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On the cover: Taken at Massachusetts Hall, May 9, 2018. Photograph by Jim Harrison



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Cambridge 02138

Tax reform, shopping week, enabling expertise

OUR TOWNS

I WAS pleasantly surprised to see that one place the Falloweses covered was my hometown and current place of residence, Sioux Falls ("Our Towns," by Lincoln Caplan, May-June, page 44). After 17 years as a pastor in a Wisconsin suburb of the Twin Cities, I was also amazed to return here to find that, indeed, the place I'd grown up in, surrounded by descendants of immigrants from Scandinavia and other parts of northern Europe, was populated by tens of thousands of people from Ukraine, South and Southeast Asia, Lebanon, Syria, Liberia, Nepal, and Latin America, and that dozens of languages have enlivened the streets and dining scene. From my pastoral perspective of seeing a very diverse world now represented all around us here in the Heartland, perhaps the article could have been titled, "What the Heaven is Happening in America?"

While I no longer hear the Swedish my immigrant grandparents spoke, I do hear what may well be Swahili. *Mirabile dictu!*

REV. RANDY FREDRIKSON, M.Div. '72
Sioux Falls, S.D.

READING the recent article about puddle-jumping across the country in a private plane, trekking from one big-small-town to another, to get a journalistic sense of what

the heck is happening out there, both fascinated and disturbed

me. Romance and nostalgia reminiscent of Lindbergh, to be sure. Likely a trifle pricey, though bold and unique in conception.

But the need to criticize Trump administration policies that somehow run counter to what is "in the country's best interests" confused me. Precisely which policies? The repatriation of trillions of dollars in business profits parked uselessly overseas awaiting re-introduction into our economy by way of tax reform...which we now have? Or the completion of the Keystone pipeline which we hope will avert catastrophic railcar disasters like what occurred in Quebec and Virginia? Is it the aggressive and successful stance taken against rogue militarism in North Korea, Syria, and now Iran? The willingness to protect our southern border with an effective wall and a network of judges doing the business of the people who placed them on the bench in the first place? It must be the positive attitude of our president about the dignity of work and his belief in perpetuating a durable middle class that is supported by rethinking our long out-of-balance pay scales. Surely that must rankle the privileged, the overpaid, over-educated, and the underworked everywhere.

What mental myopia is it that still invests the "best and the brightest"? I know not, but vow to be in-the-face of that self-serving myopia wherever I can. Elitism needs to come to an end, soon, or else colleges themselves may cease to be relevant.

THOMAS M. ZUBATY '72
Marstons Mills, Mass.

THEN AND NOW: On the cover, Drew Gilpin Faust at Massachusetts Hall, May 9, 2018, and left, as Radcliffe Institute dean and president-elect, April 26, 2007, at Fay House (July-August 2007 issue). Her Commencement address, and valedictory, appears at page 21. An overview of her presidency begins on page 46.



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7 WARE STREET

Unfinished Business

THE CONCLUSION of Drew Faust's presidency coincides with Michael D. Smith's announced departure from the Faculty of Arts and Sciences (FAS) deanship. Faust and Smith, like Neil L. Rudenstine and Jeremy R. Knowles, held their offices for the duration of a Harvard administration—in this case, since 2007. Though the interactions between Mass Hall and University Hall can at times seem more distant than their short physical separation implies, having a harmonious relationship (as this one certainly seems to have been) makes life within Harvard easier.

Faust was warm and generous in describing Smith's tenure at the April 3 faculty meeting, the first following the news that he would step down. Nodding toward the financial avalanche that crashed down on FAS in 2008 (and the constraints that have remained since), she said he had led the faculty with a steady hand, and cited in particular his devotion to teaching and to diversity and opportunity for all. During the ensuing standing O, Smith, who is indeed steady and can even seem impassive, beamed and touched his hand to his heart before thanking all present and acknowledging the "incredible honor to serve this faculty" and to join in their work on behalf of students.

Before the meeting, president-elect Lawrence S. Bacow had already organized a search for Smith's successor. There will be plenty for the new FAS dean to do: effecting the move of half of the engineers and applied scientists into their new home in Allston in 2020, ironing out the accompanying logistical kinks—and figuring out how to pay to operate the place; identifying the new (likely scientific) uses for the Cambridge quarters those traveling faculty members leave behind, and ditto on financing the required retrofits; establishing a permanent academic footing, and forward trajectory, for the undergraduate performing-arts concentra-

tion, research programs in data science and inequality, and other initiatives; et cetera.

One critical piece of unfinished business relates squarely to Smith's interest in teaching and learning, and the faculty's obligation to deliver on same: populating the new General Education courses, and launching the program successfully for undergraduates in 2019. The faculty's review of this part of the curriculum, concluded in 2016, found that it was a mess, and advanced a new and presumably more focused architecture for its future. In effect that means that Gen Ed was subjected to reconsideration under for-



mer president Lawrence H. Summers; legislated during the interim tenure of Derek C. Bok; implemented under financial duress in the Faust years; and now is scheduled to relaunch in the second year of the Bacow administration—15 years-plus during which apparently no one believes a significant, mandated part of students' course of study has been up to snuff.

In a letter to colleagues at the beginning of the academic year just ended, Smith observed that the faculty had debated the *what* and the *how* of Gen Ed 2.0 ("to prepare students for meaningful lives of civic and ethical engagement in an ever-changing world" via single requirements in four newly designated areas, plus exposure to a "quantitative facility" course, to be defined, and three distribution courses). What was lacking, he said, was any articulation of *why*.

He suggested that Gen Ed courses ought to challenge students' "ingrained" ideas—aiming away from conveying facts and explicitly toward transforming and broadening how "students think about things that they enter the class thinking that they know." (Thus, not "Who won the Battle of Bull Run?" but "Is the United States *still* fighting the Civil War?") In a distressingly polarized, partisan time—what Smith called "a world where conversation and compromise seem unachievable"—he pointed to Gen Ed courses that "unsettle assumptions and broad perspectives," developing students' capacities to "enable them to connect with others, communicate effectively, and lead society into a better future."

Done right, that might result in classes that students actually care about, and a basis for Gen Ed that could, one hopes, outlast the present moment. Arriving there will remain challenging: faculty members have to enlist and deliver; students have to perceive the change; and there is the enduring structural problem that FAS and Harvard are culturally inhospitable to a required core of specified courses—or even a defined set of skills that students are expected to acquire.

Smith has been recruiting possible teachers for the new courses. Professor of psychology Jason P. Mitchell, the newish faculty chair of the committee that oversees Gen Ed, is pursuing the mission with fresh energy, and refining the *why* in a way he hopes colleagues will embrace and bring into classrooms. The newly appointed dean of undergraduate education, Zemurray Stone Radcliffe professor of English Amanda Claybaugh (see page 31), will also have things to say about the execution of these plans.

Smith himself will not be in office come August 2019, when Gen Ed 2.0 debuts. But how it plays out will become an important element in determining his legacy. From students' perspective, it is past time that the faculty get this right.

~JOHN S. ROSENBERG, *Editor*

LINCOLN CAPLAN'S article on the flights of the Fallowsees made me angry at first, then just sort of resigned. Your audience of educated Americans does not cotton to anger or any sort of negativity; it's off-putting,

but I fear premature optimism can derail reform. My take-away from this article is that "everything's going to be OK here in the USA"—that there are many examples across the land of Americans doing excel-

lent things to make America a better place.

I enjoyed reading the Fallowsees' diverse array of examples but...where I have lived during the past five years (Lebanon, Tennessee, countryside and Hoquiam-Aberdeen,

Washington), I see an incredible number of troubled, damaged, poisoned people—primarily at Walmart, which is the halfway point on my evening walk. The Walmart customer base in both Middle Tennessee and on the Washington coast tends to be grossly overweight, and far too many are morbidly obese. It is sad to see so many overweight young children and teens in my community. Obesity is a recent problem due to the toxicity of much of our “food.” Americans have been and continue to be poisoned by our food suppliers and drugged into oblivion by Big Pharma. I see many victims of drug abuse on the streets of my community.

As Americans try to rebuild, after the middle-class gutting of the past 30 years, they are battling (being cannibalized by) our own large corporations. This makes me intensely angry. I call this Cannibal Capitalism. I would like to see a writer for *Harvard Magazine* investigate this vast, horrible problem to any degree, i.e. try to answer the questions, “Why are so many Americans obese?” “Why are so many Americans addicted to drugs?” You would, of course, soon find yourself at odds with several big corporations whose profits expand the endowments of our Ivy League hedge funds, er...I mean universities. Do you have the courage to take on these corporate monsters who are poisoning not just Americans but the citizens of the entire globe? It is Harvard’s responsibility to help fix this towering problem.

JIM BLAKE, M.Arch. '79
Hoquiam, Wash.

TWO GEMS struck me in the May-June issue: Eunice Shriver’s founding of the Special

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.

Olympics (Vita, by Eileen McNamara, page 42), and Deborah Fallows’s dedication to family over career.

Shriver employed her advantages in life to dignify the disadvantaged. Fallows lived the vital truth that “parents are the most important factor in their children’s lives.”

Thank you for recounting their inspiring actions and words.

MARTIN WISHNATSKY '66, Ph.D. '75
Prattville, Ala.

TAX REFORM

IN HIS ARTICLE, “Tax Reform, Round One” (Forum, May-June, page 57), Mihir Desai states: “A major rationale for the corporate reforms is to incentivize corporate investment, prompting...ultimately, greater wages for workers.” The article also notes that that “[t]he most significant individual-tax changes...largely accrue to high-income individuals.”

However, what incentivizes businesses to invest is a perception of greater demand for their goods and services. Lacking that perception, a business will not invest to expand its operations no matter how much additional cash flow tax reform provides. It would be folly to do so. And if the business perceives a greater demand, it will generate or find the funding to expand without the need for a government subsidy.

Further, the given in economics is that consumption—the demand for goods and services—is the most powerful of economic forces. Consumption is what makes economies go ‘round. Even economies that rely on exporting their products depend on the demand for those products elsewhere.

Surely, then, moderating the corporate and individual tax changes to favor the lower- and middle-income earners would directly and immediately lodge more cash to spend in those people who most support our economy by their consumption of goods and services. It’s called trickle up economics.

PETER SIVIGLIA, J.D. '65
Irvington, N.Y.

