001. "I hesitate to use the word 'politician,' but he is a great politician. James gets actors to do what he wants with very little direction. At Yale, he got us to do what he wanted in three words or less almost every time."

Rauch, who has collaborated with Bundy throughout their respective tenures at Yale and OSF, calls him "one of the kindest people in the American theater. He's such a gentle communicator. He's so kind and so clear

about what he wants and what he needs." Beyond that, Bundy can also identify the same thing in others. Back in 1999, when Rauch was still creating community theater with amateur casts over at Cornerstone, Bundy invited him to Cleveland to stage any play Rauch wanted, with an all-professional cast. "And I burst into tears," recalls Rauch. "He knew what I needed before I knew."

Straddling as it did both sides of the 2016 election, the Rep's current season was always designed to be topical. But the present has its own funny way of catching up. The fall opener was the world premiere of *Scenes from Court Life*, in which playwright Sarah Ruhl remixed Stuart-era England with the United States under the Bush family; the work was conceived when the electoral field seemed primed for a duel between their dynasty and the Clintons. When Donald Trump won the Republican nomination, Bundy says, "in a way, it turned into sort of an elegy for decency." The play was Ruhl's fourth to debut at Yale. As August Wilson was for former YSD dean and director Lloyd Richards (himself described by *The New York Times* as "one of the most influential figures in modern American theater"), Ruhl—piquantly romantic, slyly witty—may become the writer most associated with Bundy's tenure. He remembers reading her play *Eurydice*, start-to-finish, while standing in his kitchen: "It was pretty undignified, because by the end of it, I was sobbing onto my butcher block!"

Overseer and Director Candidates

This spring, alumni can vote for five new Harvard Overseers and six new elected directors of the Harvard Alumni Association (HAA).

Ballots, mailed out by April 1, must be received (at the address indicated) by noon, Eastern Standard Time, on May 16 to be counted. Election results will be announced at the HAA's annual meeting on May 25, on the afternoon of Commencement day. All holders of Harvard degrees, except Corporation members and officers of instruction and government, are entitled to vote for Overseer candidates. The election for HAA directors is open to all Harvard degree-holders.

Candidates for Overseer may also be nominated by petition if they receive a prescribed number of signatures. (The deadline for all petitions was February 1.)

For Overseer (six-year term):

Paul L. Choi '86, J.D. '89, Chicago. Partner, Sidley Austin LLP.

Mariano-Florentino Cuéllar '93, San Francisco. Justice, Supreme Court of California.

Darienne B. Driver, Ed.M. '06, Ed.D. '14, Milwaukee. Superintendent, Milwaukee public schools.

Carla Harris '84, M.B.A. '87, New York City. Vice chair of wealth management and managing director, Morgan Stanley.

Lane MacDonald '88, Boston. President, FMR Diversified Investments.

Elizabeth D. Samet '91, West Point, New York. Professor of English, U.S. Military Academy.

Craig R. Stapleton '67, M.B.A. '70, Greenwich, Connecticut. Senior adviser, Stone Point Capital.

Leslie P. Tolbert '73, Ph.D. '78, Tucson. Regents' professor, department of neuroscience, University of Arizona.

For elected director (three-year term):

Martha Abbruzzese Genieser '91, London. Director of philanthropy, Alan Howard Family Office.

Nathaniel Q. Belcher, M.Arch. '92, University Park, Pennsylvania. Professor of architecture, Stuckeman School of Architecture and Landscape Architecture, Pennsylvania State University.

Sangu Julius Delle '10, J.D.-M.B.A. '17, Accra, Ghana. Chairman and CEO, Golden Palm Investments Corporation; founder and president, cleanacwa.

Drew Engles '87, Akron, Ohio. Hand and microvascular surgeon, Akron Children's Hospital.

Sachin H. Jain '02, M.D. '06, M.B.A. '07, Cerritos, California. President and CEO, CareMore Health System.

Elena Hahn Kiam '85, New York City. Co-owner and creative director, K-FIVE LLC d/b/a lia sophia; co-owner and nonexecutive marketing director, Cirrus Healthcare Products.

Ronald P. Mitchell '92, M.B.A. '97, New York City. CEO, Virgil Inc.

Paola A. Peacock Friedrich, S.M. '06, Ed.L.D. '14, Marblehead, Massachusetts. Human capital management consultant, AchieveMission.

Leslie Miller Saiontz '81, Miami. Founder and president, Achieve Miami.