WHAT WOULD “TAX REFORM—Round Two” look like? Round Two exists!—It’s been long buried in Congress, the biparti-



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san 2017 Fair Tax Act (HR25, S18). The act was first introduced in 1999, thoroughly researched and developed by some 80 leading economists, including a Nobel laureate.

It's the best tax plan ever, but Congress won't mention it. Why? Because it abolishes the IRS, and members of both parties would lose their power and money-selling tax favors.

The proposed legislation rids businesses and individuals of the income tax, replacing it with a retail sales tax. Instead of raising government revenue by taxing the relatively few who have income, the Fair Tax Act taxes everyone in the U.S., not only citizens but all who buy services or new goods. For the first time, undocumented aliens and criminals pay taxes, plus the hordes of tourists visiting the U.S. No one avoids paying taxes!

To make the tax truly fair, all citizens receive a monthly sum based on family size—their yearly total depending on the government's definition of poverty.

With the Fair Tax the government's revenue may exceed what the income tax now brings in. Prices may drop significantly as the huge, unacknowledged costs of the income-tax system evaporate: businesses and individuals will no longer waste time confirming earnings and justifying deductions; tax-avoidance experts won't need to be paid; non-productive tax record-keeping will be eliminated; and businesses that collect tax revenue will file a vastly simplified, one-page monthly form.

All will love the Fair Tax—except congressional leaders losing their power!

RICHARD G. RETTIG '51
Oceanside, Calif.

MIHIR DESAI's article on the tax law presented a very enlightening outline of its multitudinous features. I cannot, however, agree that the provision for expensing of new investment in equipment ensures "no distortion to investment decisions." This provision gives preferential treatment to equipment investment not in line with economic reality, biases decisions among categories of investment, and distorts decisions on investing versus leasing of equipment.

ROBERT RAYNSFORD, Ph.D. '66
Washington, D.C.

THE ARTICLE on the tax bill only touched lightly on *hidden taxes*. When deficit spending raises prices, goods and services are taken from the public, the same thing as taxes. If

one is given a tax cut of 5 percent and the price level goes up 12 percent, the tax level actually went up 7 percent. Keynes pointed out that government can live a long time on "note printing," but the longer it lasts, the worse the eventual outcome.

EDMUND R. HELFFRICH '49
Allentown, Pa.

TRUANCY: A RESEARCH AGENDA

IN "The Power of a Postcard: Trimming Truancy" (May-June, page 8), *Harvard Magazine* touts the research of Todd Rogers, in which using postcards mailed to students' homes to inform parents of their children's absences from school was successful in reducing student absenteeism. The article goes on to say, "Schools are paying attention [to this research]. The federal government's new education law, the Every Student Succeeds Act, has led at least 36 states to select student absenteeism as one of the metrics on which their educational quality is evaluated."

I applaud Rogers for his work, but I wish we knew the outcome of the reduction in student absenteeism. Do these reformed "truants" become more engaged in the educational process when their absenteeism decreases, thus improving their academic performance, or do these students, who perhaps never wanted to be in the classroom in the first place, become classroom disrupters who prevent other students from learning and thus reduce everyone's academic performance?

Using absenteeism as a metric is measuring a process; it is not measuring an outcome.

MICHELLE HUTCHINSON, D.M.D.-M.P.H. '87
Marietta, Ga.

Editor's note: In reporting on the research, we were not expressing an opinion on it. The research continues, and, as Michelle Hutchinson notes, now that Todd Rogers has discovered an effect, it will be interesting to determine its wider influence on schooling outcomes—particularly for those students who attend classes and might not have otherwise.

SHOPPING WEEK

IT IS REGRETTABLE that the Harvard faculty is once again talking about eliminating the "shopping period" during which students can try out a number of classes at the beginning of the semester before making a final selection ("Toward Preregistration?"

May-June, page 27). The faculty tried to eliminate it in 2003, and fortunately they did not succeed then. The extraordinary value of the shopping period should not be weighed against small inconveniences for the faculty, such as those described in the recent article in *Harvard Magazine*. The suggestion that students could get the same information from video clips during a pre-registration period as they get from sitting in a classroom during shopping period is misguided and shows a lack of appreciation for the importance of live interactions.

The shopping period is a unique Harvard activity with creative educational benefits. It encourages students to try new areas of Harvard's wide offerings. This is true for students of all backgrounds, because most students arrive at Harvard with pre-conceived ideas about what they want to study, and they come from secondary schools where courses can be chosen only within certain limits.

In my own case, I arrived at Harvard as a freshman in 1965 planning to take government courses because I had spent the previous summer working at the U.S. Senate. The shopping period encouraged me to explore the richness of Harvard's course offerings, and I ended up taking an anthropology course, a philosophy course, and a psychology course, as well as auditing a second philosophy course, during my freshman fall semester.

EDWARD TABOR '69
Bethesda, Md.

ENABLING EXPERTISE

THE LETTERS of Don Kingsley and, to a lesser extent, Howard Landis, appearing in the May-June issue (pages 4 and 6, commenting on "The Mirage of Knowledge," March-April, page 32), betray a fundamental unawareness of the Second Law of Thermodynamics. They both recite how alleged "experts" screwed up presumably better systems that existed before the experts got their hands on them.

But that's not how the universe works. We are constantly battling the tendency toward disorganization, and there is no evidence whatsoever that the efforts of our experts prior to the "horribles" of the last 30 years fared any better. Failure should not lead to abandonment of whatever expertise seemed most appropriate at the time, but to a renewed and stronger effort to increase the information that will underlie whatever

expertise we will appeal to in the future.

More and wider education is the only answer, especially of women!

BRUCE A. McALLISTER, J.D. '64
Palm Beach, Fla.

DONALD TRUMP and the movements that contributed to his political success are not solely to blame for the distrust, disdain, and cynicism about "experts." More plausible reasons are: 1) experts who step beyond their boundaries for ignoble motives; 2) corruption among experts (who are as human as anyone else); 3) the mistaken conflation of credentialism with expertise; and 4) the hyperbolically superlative adulation for fraudulent celebrity experts—some famous recent examples including (Harvard-educated) Albert Gore and Barack Obama—which would be comical if their influence weren't so destructive. Just because Donald Trump can be crude and gauche when he wields his convention- and status quo-smashing sledgehammer doesn't mean that his targets don't deserve it.

D. C. ALAN '86
Washington, D.C.

FOR A PERSPECTIVE on how we arrived at our current climate of rejecting expertise, allow me to recommend an article by Steven Brill ("How My Generation Broke America," *Time*, May 17, 2018). To summarize the argument of that article, and with apologies for any misunderstanding I may convey about Mr. Brill's views, the experts of the last 50 years have spent a disproportionate amount of time, effort, and, yes, expertise in enriching and protecting themselves and their employers.

For example, the rewards for corporate attorneys have vastly outpaced those for attorneys who choose to serve lower- and middle-class individuals or the public interest. Consequently expertise has flowed away from the latter and to the former. Investment expertise, similarly, has flowed away from helping the public avoid destitution and toward creating financial instruments for specialized corporate use. When those instruments failed, the public was left to their own devices but the experts' employers were bailed out.

Consider the impact of expertise on the public. Dr. Nichols believes that the failures

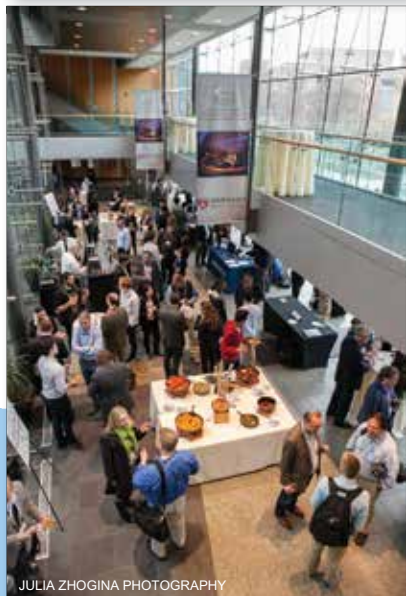
of expertise are "spectacular but rare," but the victories of expertise are a two-edged sword. The creation and marketing of opioids was a victory for Big Pharma but a tragic failure for many thousands of addicts. The invention of labor-saving devices was a victory for manufacturers but a failure for the displaced machinists. Collateralized mortgage obligations were a victory for investors who held them, at first, but a failure for those whose homes were foreclosed and under water.

Where will it end? The Republic has survived far worse, but only when it was forged in the crucible of an existential threat that extended to the elite and the 99 percent equally. In war and economic crash, the elite and the plebe were in the same foxhole. A modest proposal: universal two-year national service where the elite would at least be working side by side with the 99 percent toward common goals.

STEVEN LAW '71
Windsor, Conn.

CONTRACEPTION AND ABORTION

THE MAY-JUNE ISSUE included a letter from Doug Kingsley (pages 4 and 6), referring to



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"...bullies in Washington who weaponized the IRS against patriots and forced the Little Sisters of the Poor to offer abortion coverage [Editor's note: The issue was coverage for contraception.] against their religious convictions."

The bracketed editor's note is at best disingenuous. The Affordable Care Act required coverage, under 2011 Health Resources and Services Administration guidelines, for all FDA-approved contraceptive methods [77 FR 8725]—however these include morning-after pills like Plan B® and ella®. Interim final rules that became effective in 2017 noted that FDA "includes in the category of 'contraceptives' certain drugs and devices that may not only prevent conception (fertilization), but may also prevent implantation of an embryo, [including] several contraceptive methods that many persons and organizations believe are abortifacient—that is, as causing early abortion—and which they conscientiously oppose for that reason distinct from whether they also oppose contraception or sterilization" [82 FR 47792].

PETER JACOBSON '75
Livermore, Calif.

YESTERDAY'S (SEX-IST) NEWS

CUTE SEXIST QUIPS aren't cute. "Commencement-week protest [in 1973]..., meanwhile, shifts from politics to plumbing as women distressed by the general shortage...of toilet facilities for their sex stage a protest..." (Yesterday's News, May-June, page 20). That this quotidian problem for women required a protest for it to be addressed, in fact required political action, is a reflection of the pervasiveness and subtlety of sexism.

In the recent movie *Hidden Figures* the black woman who calculates John Glenn's trajectory has to run across the NASA campus in the rain to use a segregated bathroom. In the movie Kevin Kostner, the head of the space program, fixes the problem with a sledgehammer to the restrictive signage.

If the problem at Harvard had been addressed by Derek Bok wielding a sledge-



hammer against restrooms designated as men's, perhaps we'd look back with more inclusive bravado and less bemused condescension.

JOHN CRAFTORD '68, A.M. '69
Cape Elizabeth, Me.

Editor's note: The point isn't to be cute or demeaning, or to justify sexism. It is to show the kinds of language, policies, and attitudes pervasive *at the time*. The review of Hanna Gray's memoir in the same issue (page 72) indicates how recently things were outrageously deplorable for women at Harvard—so people will remember and learn from that.

ERRATUM

"VISITING HOURS" (Montage, May-June, page 66) erroneously reported that Jack Lueders-Booth, Ed.M. '78, was 30 when he decided to pursue photography full-time; he was 35.



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8F The Heritage Museums and Gardens
Botanical splendor, Americana, and race cars on Cape Cod



8B Extracurriculars
A sampling of Greater Boston events in July and August



8D Kevin Beasley
Haunting sculptures capture cultural mores at ICA/Boston



8E Boaters Ahoy
Portsmouth's annual Round Island Regatta is open to all



8I MASS MoCA
Contemporary art, comedy, music festivals—and more



8K Pipe Up!
Organ concerts at the ornate, historic music hall in Methuen

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Extracurriculars

Events on and off campus during July and August

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cooking demonstrations. Science Center Plaza. (Tuesdays, through November 20)

Newburyport Artwalk

www.artwalknewburyport.blogspot.com
Gallery receptions, pop-up exhibits, and

From left: *Lane's Cove* (c. 1930s), among works by artist Harrison Cady at the Cape Ann Museum; *The Wailin' Jennys* perform at Sanders Theatre; a gardener from "Playtime in the Making," an exploration of how "play" spawns creativity, at the Fuller Craft Museum

artist talks in the historic downtown district, amid restaurants, shops, and easy strolls along the Merrimack River. (June 23 and August 18)

African Festival of Boston

www.africanfestivalofboston.com
An annual celebration of African arts, culture, and food. Rowes Wharf. (July 28)

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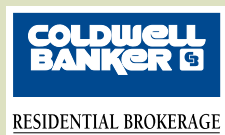


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harmonies reinvigorate folk, roots, and pop tunes. Sanders Theatre. (August 23)

FILM

Harvard Film Archive

www.hcl.harvard.edu/hfa

Luchino Visconti, *Architect of Neoreal-*

ism, offers decadent classics like *Death in Venice* and *The Damned*. (Through July 15)

Cinema of Resistance. The exploration of spirited protest includes Robert Bresson's *A Man Escaped* and Midi Z's *City of Jade*. (Through July 21)

THEATER

American Repertory Theater

www.americanrepertorytheater.org

Hip-hop group **STL GLD**—Album, Video, and Producer of the Year winner at the 2017 Boston Music Awards—performs at Oberon. (August 3)

Drawing from the eponymous Langston Hughes poem, ***The Black Clown*** is a “music theater experience” incorporating vaude-

ville, opera, jazz, and spirituals to vivify a black man's powers of resilience. Starring bass-bari-
tone Davóne Tines '09, with a new score by Michael Shachter '09. Loeb Drama Center. (August 31–September 23)

NATURE AND SCIENCE

Tower Hill Botanic Garden

www.towerhillbg.org

A day trip to the Boylston grounds offers a discussion on Impressionist paintings and garden talks and tours, along with a special **Butterfly Walk** with Massachusetts Butterfly Club naturalist and photographer Dawn Vesey. (August 18)

Arnold Arboretum

www.arboretum.harvard.edu

There are weekend horticultural tours and free-wheeling, family-fun explorations of this vital slice of the natural world in the middle of Boston.

EXHIBITIONS & EVENTS

Harvard Museum of Natural History

www.hmn.harvard.edu

Lily Simonson: *Painting the Deep* features six original mural-sized paintings glowing with luminescent pigments, inviting viewers into an immersive experience of oceanic life. (Opens June 30)

MicroChefs: An Evening for Curious Adults.

Learn about the beneficial microorganisms that create or contribute to wine, cheese, and chocolates—and other foods we love. (July 19)

Fuller Craft Museum

www.fullercraft.org

Playtime in the Making, an installation by artists Tommy Simpson, Karen LaFleur, Nan-

STAFF PICK: Kevin Beasley at the ICA/Boston

Artist Kevin Beasley's sculptures resonate with what's *not* there. He typically uses found objects, from Air Jordans and T-shirts to feathers and amplifiers, and molds them into eerily inhabited shapes or spaces using resin or polyurethane foam. “His work is largely thinking about how he can evoke sites and histories and bodies that are no longer present,” says Ruth Erickson, Mannion Family curator at the Institute for Contemporary Art/Boston, where 16 of Beasley's works are on display through August 26.

Among them is *If I was standing alone I wouldn't stand it at all* (2017). The nearly eight-foot-high piece is crafted from housedresses, kaffians, shirts, and du-rags tied or draped together to coalesce into a group of ghostly figures. Mourners? Witnesses? A family? There's a sense of haunting, of darkness, and yet also of strength and vitality, reflected in its size, feeling of motion and group unity, and through clothing dyed in brilliant purples and yellows and oranges.

The Virginia-born Beasley is a relatively young artist on the rise. He holds fine-art degrees from the College for Creative Studies, in Detroit, and Yale, and was included in the Whitney Biennial in 2014, and in a landmark show on electronic and new-media art at the Metropolitan Museum of Art. In 2015, the Guggenheim Museum exhibited two Beasley sculptures it had commissioned: *Strange Fruit (Pair I)* and *Strange Fruit (Pair II)*. They feature Air Jordans and other everyday items hanging like a bunch of grapes, but are clear references to the protest song made famous by Billie

Holiday, about the lynchings

of black men. Microphones and speakers connected to the pieces absorbed and emitted ambient sounds.

“In the same way that housedresses or sneakers lying on their sides can evoke an absence,” Erickson points out, “he's very interested in materiality of sound, to connect bodies, reverberate through bodies, and connect spaces.” At the ICA, *Phasing (Ebb)* (2017) also combines clothing and audio equipment—in this case, the microphone is placed elsewhere within the museum, picking up conversations that are then played from amplifiers linked to the sculpture. “It references the dislocation of the origin of sound and the place of its reception,” according to Erickson. It's another ghost, or could be seen as ghostly mourners, or Greek chorus figures, she adds, offering a stream of actual voices bantering in real time. But the words and the context are disassociated, as if no one is even noticing or speaking to the raw embodiments at hand.

—N.P.B.

Institute of Contemporary Art/Boston
www.icaboston.org
Through August 26



PHOTOGRAPH BY JEAN VONG. © KEVIN BEASLEY



PHOTOGRAPH BY JASON WYCHE. © KEVIN BEASLEY

cy Tucker, and Marlow Shami, highlights textiles, furniture, musical compositions, animation, writings, and other art forms to explore the critical importance of play and risk-taking in the creative process. (Opens May 19)

Peabody Essex Museum

www.pem.org

Look for themes of family, memory, and mortality among the 125 photographs (many of which have not been publicized before) on display in **Sally Mann: A Thousand Crossings**. (Opens June 30)

Cape Ann Museum

www.capeannmuseum.org

Harrison Cady: View from the Headlands. The illustrator created whimsical animal scenes for scores of children's books, as well as drawings for magazines and newspapers for more than 70 years. A longtime Cape Ann summer resident, he also produced lively landscape paintings of the region and its harbors. (Opens July 7)

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

Spotlight

The Round Island Regatta, in Portsmouth, New Hampshire, "is open to anyone who can get a boat there"—from kayaks, paddleboards, and rowboats to large sailboats and the smallest racing dinghies, Cape Cod Frostys—says event leader Matt Glenn, captain of the nonprofit Gundalow Company's touring boat *Piscataqua*. "We even had a windsurfer once. And there's a kids' paddling class as well."

The August 11 competition launches from the ramp on Pierce Island. Each boat travels out about 300 yards to Round Island, makes a few loops (about half a mile each), then returns to shore. Spectators



©MICHAEL STERLING PHOTOGRAPHY

are also welcome, and typically gather on the banks of the Black Channel. "It's a small body of water, which makes it fun because you can watch it from shore," Glenn adds, "as opposed to most sailboat races."

Besides sponsoring the regatta, which helps raise money to support its conservation and education mission, the Gundalow Company runs programs on marine and coastal ecology, along with public and private cruises on the *Piscataqua* River using its own gundalow, a replica of the region's original (pre-railroad) cargo-barges. It follows up the August racing festivities with a trophy and award ceremony—for best new and decorated boats, best costumes, and for sportsmanship—and a shoreline picnic spread.



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From Flowers to Race Cars

Amid botanical splendor, a Cape Cod destination for Americana

by NELL PORTER BROWN



©WENDELL MINOR



RIDDLE OF THE DAY: Where can you find a showroom packed with Indianapolis 500 race cars and a “Hidden Hollow” playground featuring a waterfall and a tree house inspired by medieval churches, along with 800 types of day lilies in bloom and the most comprehensive collection of hydrangeas in the nation?

Answer: Heritage Museums and Gardens, in Sandwich, Massachusetts.

This eclectic and dynamic hundred-acre site has been a favorite New England destina-

tion since it opened in 1969—and still aims to please a wide array of passions. “We’re an intergenerational place,” says Heritage president and CEO Ellen Spear. “We like people to learn together.” On display, too, are classic American cars and artifacts, along with an exhibit on illustrator “Wendell Minor’s America.” There’s also the hugely popular adventure park—ziplines and rope courses winding through treetops—and The Hydrangea Festival (July 6-15), and Family Fun Fridays (July 27-August 17). “We’re the place,” Spear adds, “where peo-

Clockwise from top right: the daylily garden; the replica of a Shaker round barn, currently holding the Indy 500 race-car exhibition; from Heartland, illustrated by Wendell Minor; riding the vintage carousel; and the gardens’ bountiful hydrangeas, Cape Cod’s iconic flower

ple tell us their family memories are made.”

Not far from the summertime bustle of historic Sandwich, where restaurants and cafés and shops cater to crowds, the museums and gardens sit at the quiet end of a residential road. The property had been a farm, then a horticulturalist’s enclave, when

HARVARD SQUARED



it was bought in 1967 by Josiah Kirby Lilly III (the great-grandson of chemist Eli Lilly, founder of what's now the eponymous global pharmaceutical giant). Josiah originally developed the museums as a tribute to his father, Josiah Kirby Lilly Jr. (also an Eli Lilly and Company executive), who collected antique firearms and military miniatures.