Paul L. Choi


Mariano-Florentino Cuéllar


Darienne B. Driver


Carla Harris


Lane MacDonald


Elizabeth D. Samet


Craig R. Stapleton


Leslie P. Tolbert


Martha Abbruzzese Genieser


Nathaniel Q. Belcher


Sangu Julius Delle


Drew Engles


Sachin H. Jain


Elena Hahn Kiam


Ronald P. Mitchell


Paola A. Peacock Friedrich


Leslie Miller Saiontz

Political upheaval may have given Ruhl's satiric portrait of the ruling class a sepia-toned pathos, but *Assassins* repels nostalgia; its pack of lone wolves howl their underdog delusions, and refuse to be put down by history. Since its 1990 premiere, its funhouse reflection of the American dream has only grown clearer, and more disturbing. "I believed at the time when we were programming it that it would be relevant by the time we produced it," says Bundy. "Either because President Hillary Clinton would be enduring the worst backlash in the history of backlash, from disenfranchised white men whose sense of entitlement led to a kind of enraged hostility. Or that we would actually be governed by the ethos of enraged, disenfranchised white men."

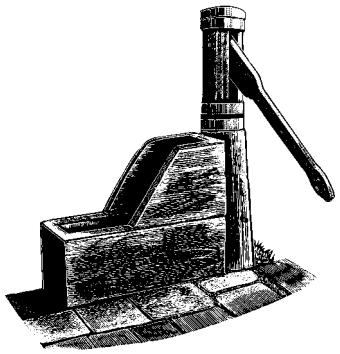
Somewhere on the slippery spectrum between Everyman and bogeyman, the actors have to trigger the spine-chill of recognition in the audience—this is what goes bump in the national night—and Bundy has to help shape their performances. In late February, the cast was reviewing the number "How I Saved Roosevelt," in which FDR's would-be murderer Giuseppe Zangara gets strapped to an electric chair, singing a deranged tarantella. The song ended, and Bundy quietly conferred with the actor playing Zangara. Afterward the performance was perfectly modulated: less bug-eyed, his grin's wattage turned down.

The other challenge comes with the genre. "Musicals are simply more densely packed," Bundy explains. Compared to straight plays, they require a director to work with collaborators—the choreographer and musical director—with far greater creative input. "It's unbelievably fun and gratifying to be able to turn to more people and say, 'What do you think about that?'" he says. "It's simultaneously a greater level of coordination, but the tradeoff is, you have that many more terrific minds at work."

Assassins is Bundy's first musical. Then again—as with his dual job at Yale—what other people might see as a daunting array of competing priorities, he sees as getting to have it all. Asked if he wants to direct more musicals in the future, Bundy blurts, "Oh God! Oh, yes! I can't *wait* until I direct the next one. I'm having such a good time." He hasn't dared to allow himself a wish list of possible shows just yet. "I guess maybe I—I'm conflicted about getting to do so many things that I like to do." A few weeks into the rehearsal process, he reports, "I'm having a hard time managing the level of fun I'm having, because it's so pleasurable."

TURN TO PAGE 74 TO VIEW OUR SPECIAL SECTION
SPOTLIGHT ON NEW ENGLAND

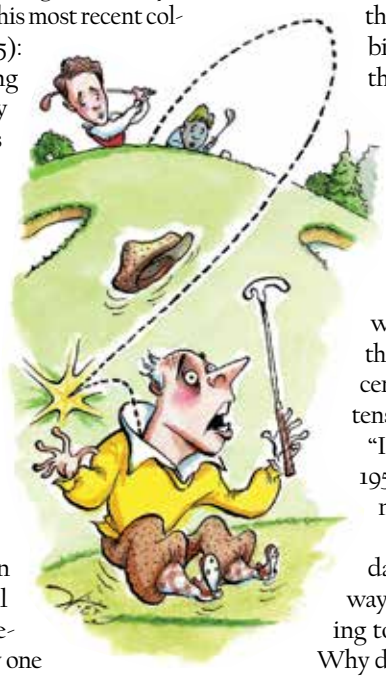
Spring Sports, Spider Man



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

Spring, and young men's thoughts turn to...exercise. *The New Yorker*'s ever-young Roger Angell '42, acclaimed for his baseball writing, summoned another sport, from his undergraduate days, in a 2011 letter included in his most recent collection, *This Old Man* (2015):

"I don't mind passing along the golf shot of my life. This came while I was still at Harvard, and was playing with another hacker pal of mine one weekend at a suburban course in Wayland, Mass. There was a party of three just ahead of us on the course, and I waited for them to get a decent distance ahead on some hole before I stepped up and somehow hit the longest drive of my life, which began to fade ominously in their direction....The ball hit a couple of yards behind them and then I saw one of them begin to writhe and jump about oddly. He didn't go down, but when I'd gotten to within his cursing distance we discovered that the ball had come down *inside his collar* and had ended up down his back somewhere. I apologized endlessly but couldn't quite suppress my grin: Wow—greater than a hole in one, any day!"