"We have over 6,000 pieces representing every uniform worn by soldiers, from the American Revolution to World War II," Spear says, as well as "the largest, most complete collection of Elmer Crowell carved bird decoys, and everything that was in his whole [Cape Cod] shop. We have weathervanes, red ware, lots of shop signs, paintings, children's mugs, a small collection of art glass—and the third-largest collection of Currier and Ives prints." Rotating selections from that 12,000-object "Heritage Collection" are featured in galleries adjacent to the indoor carousel, built in 1908.

Reasoning that the military items might not have wide enough appeal for children and women, Lilly bought that working amusement-park ride with its ornate, hand-carved menagerie in 1971. It was made in the Brooklyn factory founded by master carver Charles Loeff, a German immigrant who also created the first carousel at Coney Island. In Sandwich, the colorful figures decked with painted bridles, saddles, and jewels include two goats, a horse and a deer (with real tail hair and antlers, respectively), along with benches called "chariots" that were intended for women in long skirts, all circling a self-playing band organ.

In developing the site, Lilly worked with architects on building a replica of the Revolutionary War-era "Temple of Virtue," where George Washington awarded the first Purple Heart to a wounded soldier in upstate New York, that's now exhibit space for the Wendell Minor show. Lilly also commissioned a version of the round stone barn at Hancock Shaker Village, in Pittsfield, Massachusetts, that ordinarily holds about half of the Heritage Museums & Gardens' collection of 40 antique American automobiles. Lilly himself acquired most of the vehicles, which range from an 1899 Winton Motor Carriage and a 1909 steam car used as the first official presidential automobile to a 1922 Rolls-Royce Phaeton made in Springfield, Massachusetts, and a sleek 1962 Chevrolet Corvette. This



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season, because the Indy 500 visiting exhibit is the prime attraction, visitors can see only some of his own cars (now in a lower-level storage area in the barn), either behind glass or by reserving a spot on the "Behind the Scenes Antique Automobile Tour."

The round barn now is packed with 20 iconic Indy 500 vehicles, among which Spear walks and talks, excitedly pointing out the 1911 Stoddard-Dayton pace car driven by speedway developer Carl Fisher during the inaugural race, and the 1925 Miller Special, a single-seater driven by Ralph de Palma (the renowned competitor during the early days of racing amassed 612 laps in 10 Indy 500 races, a record that stood until 1987). There's also the 1913 Duesenberg driven by future ace fighter pilot (and speedway owner) Eddie Rickenbacker, the 1972 Parnelli VPJ-1 driven by Mario Andretti, and the 2005 Panoz in which Danica Patrick made her Indy 500 debut, qualifying for fourth position.

Although the 1951 Chevrolet "First in Line" panel truck, ablaze with more than a hundred racing decals, never rounded the track,



A view of the museum's prized antique American car collection

it did reliably transport its owner, Lawrence "Larry" Bisceglia, to it. The die-hard fan was an Arizona mechanic who drove to the speedway every year, initially arriving early, and then becoming the official "first in line" record-holder, during the course of nearly six decades. The truck, like all the cars exhibited, are part of the Indianapolis Motor Speedway Hall of Fame Museum.

Lilly died in 1995, but would likely have appreciated the race cars, especially because they evoke his hometown, although he and his family long spent summers on Cape Cod, where he was active in philanthropic and civic causes. Other Lilly family members currently serve on the Heritage organization's board of trustees, which, within the last eight years has expanded Lilly's original mission.

His vision was "of a place for cultural

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HARVARD
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education and exploring American history,” says Spear, “and the automobile collection was a way to examine innovation and engineering and changes in lifestyle in the U.S.A.” wrought by cars. Now, however, the museum’s mission also explicitly includes developing the grounds to better foster “outdoor discovery and excellence in horticultural gardens and landscape design,” she reports. That cars do not jibe with that environmental focus is not lost on Spear, who explains that the mission has evolved over

time. And it’s clear the property’s horticultural legacy and illustrious landscape predate the Lilly family, and was cultivated by its previous owner, Charles Owen Dexter.

A New Bedford textile manufacturer, Dexter was also a civic leader, photographer, musician, yachtsman, and horticulturist—“a real Renaissance man,” according to Spear. In 1921, he bought the property, then known as Shawme Farm (the land was first settled by European immigrants in 1655), and moved there with his family after his

doctor diagnosed him with heart disease and gave him a year to live.

“He went on to live 22 more years,” Spear says, with a laugh. In that time, he worked with landscape architect Paul Frost to transform the farm into an arboretum, planting countless specimens and trees, including what’s now the oldest example of a fringe tree (*Chionanthus virginicus*) in the region. Dexter also became well known for his work hybridizing rhododendrons. He bred

ALL IN A DAY: MASS MoCA

Since opening in 1999, MASS MoCA has been a welcome and invigorating force within the Western Massachusetts arts-and-culture scene. This summer, the museum offers more than a dozen contemporary art shows, along with music and dance concerts, comedy acts, and films.

Events take place throughout 26 old mill buildings, including an iconic clocktower, in downtown North Adams (at right), and curators make the most of courtyards, passageways, and lawns (below). The annual Bang on a Can Summer Music Festival (July 12-28) features boundary-busting classical music and a family play-along session in a jeans-and-T-shirt setting. Blondie, the classic punk band, performs August 3, and Jaimeo Brown and his ensemble, Transcendence, offer a soul-enriching fusion of jazz, blues, and hip-hop on August 18. Also on tap are more than 50 bluegrass and roots bands, all set to play at The FreshGrass Festival (September 14-16).

Art exhibitions range from enormous installations and digital-media displays to sculptures and oil paintings.

Etel Adnan, author of *The Arab Apocalypse*, creates poetry and lyrical images through *leporellos*—paper works that unfold like an accordion—and on canvases. Her small landscapes of scenes from Lebanon and northern California sing with harmonious hues, as in *Untitled* (2017), at right.

Also evocative are the wild and wily

works in “The Lure of the Dark: Contemporary Painters Conjure the Night.” Among those artists is Sam McKinniss, who mines the primal experiences of freedom, fear, and awe in his luminous *Northern Lights* (2017), at left.

More concrete are the shipping containers and shelters constructed out of stacked wooden pallets in “The Archaeology of Another Possible Future,” by Los Angeles-based artist Liz Glynn ’03. It commands an entire building. The museum’s notes suggest, though, that all these massive materials, along with catwalks, digital printers, and displays of antique tools (below), speak to a critical abstraction: “the shift from a material-based economy to one in which technology companies seem to generate billion-dollar valuations out of thin air, nanotechnology continues to operate beyond the field of the visually apprehensible, and capital is accumulated as a pure concept.”

Add to these shows Laurie Anderson’s virtual-reality experiences, *Chalkroom* and *Aloft*, and James Turrell’s otherworldly light sculptures, *Perfectly Clear* and *Hind Sight* (which all require advanced reservations), and it’s easy for anyone to spend hours wandering the grounds and galleries. Even what’s not officially on display—architectural and industrial artifacts—are worth attention.

Make MASS MoCA a day trip, or, because it’s summertime, treat yourself to a longer Western Massachusetts arts-injected excursion and take in the neighboring Williamstown Theater Festival, The Clark Art Institute, the Williams College Museum of Art, and Bennington Museum as well. ~N.P.B.



©SAM MCKINNISS



DOUGLAS MASON



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MASS MoCA
www.massmoca.com



The pint-sized, paradisaical Hidden Hollow (far left) features water play and a three-tiered tree house. Concerts, games, and family fun take place on lawns and in an amphitheater.

which include an estimated 155 species and

for hardiness, bright colors, large blossoms, and fragrance, and, at his peak, produced more than 10,000 new seedlings a year.

Today, Heritage Museums & Gardens holds about 160 varieties of rhododendrons named for Dexter and for estate superintendent J.C. Cowles—and thousands of unnamed varieties. They bloom from mid May to mid June, blanketing the grounds with white, pink, and fuchsia blossoms, although the pathways that snake through and around the towering specimens, many more than 90 years old, are wonderful to stroll at any season.

The grounds also boast more than 5,000 other documented plant species, rang-

ing from Cape Cod's native flora to exotic plants and trees (most of them labeled) along two miles of walking trails. The main path begins at the entrance and parallels an ornamental flume, built in 2010, through which water flows before dropping 26 feet into a pond where varieties of water lilies bloom throughout the summer. The path continues on to the Sundial Garden, where 800 cultivars of daylilies bloom from late spring through the summer, peaking in early July.

Beyond lies one of the newest aspects of the organization's gardening mission: the North American Hydrangea Test Garden and the Cape Cod Hydrangea Garden,

cultivars. From early July through the end of September, these rounded, big-leafed bushes are aglow with flowers, in a spectrum of hues from white to pinkish violets and blues.

Toward one end of the property is Hidden Hollow. A favorite oasis of kids and adults alike, this two-acre playground features natural materials—rocks, branches, water, and plants, along with a child-scaled waterfall, water-pumping station, and fort-building zone to help foster STEM-related curiosity and experimentation. In the corner, the charming three-tiered tree house by renowned designer Pete Nelson was inspired by Norse stave churches, and then built by

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students at the Upper Cape Cod Regional Technical School.

Older children and others may prefer the adventure park on the other side of the road. Ziplines and five aerial trails on rope and cable bridges snake through the treetops; there's also an interpretative nature trail at ground level. (Plan ahead: reservations for this popular attraction are a must.) The bandstand in a natural amphitheater holds summer concerts, from jazz to rock 'n roll. And anyone who shows up for Family Fun Fridays gets to ride the carousel for free. "I like to think of this place as the 'Museum of Summer,'" says Spear. "People are relaxed, visiting friends and family. They can take the time to think about things and explore their passions."



CURIOSITIES: Pipe Up

The Methuen Memorial Music Hall, with its lavish English baroque-inspired interior, was built to house the first concert organ in the United States. It's worth a visit, even for those who find the music emitted by the 6,088-pipe instrument a bit bombastic, or uncomfortably associated with church services. People bring "baggage to the table," says concert organist Carson P. Cooman '04, research associate in music and composer in residence at Harvard's Memorial Church, just as they do with "other forms of classical instruments...in a world where pop music reigns." He took up the organ at age 10, mastering its traditional range and flourishes, as in J.S. Bach's Toccata and Fugue in D Minor, but now he specializes in contemporary works. He'll perform "Yankee Doodle Variations," by Carlotta Ferrari, among other pieces, on July 18 for the hall's summer and fall concert series.

Watching organists, dwarfed by 64-foot pipes, maneuver keys and pedals while you puzzle out the musical mechanics can be half the fun. (Air vibrating through different-sized pipes produces the panoply of sounds.) The Methuen organ was built in 1863 in Germany for the Boston Music Hall. Edward F. Searles, a rags-to-riches, Methuen-born interior designer, bought it later and built the hall. The splendor speaks to his respect for the instrument; the three-foot-thick walls to its power.

~N.P.B.

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A DOSE OF DICTION

The Language of Emotion

WHEN PEOPLE DESCRIBE feeling “angry” or “distressed” or “dejected,” what do they really mean? Psychologists vigorously debate whether the words individuals use to describe their emotions actually reflect fixed states in the brain, or are merely convenient fictions for talking about feelings. “Are anger, sadness, and disgust” really distinct, universal emotions, asks Erik Nook, a fourth-year doctoral student in clinical psychology, “or is it the case that, because we have learned different concepts for

different emotions, we produce those emotions?” Nook particularly wants to understand why some people seem to have more precise, granular emotional concepts—they distinguish among feeling disappointed, frustrated, or discouraged, for example—while others describe a general, undifferentiated negativity.

Disentangling what emotional concepts mean, and how people understand them, is part of Nook’s work with Leah Somerville, an associate professor of psychology whose lab focuses on how the mind devel-

ops in adolescence. A forthcoming paper in *Psychological Science* by Nook, Somerville, and colleagues at the University of Washington examines how emotional differentiation (people’s ability to separate emotional experiences into different types) changes from childhood into early adulthood.

Their subjects, 143 recruits ranging in age from five to 25, were each shown a set of images designed to elicit negative emotions, such as a baby crying or a cemetery, and asked to rate on a scale from 0 to 100 how strongly they experienced five different feelings—angry, scared, disgusted, sad, and upset. Measuring emotion is a tricky business, Nook concedes, and image prompts are probably not a perfect way to evoke emotions. But the photographs come from a standard repertoire of images used in psychological research (so the results can be compared to other work in the field), and, he adds, there’s “a lot of good evidence that showing people pictures makes them feel things.”

The team was interested in testing two competing hypotheses about emotional differentiation: that it increases straightforwardly as children age, or that it follows a U-shaped trajectory throughout the lifespan, decreasing during adolescence and increasing again in adulthood. They used an intraclass correlation (ICC)—a correlation among more than two variables—to measure each participant’s ratings. A high ICC suggested that a subject had similar ratings for each of the five states, and thus differentiated little among different emotions; a low ICC reflected more finely tuned control over emotional concepts. The result, a U-shaped curve graphing emotional differentiation as a function of age,



“was almost a complete surprise to us,” Somerville says. Nook had expected differentiation to increase with age; instead, it consistently fell to a nadir during adolescence, across many trials.

Two separate effects seem to account for this: “The youngest participants really experienced one emotion at a time. They picked one dominant emotional state that they felt, and it was at the exclusion of the others,” Somerville explains. “From childhood to adolescence, people are abandoning the idea that they can experience only one emotion at a time, and they’re experiencing groupings of emotions”—but those emotions aren’t well differentiated. “And from adolescence into adulthood, people become more granular, more specific about applying emotions to different situations.”

These questions may be clinically important because inability to differentiate emotions has been implicated in a wide range of mental illnesses: anxiety disorders, depres-

sion, and schizophrenia among them. One explanation might be that in order to manage emotions, a person needs to be able to recognize them as such. “A central issue with many forms of psychopathology is that emotions go awry,” Nook points out. And if it’s true that emotional granularity reaches a low point among teenagers, this might relate to increased mental-health disorders at that stage.

Difficulty in differentiating emotions, Nook says, might not be a *cause* but a *consequence* of mental illness (or it could be neither—just a correlate of the condition). “It’s possible that as people become depressed, their emotions become more complicated, and they struggle to differentiate them.” He continues to investigate how people represent emotions in their minds. In a related paper recently submitted for review, he looked at what he calls “emotional abstraction.” “Emotion concepts can be represented in very concrete ways or very abstract ways,” he explains. “You can ask kids to tell you

what ‘angry’ means, and they’ll say, ‘I feel angry when my sister steals my toys.’ Adults might say, ‘Anger is something people feel when their goals are blocked.’”

People tend to define emotions in indirect ways, Nook says: in terms of very specific examples (“when my sister steals my toys”), or closely related or synonymous emotions. Emotion concepts may not be discrete mental states, but a low-resolution way for people to explain how they feel. If that sounds very abstract, Nook has an eye toward clinical applications: “Most of our interventions in mental illness have to do with talking to people about their feelings. So understanding how we can help people represent their emotions through language could be a central way to intervene. We won’t be able to get there until we start mapping out some of these questions.” ~MARINA BOLOTNIKOVA

SOMERVILLE LAB WEBSITE:
andl.wjh.harvard.edu

LIVING LAB

The Brain in the Basement

HOUSEZERO, as the wood-shingled building at 20 Sumner Road in Cambridge is now called, owes the moniker to its efficiency: zero carbon emissions, zero electricity required from the grid, zero electric lighting needed during daylight hours, and zero fossil-fuel-

driven heating and cooling. That combination makes this building, which doubles as headquarters for the Center for Green Buildings and Cities (CGBC), a unique example of sustainable retrofitting. But what really sets this sustainability project apart is that the house (now converted to office space

for 25 CGBC staff members and researchers) is an expensive test facility—a laboratory—not a model home. Nearly five miles of wiring capture 17 million data points per day to quantify how each of the innovations used in the reconstruction work best. The data flow from two types of sensors. Some are critical to the operation of the building: for example, controlling the system of windows and shades in response to inputs about temperature, rain, wind direction, and indoor CO₂ levels and airflows. Other sensors, purely observational, are intended to generate insights into optimizing the relationship between indoors and outdoors, while maximizing the health and comfort of the building’s occupants.

As environmental-control technology has grown more elaborate and complex, explains CGBC founding director and professor of architectural technology Ali Malkawi, more architects and builders have opted to seal structures in order to heat and cool them mechanically. As a result, 42 percent of en-

Solar panels on the roof and fixed shading on the windows suggest that this is no ordinary wood-shingled house.





ergy consumed in the United States is used to operate buildings—“And the developing world is quickly catching up.”

The Graduate School

of Design's HouseZero, envisioned as an antidote to this trend, aims to run entirely *without* such conventional systems. To help achieve this, many tons of concrete mass were added in the floors between stories during its renovation, as heat sinks to stabilize daily temperatures from night to day, and seasonally across frigid winters and scorching summers;

HouseZero's front entrance opens to a central staircase lined with acoustic, sound-deadening panels designed at the Graduate School of Design especially for this project. At right is the first floor's main workspace.

fixed shading was added to window exteriors; and the existing windows were replaced with new ones that open and close automatically, as directed by a controlling algorithm running on the house's “brain” (a basement computer capable even of integrating weather predictions so the building can prepare for temperature extremes in advance). In summer, for example, the windows, which operate on very little electricity, open at night to cool the space whenever there is a

temperature drop of 10 degrees or more, and then close before people arrive in the morning. Basement batteries store power from the photovoltaics on the roof, so the building is expected to cost almost nothing to operate. “The idea,” Malkawi says, “is to move away from a mechanical-engineering-dominated world in buildings to this ecological approach.” As such, the retrofitted house is a test site for the center's research mission.

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in the smooth operation of the house, the building has redundant systems such as geothermal heating and cooling equipment in the basement and solar thermal heating apparatus on the roof. Malkawi's aim is to use neither, if possible. Failing that, the fallback (for example, in winter) will be solar thermal heat; geothermal is a distant third option.

The main research questions, he adds, have nothing to do with the specific energy-generation technologies used, because



It's machine learning for houses: sensors connect to a "brain" that constantly optimizes the environment.

those change and "can be put on and off like a jacket." He wants to know whether an algorithmically controlled building can optimize itself. How would complex building data be used to develop such algorithms? What is the

minimum number of sensors needed? And can this approach be deployed at scale?

"We are a research institution," says Malkawi. In analyzing all the data from

HouseZero, "The main goal is to generate knowledge and understand what people don't have the capacity to understand now." There are many complexities in understanding building-performance behavior. One of the hardest computational tasks will be adapting to the building's human occupants. "The variables and uncertainties of people's behavior," he says, "are really one of the most complicated things!"

For more information on the CGBC, see harvardmag.com/cgbc-14.

—JONATHAN SHAW

CGBC WEBSITE:

<http://harvardcgbc.org>

ECHOING EVIDENCE

A Particulate Problem

TWENTY-FIVE years ago, a team of eight University researchers famously estimated the critical impact of air pollution on mortality rates across six American cities—findings that came to be known as the Harvard Six Cities Study. Because the researchers were steadfast in keeping confidential the personal health data of the 8,111 Americans who