Less whimsically, David Halberstam '55 wrote "Death of a Sculler, in Three Acts" (originally titled "Obit on Sculling") for the *Harvard Alumni Bulletin*, the then-incarnation of this magazine, in the spring of his senior year. (The essay appears in *Everything They Had*, a 2008 anthology of his sports writing.) He catalogued the lethal threats to rowers along the Charles: the traditional stone age (boys throwing rocks, or dropping bigger ones into boats, from the bridges); the machine age (wakes from passing power boats); and, dismayingly, the new nuclear age (the discovery of abnormally elevated radioactivity in Cambridge's water). Taking stock, Halberstam wrote of Cold War threats that, read today, anticipate recently renewed international tensions and anxieties:

"In the spring of 1953 and 1954 people would turn to me and say:

'Look, if sculling's that dangerous, if people are always throwing at you and trying to sink you, why not quit? Why do you do it?'

'Escape,' I would answer. 'No problem of coexistence on the river. No Iron Curtain, only the Larz Anderson Bridge....'

That was in the old days. Now atomic fission is everywhere. Nowhere is the conflict between East and West, Communism and Democracy, so clearly outlined as on the Charles River. A nightmare is haunting today's single sculler: the vision of a motorboat filled with little boys. The little boys are armed with rocks, and they pursue him relentlessly until he is capsized into the nuclear waters of the Charles, Cambridge's first casualty from radioactivity."

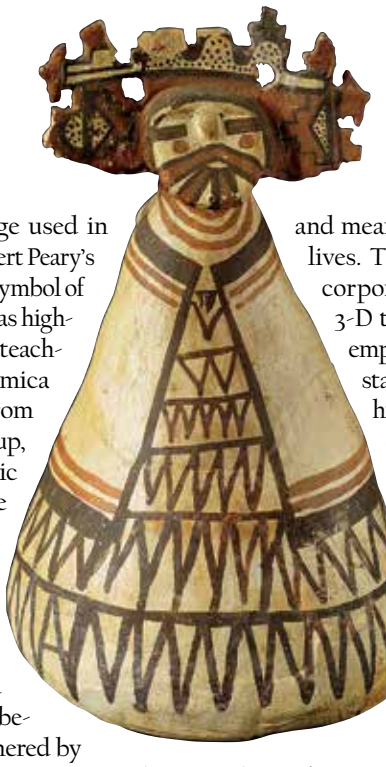
Certain kinds of collecting also lend themselves to clement weather. A Memorial Minute read to the Faculty of Arts and Sciences on February 7, commemorating the late Herbert Walter Levi (a refugee from Nazi Germany who tried to enlist in the U.S. Army, was rejected as an enemy alien, and later came to Harvard as a curator and ultimately became Agassiz professor of zoology), observes that he "documented spiders incessantly until his death. He published more than 200 scientific papers and described 1,254 new spider species, 1,204 of which are still considered valid...." He understandably earned "immense" respect in the "arachnological community," with "more than 40 species, and two genera, named after him."

Spring thoughts also turn to sex, and we learn that "Herb's holistic view of spiders led him to produce detailed species descriptions, beautifully illustrated and incorporating multiple views of their genitalia, a practice that has become standard in descriptions not only of spiders but also of many other arthropods." Mind you, in the service of *science*: the spider man's "superb drawing skills enabled the interpretation of highly complex structures such as the spiders' copulatory bulb—one of the main characteristics for identifying species of spiders." —PRIMUS VI

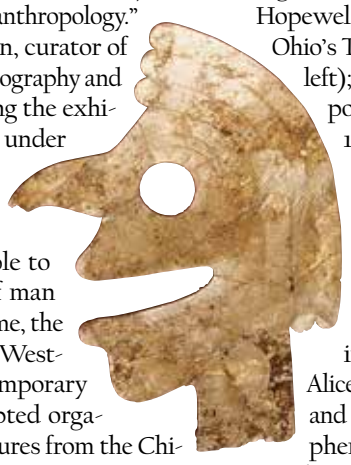
Illustration by Michael Witte

Anthropology Anew

The Peabody's prized collections



When the Peabody Museum of Archaeology & Ethnology unveils "All the World Is Here" on April 22, it celebrates both the institution's sesquicentennial and (part of the exhibition's subtitle) "the invention of American anthropology."