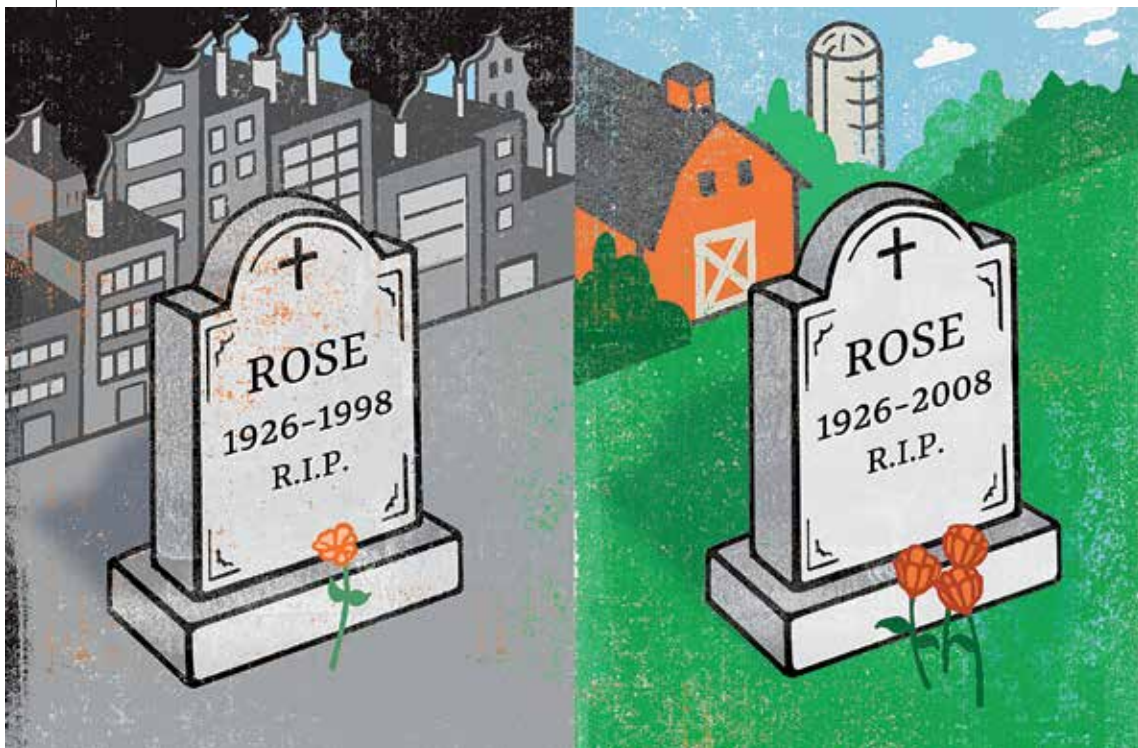
participated in the study, and the findings would prove costly to the operators of fossil-fuel-burning power plants, the work faced aggressive scrutiny from Congress as well as the Environmental Protection Agency (EPA), on the grounds that it used so-called secret science in seeking to influence regulatory decisions. The eventual regulations, based on the study, helped decrease harm-

ful concentrations of fine-particulate matter (particles smaller than 2.5 microns wide, a main source of which is fossil-fuel combustion) in the nation's air, thereby improving public health.

Last June, eight new Harvard-affiliated researchers revisited the study, using new technologies and innovations in statistical analysis and examining Medicare data—the largest and most public dataset available documenting the health of U.S. citizens—thus presumably averting renewed charges of secret science (an issue raised anew by current EPA administrator Scott Pruitt). Their findings breathe new life into the main

conclusion of the original Six Cities research: that fine-particulate matter, even in concentrations *below* the current national standards, drives up mortality rates across the country.

Professor of biostatistics Francesca Dominici is one of the 2017 study's lead researchers. The co-director of Harvard's Data Science Initiative explains that quantifying the effects of particulate pollution at levels below national standards poses a unique challenge, comparable to "walking into a clean kitchen and trying to find...the dirty spots that you need to clean. As we try to study lower and lower levels of fine-particulate matter...it becomes increasingly difficult" to find the dirt. But Dominici and her colleagues had time



and technology on their side. To calculate the impact of fine-particulate pollution on public health in the United States, they used massive amounts of data not readily accessible in the early 1990s, including NASA satellite data from rural areas where pollution tends to be lower than in large cities. The team also relied on innovations in artificial intelligence and predictive modeling to simulate the effects of air pollution in different regions.

One of the most important differences between the original 1993 study and Dominici's research lies in the improved methodology of the statistical analysis, which is her area of expertise. To illustrate, she invokes the hypothetical profile of a woman named Rose who lives in an Ohio town where the air is highly polluted. Rose has cardiovascular disease and struggles with obesity; she eventually dies at the age of 72. Thanks to better data in greater quantities, researchers are able to find a matching demographic profile: another obese, 72-year-old woman with cardiovascular disease, but in this case, living in a low-pollutant town in Oregon. Because the two women breathe different levels of fine-particulate matter, researchers are able to infer its respective role in each woman's death.

Better data-matching also enabled the researchers to determine that even when air pollution levels are below national standards, self-identified racial minorities and low-income Americans are disproportionately affected. This proved true even after controlling for many other interrelated factors at issue for these groups, including limited access to medical care and poorer health overall. "Matching is the best way to control variables," Dominici emphasizes. "It's never going to be perfect, but we're getting as close as we possibly can with today's computing resources."

Dominici has no expectation of immediate regulatory change. The EPA has a well-defined process through which it examines epidemiological evidence every few years to determine if national air-pollution standards need to be lowered, and the next evaluation is at least a year away. In the meantime, she hopes her team's findings will inform Americans that "fossil-fuel combustion is playing a key role in air pollution. Air pollution is driving a public-health problem that is happening right now, for this generation."

—OSET BABÜR

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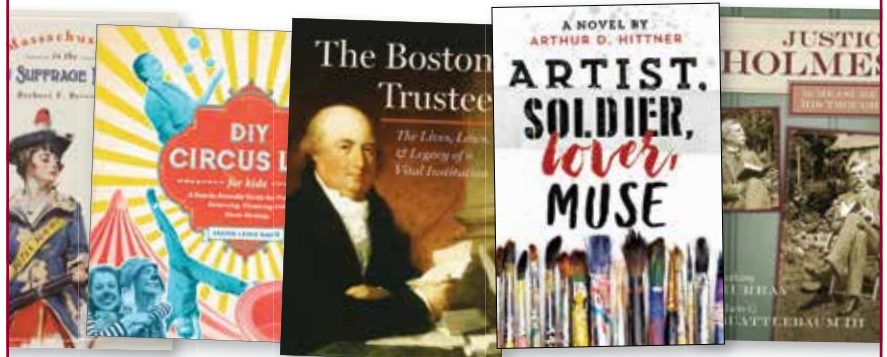


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COMMENCEMENT 2018



Picture-Perfect

ABSOLUTELY STUNNING conditions—brilliant blue sky, low humidity, comfortably breezy in the mid 60s, spring-green leaves and lots of flowering things—made for a picture-perfect 367th Commencement on May 24. With Harvard at its loveliest as backdrop, two narratives unspooled, wrapping around the week's graduations and reunions. One focused, optimistically, on the transition within the University (President Drew Faust's valedictory, the welcome to her successor-elect Lawrence S. Bacow—the first routine Massachusetts Hall transition since Neil L. Rudenstine concluded his service in 2001). The other, wary, was

propelled by the rising disregard for Veritas in the world beyond fair Harvard (prompting responses that ranged from calls for outright resistance to advancing a positive vision for the country's way forward).

Passing the Baton

THE CORPORATION'S senior fellow, William F. Lee, and Faust herself set the stage for the succession at the *least* political occasion of Commencement week, the Wednesday night dinner for honorands in Annenberg Hall. Lee toasted her for leading Harvard through unprecedented challenges with "courage, grace, and deep institutional conviction." She, in turn, thanked those who made her job possible, and a joy: members of the governing boards; "my beloved Council of Deans, my academic cabinet"; departing



Jubilating J.D.s (top left), and College class of 2018 celebrants (clockwise from top right); Dudley House members Solange Neena Azer (left) and Olutoyin Demuren; Leverett House's Garrett E. Rupp; and part of the Lowell House contingent, with gift marshal Allison Li in the lead. Visible behind her (from left) are Eric Abreu, Cecilia Zhou, A.M. '18, Jessica Levy, and class committee member Flavia Cuervo.

HM Visit harvardmag.com/commencement for additional coverage of all the events and speakers mentioned in this article.



Clockwise from top left: Jiawen Chen, M.L.A. '18, of Hangzhou, China, shares the moment with fellow Design School graduates; Jaina Lane '18 of Winthrop House and Cincinnati; Deirdre S. Carney '18, of Kirkland House and Ephraim, Utah; Ajay Singh '18, of Adams House and Lighthouse Point, Florida; new doctors of dental medicine Yasameen E. Pirooz (left), of Harrisonburg, Virginia, and Lindsay N. D'Amato of St. Louis; and proud School of Public Health degree recipients, whose rubber lightbulbs reflect their school's tagline: *Powerful ideas for a healthier world*.



deans Liz Cohen (Radcliffe), James Ryan (Graduate School of Education), and Michael Smith (Faculty of Arts and Sciences); and her Mass Hall team. Official recognition

gave way to a personal one as Faust then focused on “my interlocutor, my defender, my resident faculty voice”—Charles Rosenberg, Monrad professor of the social sciences emeritus, her husband—who, she continued, was always ready with a quip to deflate creeping grandiosity. He received a robust ovation. After lauding the honorands, Faust

offered a final toast “to my esteemed friend and successor, Larry Bacow.”

During the exceptionally orderly proceedings Thursday morning, the Medical School's George Daley made the first notable tweak to the decanal scripts for presenting degree candidates, adding, “Madam President, we thank you for your years of distinguished service, we

thank you for your wise leadership.” No one seemed to mind the freelancing. There might have been a whiff of politics when the J.D.s’ turn came: as new dean John F. Manning pronounced the ritual words about the students whose studies point them toward “promoting the rule of law,” and Faust responded about “those wise restraints that make us free,” the traditional text seemed to assume a new, contemporary force.

After the honorands received their actual degrees (below; students have to wait until later in the day), Provost Alan Garber, showrunner, interjected, “Before we conclude, I note that this ceremony marks Drew Faust’s eleventh and final” time presiding over the Morning Exercises. “Words cannot adequately express our gratitude for her extraordinary leadership,” he continued; he invited applause to do that work instead.

There was plenty. As Faust put her hand over her heart, Bacow, to her right, nodded and applauded, and president and president-elect embraced—and applauded each other.

Offstage, Faust, who has emphasized the importance of the arts and of interpreting visual evidence in a digital age, was the subject of a Widener exhibit, “President Drew Gilpin Faust: Eleven Years of University Growth, Reinvention, and Inclusion”: two corridors of highlight photos, suitably placed for viewing by guests at the chief marshal’s spread in Loker Reading Room.

Back outside for the Harvard Alumni Association’s afternoon hoopla, Faust received a final formal encomium, a Harvard Medal (see page 74), purportedly a surprise. Given her lifelong engagement with civil rights, and her strong support for the guest speaker, U.S. Representative John R. Lewis, LL.D.

’12 (whom she had hailed Wednesday evening as “an American hero, my hero”), Faust may especially treasure his opening salute to “the tenure of a great leader.” He continued, “Madam President, thank you for being a friend. But more importantly, thank you for using your office to move Harvard toward being a more all-inclusive institution.”

The stage was impeccably set for Faust’s valedictory speech (see page 21). The University is throwing her a community farewell party on June 28—but it would be hard to top this radiant Commencement day as a parting gift.

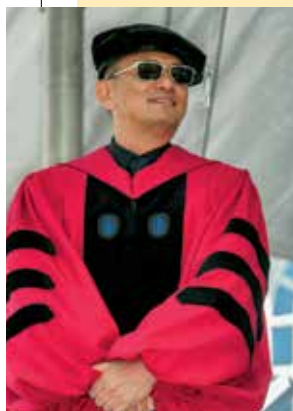
The Spirit of ’68

THE WIDER WORLD loomed during the week, too, of course, eliciting multiple responses, from subtle to nearly strident.

• The Crimson rainbow. In the context of

Honoris Causa

Four men and three women received honorary degrees at Commencement. University provost Alan M. Garber introduced the honorands in the following order, and President Drew Faust read the citations. For fuller background on each, see harvardmag.com/honorands-18.



Wong Kar Wai

kinetic flair; whose tales of tears and ashes, forsaken spouses and fallen angels, transfix the senses, transcend conventions, and evoke dark shades of longing and love.

Sallie “Penny” W. Chisholm. An Institute Professor at MIT who has studied the phytoplankton *Prochlorococcus*, incredibly abundant in the world’s oceans, an essential source of the planet’s oxygen, and, in her laboratory, a model



Sallie W. Chisholm

for understanding complex biological systems. Doctor of Science: *Enthralled by the invisible pasture of the sea, intrigued by the interplay of ocean and air, she shines sunlight on multitudes of minute marine microbes and fathoms large lessons about life on Earth.*

George E. Lewis. Trombonist, composer, multimedia installation artist, and contemporary music innovator, now the Case professor of American music at Columbia. Doctor of Music: *Bold voyager on sonic rivers, scholar and sage of the improvisatory arts, whose tonebursts and timbres, riffs and rambles, spring forth where rhythms and algorithms meet.*

President Ricardo Lagos. A staunch opponent of the dictatorship of Augusto Pinochet, founder of the Party for Democracy, and, from 2000 to 2006, the reforming president of Chile. Doctor of Laws: *Courageous in the face of dictatorship, devout in defense of democracy, a learned leader armed with a burning patience, intent on light, justice, and dignity for all.*



Twyla Tharp, feet in the honorands’ position

Twyla Tharp. One of the most innovative, influential, and important modern choreographers, whose collaborations have extended from Mikhail Baryshnikov to Elvis Costello. Doctor of Arts: *Vibrantly inventive figure in the upper room of dance, whose ceaseless creativity flows from never standing still; step by nimble step, line by fluid line, from the supple human form she crafts poetry in motion.*

Harvey V. Fineberg. Former dean of Harvard School of Public Health, University provost, and president of the National Academy of Medicine—and holder of four Harvard degrees before the award of this honorary one. Doctor of Laws: *Dexterous herder of Crimson cats, superlative exponent of human health, caring leader with a common touch; his given name is Harvey, but to us he’s wholly Harvard.*

Rita Dove. Pulitzer Prize-winning poet, the youngest Poet Laureate of the United States when appointed, and recipient of the highest honors conferred by both the National Endowment for the Humanities and the National Endowment for the Arts. Doctor of Letters: *With words that dance across the page, with lyric concision and vivid precision, she draws meaning and music from everyday moments, a Dove whose grace notes stir the soul.*

politics-by-shouting, some significant statements are nonverbal. The University took



Jin Park

every opportunity to model, quietly, the kind of diverse community it cherishes, and aspires to strengthen. Jin Park '18, the Harvard Orator at the College's Class day, is an undocumented student whose parents, Korean immigrants, work in restaurants and nail salons in New York. Thursday morning, Khalil Abdur-Rashid, who became the University's first full-time Muslim chaplain last summer, offered the opening prayer. The Senior English orator, Christopher E. Egi '18, is both a Harvard basketball star and the son of two Nigerian immigrants who was raised in Canada. The Graduate School of



Khalil Abdur-Rashid



Christopher E. Egi

A single story.

• The pursuit of truth. A prominent theme of the actual speeches was the University's fundamental commitment to the search for truth. Paleontologist Neil Shubin, Ph.D. '87, the Phi Beta Kappa orator: "We live in an age where people talk of alternative facts, fake



Neil Shubin

news, and junk science. Those adjectives—'alternative,' 'fake,' and 'junk'—make it ever more important that we gain the ability to take a cold look at marshaling and evaluating evidence in making decisions." Faust, the Baccalaureate: "[Y]ou found yourselves at the heart of an institution whose motto is 'veritas,' yet you were in a climate where 'alternative



Chimamanda Ngozi Adichie

Humor, Too

Commencement oratory and the conferring of degrees are not all spinach. Phoebe Lakin '18, the Latin Salutatorian, had the wit to draw upon one of the great Harvard graduation moments: J.K. Rowling's afternoon speech 10 years ago. For those, um, rusty in Latin, she said:

"Harvard University, as many of you have no doubt already observed, is not so different from the Hogwarts School of Witchcraft and Wizardry. Were we not just as astounded as Harry when we received our acceptance letters, delivered not by owl but—incredibly—upon the wings of email? Have we not spent our nights brewing potions in the Science Center, as though in the Dungeons? Did we not often greet the dawn among the bookshelves of the Restricted Section—that is to say, Lamont Library?... "Wherever we go next, by broomstick or by automobile, the gates of the Yard will always be open for us....Now farewell, my classmates, and let us go and work our magic!"



Phoebe Lakin

facts' fuel public discourse and 'post-truth' was the *Oxford English Dictionary* word of the year." Writer Chimamanda Ngozi Adichie, College Class Day speaker: "If I were asked the title of my address to you today, I would say, 'Above all else, do not lie.' Or 'don't lie too often'—which is really to say, 'Tell the truth.'"

Among those truths, politician John Kasich, the Republican governor of Ohio, speaking Wednesday at the Kennedy School class day, stressed faith and inclusion: "Christians and Jews and Muslims all basically have the same view of human life. Human life is special." And Egi drew a disturbing connection between Langston Hughes's "raisin in the sun" and Michael Brown's body left to lie "under the hot Missouri sun in the streets of Ferguson for eight hours. Eight hours."

• Taking action.

From there, it was a short step to sharp calls for action. From the right, U.S. senator Jeff Flake, Republican of Arizona, addressing the law students, decried the "America First crowd" and fellow members of Congress for lying "utterly supine in the face of the moral vandalism that flows from the White House daily." His succinct summing-up argument was, "simply put: We may have hit rock bottom." Offering a bit of professional counsel, from experience (he is not seeking reelection), Flake advised the barristers-to-be to do the right thing, "even if it means risking something very important to you, maybe even your career, because there are times when circumstances may call on you to risk your career in favor of your principles. But you, and your country, will be better for it. You can go elsewhere for a job, but you cannot go elsewhere for a soul."

Representative Lewis, from decidedly different political and cultural traditions, beseeched the new graduates to lead, and to vote. "We must save our country," he thundered. "We must save it. We must save our democracy. There are forces in America today, and around the world, that are trying to take us to some other place."

Occupying what might qualify as the middle ground today, the education-school's speaker, John Silvanus Wilson Jr., M.T.S. '81, Ed.M. '82, Ed.D. '85—past president of Morehouse College, now on leave as a Harvard Overseer to serve as adviser to Faust and Bacow on inclusion and belonging—drew on his "teacher (Mom)" and "preacher (Dad)" background and his degrees to depict a joinable moment when "Teachers are marching...holding strikes and walkouts for...the freedom to teach without being undermined by basic deficiencies."

Students, beginning with those from Parkland, Florida, are marching because "they want freedom from violence and the threat of violence....They simply want the freedom



Jeff Flake



John Lewis

to be safe to learn." Women are marching for "their optimal empowerment and to finally and completely upend a toxic culture that has existed for far too long. They want freedom from the tyranny of silence and the crime of zero accountability around sexual violence, harassment, and misogyny." And "Black folk are still marching...of late, just to insist that black lives matter. They are seeking freedom from the scourge of

racial bias in criminal justice and throughout American life."

In the spirit of the day, and of their own day, fiftieth-reunion members of the Radcliffe class of 1968, who graduated wearing armbands to protest the Vietnam War (and to mourn the assassinations of Martin Luther King Jr., whom the students had chosen as their Class Day speaker, and Robert F. Kennedy '48 during their senior spring semester), wore new ones tailored for 2018 by Peggy Kemeny '68, M.D. A lot of them signed a statement declaring:

Fifty years ago, we, the women of Radcliffe College, stood at our commencement to declare our opposition to the course the country was on and to affirm our dedication to achieving equality, justice, and dignity for all people.

Fifty years later, those goals have not been achieved and are receding ever further under the policies of the current administration. We stand again in protest to rededicate ourselves to



achieving the world we envisioned then.

Our activism and that of our generation made a difference fifty years ago. We now pledge ourselves to resist the catastrophic threats to our planet and to the institutions of our constitutional democracy. We commit our resources and energy to this struggle.

Faust, a 1968 graduate (Bryn Mawr), associated herself with those formative times in her Baccalaureate address (and achieved another Harvard presidential first on Thursday afternoon, referring to Jimi Hendrix and a possibly different meaning of the line, "Are you experienced?"). Speaking after Lewis on Thursday afternoon—it was her valedictory—Faust came "back to hope—the hope implicit in our efforts to model a different way for humans to live and work together, the hope in the ideas and discoveries that are the currency we trade in, the hope in the bright futures of those who graduate today."

• A way forward from 2018? Accordingly, she might have been encouraged by the morning talk by Graduate English orator Pete Davis '12, J.D. '18—a public-interest activist who managed to drive Law School ad-

Women Leaders

As President Faust concludes her Harvard service, two other women leaders figured prominently in Commencement week. Governor Gina Raimondo '93 was chief marshal for the College

twenty-fifth reunion class; the Rhode Island Rhodes Scholar spoke at the luncheon spread in Widener. Recalling the morning and her undergraduate experience, she said, "I was just filled with gratitude." She explained:

"[I]t was a real sacrifice for my family to send me here. My dad...worked two jobs in order to be able to allow my sister, brother, and me to go to college. He worked all day in a manufacturing firm back in the day when we manufactured a lot of jewelry in Rhode Island, and he would come home, eat dinner, and go out at night, work another job. I remember...when I got into Harvard. My mom sat me down and said, 'Gina, if you want to do this, we'll find a way.'...And she said to me, 'When you get there, there will be a lot

of kids who have a lot more than you do....There is going to be a lot of kids around you who have a lot more resources. They go on vacations and do things. And you're going to have to work... during term and summer.' And she was right, there were a lot of kids here who had a lot more than me. But you know what? There was a place for me at Harvard....And I found my way. And

it was hard, and I did have to work. But I was supported, at every step of the way."