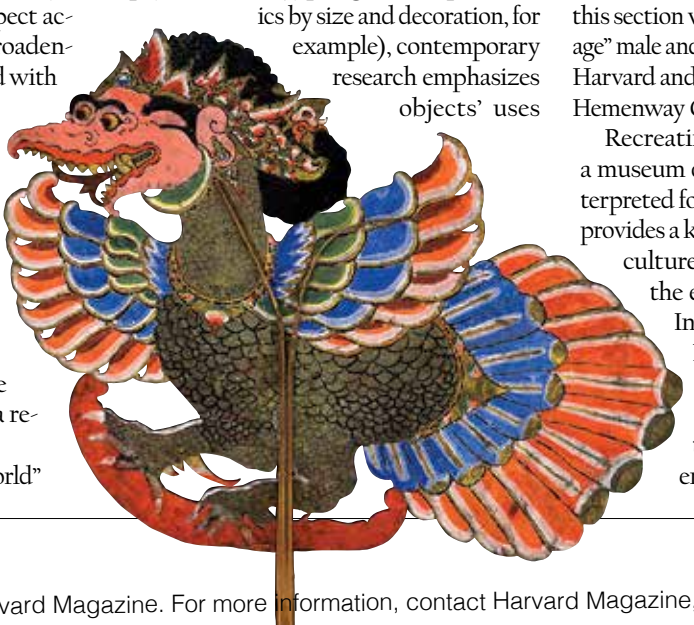


Castle McLaughlin, curator of North American ethnography and a principal in creating the exhibition, explains that under Frederic W. Putnam, the museum's director from 1875 to 1909, it became respectable to extend the study of man from Greece and Rome, the ancient pinnacles of Western civ, to the contemporary species. That prompted organizing donated treasures from the China trade, or vacuuming up Native American ceremonial wares—the precursors to and fledgling work of scientific anthropology. It also became academically sound to treat the Mesoamerican past, at sites like the Maya capital at Copán, with the same respect accorded Athens—a simultaneous broadening of archaeology. This era coincided with Harvard president Charles W. Eliot's 40-year transformation of a classically oriented New England college into an ambitious research university, curious about *everything*.

Not quite everything can be displayed on the splendidly refurbished fourth floor: the Peabody holds 2.75 million objects, plus more than 500,000 historic images. But the more than 600 items exhibited are a rewarding plenitude.

The front two-thirds of "All the World" is keynoted by a dog sledge used in Greenland, from Admiral Robert Peary's Arctic expeditions: a potent symbol of exploration. Surrounding areas highlight Putnam's directorship, teaching, and research (like the mica Hopewell face excavated from Ohio's Turner Mound Group, left); some of the ceramic pots collected in the 1880s during expeditions privately underwritten by Mary Hemenway (here, a Hopi water pitcher shaped like a female spirit being); and items gathered by Alice Fletcher, whom Putnam mentored and trained: an outstanding ethnographer active among Native American peoples (see Vita, March-April 1980, page 35).

McLaughlin notes that visitors will perceive anthropology's changing methods—and values. Where once collections assessed items in physical terms (typologies of Hopi ceramics by size and decoration, for example), contemporary research emphasizes objects' uses and meanings in their makers' lives. The Copán section incorporates information on 3-D technology now being employed to reconstruct a stairway and its corroded hieroglyphs. In video recordings in the physical anthropology display, scholars including Henry Ford II professor of human evolution David Pilbeam address subjects like the changing conception of "race."



One archetype of race introduces the rear part of the exhibition, drawn from the World's Columbian Exposition, the great "all the world is here" Chicago fair of 1893, where Putnam organized the exhibits introducing fairgoers to anthropology. (The Javanese village shown then is echoed in the shadow puppet, left.) Peabody curators Diana Lauren and Ilisa Barbash have opened this section with the 1893 figures of the "average" male and female: archetypes derived from Harvard and Radcliffe students measured at Hemenway Gymnasium.

Recreating Victorian anthropology in a museum dating in part to that era, reinterpreted for twenty-first-century viewers, provides a kaleidoscopic overview of human cultures, anthropology's origins, and, the evolution, in real time, of both. In sensitively interpreting what McLaughlin justly calls these "incredible" artifacts, one also senses gains in understanding the rich diversity of the human enterprise. —John S. Rosenberg

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