On Friday, Radcliffe's medalist was Hillary Rodham Clinton—former U.S. senator and secretary of state, and 2016 Democratic presidential candidate. Conveying a message to the students amid the anxieties of today, she described a visit to Cairo in 2011, after Hosni Mubarak was forced to step down:

"I met with a large group of the students who had led the Tahrir Square demonstrations, and I asked them, 'So, what is next for you?' And they looked at me like, 'What a ridiculous question—we've done what we came to do. We got rid of Mubarak.' And I said, 'What do you think happens next?' And they said, 'We're going to have a democracy. We're going to move quickly into a better future.' I said, 'Are any of you planning to run for office in this new democracy?' (No.) 'Are any of you planning to start political parties to compete?' (No.) 'So you've built up all this social capital driven by social media, but you're not ready to take the next step. There are only two organized groups other than the Mubarak regime: the Muslim Brotherhood and the army. So if you don't help to fill the void, it's going to be a contest between the Muslim Brotherhood and the army.' And—indeed—that's what happened."



Gina Raimondo

Hillary Rodham Clinton



HARVARD MAGAZINE/UC

STEPHANIE MITCHELL/HFAC

Commencement Confetti

Print Lives

...at least among loquacious Crimson graduates. The Harvard and Radcliffe class of 1968 report totals a record-set-

ting 1,223 text pages (1,380 overall, counting the enormous photo insert): allot 2¾ inches of shelf space. Perhaps it was the temper of that special year? President Drew Faust notes, in a special greeting, “There were no halcyon undergraduate days for those of us who graduated in 1968” (she from Bryn Mawr), and recalls the period from Tonkin Gulf to

the assassinations that spring (Martin Luther King Jr., Robert F. Kennedy ’48). “In 1968,” she wrote, “the odds of my becoming the president of Harvard University and Bob Dylan’s being awarded the Nobel Prize in Literature were approximately the same.” Some things are worth writing about.

...and Print’s II Lives...

The Alumni Association added an eleventh spring class report this year, for the *seventieth*-reunion class of 1948. A similar book will be added to the annual lineup from now on.

...but Digital Gets Its Due

Commencement admission tickets this year incorporated a QR code, a step, pre-

sumably, toward e-ticketing, perhaps for the 368th edition or a successor year—soon.

Coffee Cart

Responding to Americans’ insatiable need for caffeine everywhere, coffee was made available for sale within the gates this year, at a cart near Boylston Hall run by Harvard Student Agencies. A cup of Dunkin’s finest went for \$2.50, credit or debit card only—but was free with the purchase of a Harvard mug from the adjacent memorabilia booth. Apparently not even the School of Engineering and Applied Sciences’ geniuses have figured out yet how to install cup holders on Tercentenary Theatre’s close-quarters folding chairs.

Science for Nonscientists

Harvard aims to make the most of its life-sciences prowess (a likely priority for president-elect Lawrence

S. Bacow). Demonstrating both green cred and crossover appeal in her last Baccalaureate address, President Faust noted, “You were the first freshmen to have official voluntary composting in the dorms—outside of the involuntary composting in your mini-fridges.”

Coastal Elites?

The *Crimson*’s senior survey (704 students responded) yielded results similar to those in recent years: 57 percent of respondents are headed for New York,



MUSICAL MESSAGES. Among the tributes to Representative John Lewis during the Morning Exercises was the choir’s performance of “We Are...,” by Ysaÿe Maria Barnwell, who was a member of the African-American ensemble Sweet Honey in the Rock from 1979 to 2013. Lewis, LL.D. ’12, already had an honorary degree, but President Drew Faust hailed him late in the ceremony, and then College students performed an especially apt song, “Sing Out/March On,” led by its composer, Joshua Brian Campbell ’16, front and center above.

Massachusetts, and California; 50 percent are bound for jobs in consulting, finance, and technology; accordingly, 53 percent of those headed for jobs expect first-year salaries of \$70,000 or more. They are politically liberal; and although a majority view final clubs unfavorably, by 52 percent to 45 percent they view the recently imposed sanctions on joining such clubs unfavorably, too.

Presidential Presence

A row in front of President Faust and Corporation members on the dais was former president Lawrence Summers—whose daughter, Ruth, was collecting her Ed.M. Also present for the day were Neil and Angelica Rudenstine, making for a robust pres-

LANDMARKS OF HARVARD SERVICE. Among the fiftieth-reunion-goers was Gordon McKay professor of computer science Harry R. Lewis, Ph.D. ’74, who has been on the faculty for most of the time since then, preceding the dawning of the field that he has helped pioneer here. Lewis has also served as Harvard College dean and acting dean of the School of Engineering and Applied Sciences. His wife, Marlyn McGrath Lewis ’70, Ph.D. ’78, is nearing a similar milestone reunion—and has a similar record of service: as director of admissions since 1987, she has seen a lot of those students who ended up in Harry’s classes. Among them, he noted on his blog this spring, were 11 current faculty members, in fields from business to computer science to Egyptology.



HARVARD MAGAZINE/IC



idental force field to honor the concluding administration and boost the new one.

Tradition, Strictly Adhered To

In the transition between Jackie O'Neill (who retired as University marshal last



Commencement aide Alex Miller

December) and a permanent successor, the Faculty of Arts and Sciences' administrative dean for international affairs, Margot Gill, is interim marshal. Thus the people who directed human traffic for the Morning Exercises, customarily known as "Marshal's aides" (they wear white ribbons, and carry

small batons incapable of inflicting harm on anyone), were known as "Commencement aides" this year. (It is unknown how many of them would have recognized the difference had it not been pointed out in their pre-deployment briefing.)

Early Readers

Graduate School of Education degree candidates typically wave paperback picture books in Tercentenary Theatre. Their departing dean, James Ryan, bound for the University of Virginia presidency, tucked his degrees script into a copy of *Where the Wild Things Are*—and his charges behaved with appropriate abandon.



M.D. EN POINTE. Appropriately enough, in the year when Harvard conferred an honorary degree on Twyla Tharp (see page 16), the multit talented Madelyn Ho '08, of the Paul Taylor Dance Company (profiled on page 64), received her medical degree. She celebrates, in Longwood, as presumably only she can.

"Fair Harvard" Evolves

As the new, "Puritan"-free final line of the alma mater debuted (see harvardmag.com/pascal-18), it is worth recalling how bitterly divided the country was in 1968. In the cadences and meter of the song, Arthur S. Lipkin's Class Ode then went, in part, "Our ritual laughter is stifled and bleak;/ Our headiness fades with its cry./ On this day, like others, we ponder a war/ Where friends died and more friends will die." He ended, "The nation that greets us is tortured and sick/And mouths inarticulate cures./ We pray for the spirit to cope with a world/ Where so very little assures."

Sexual Assault, Then and Now

Members of the Radcliffe class of 1963 revealed some suppressed truths in their reunion survey. Eight recounted having been sexually assaulted: "In my first job, when I was working alone the prof would come in and put his hand down my blouse. I was young, shy, and too much in awe of him to do anything about it." "One of my professors 'behaved inappropriately' to me. I reported his action to my head resident, who told me it was 'better not to talk about it' because he was coming up for tenure." In a year of heightened awareness, when some graduates wore a #timesupharvard sticker to urge more responsive actions, their predecessors' testimonies echoed painfully.



THE HOST UNBUTTONED. Provost Alan Garber, as the morning emcee, was obliged to play it straight, to keep the train running on time. But he did don shades when he reached the honorands—not because it was sunny, but in homage to the signature fashion statement of film director Wong Kar Wai. And when it was Harvey V. Fineberg's turn, Garber made much of the honorand's prior service in the "exalted academic leadership position" of University provost—Fineberg's role from 1997 to 2001. The exalted Fineberg exults upon collecting his fifth Harvard degree.



COURTESY OF MADELYN HO

Matters of Faith

On a campus sometimes considered a temple of secular humanism, Ohio governor John Kasich was not the only speaker to focus on faith. Harvard Business School's class-day speaker Carla Harris '84, M.B.A. '87—vice chair of wealth management at

Morgan Stanley, Harvard Overseer, and a gospel singer who performed at Drew Faust's installation—gave an address in the form of a letter to her younger self. Her booming opening: "God is good all the time, and all the time, God is good!"

Sage Perspective

Author-illustrator Sage Stossel '93 crafted a seasonal *Boston Globe* cartoon for members of any school's class of 2018. One panel suggests that "any grad who follows the news surely already has a leg up in law school," as a youngster pronounces, "No—the Constitution doesn't explicitly say whether a sitting president can be indicted." As a cap-and-gowned grad watches a newscast ("Porn Star Payoff Update!"), Stossel concludes, "[F]or the class of 2018, the bar is such that there's nowhere for them to lead us but up."

ministrators plenty crazy. Connecting more directly to young listeners, perhaps, than with the experiences of the Vietnam-era Radcliffe '68ers or the John Lewis who survived Selma, he segued from routine evening indecisiveness over what Netflix show to watch to “the defining characteristic of our generation: *Keeping our options open*.” From there, he deftly made a vivid case for the “countercultural” act of committing to a cause:

“It is not only the bomb or the bully that should keep us up at night—it is also the gar-



Pete Davis

den untilled and the newcomer unwelcomed, the neighbor unhoused and the prisoner unheard, the voice of the public unheeded and the long-simmering calamity unhalted and the dream of equal justice unrealized.”

Therein, perhaps, lay plenty of scope for hope engendered by the young, educated, newly graduated students of Harvard.

Finale—and the “Work Still Unfinished”

AS THE AFTERNOON EXERCISES ended, Bill Lee and Faust hugged—a tangible sign

of the warmth, mutual respect, and close working relationship president and Corporation had forged during deeply challenging times—and a demonstration of the kind of relationship the Corporation and its president-elect, one of its own, no doubt hope to sustain. For as Faust noted, “as I step down from my responsibilities as Harvard president, I am keenly aware of another of hope’s fundamental attributes. It implies work still unfinished, aspirations not yet matched by achievement, possibilities yet to be seized and realized. Hope is a challenge”—in the world beyond the University, beyond Cambridge and Boston, perhaps more now than ever.

~HARVARD MAGAZINE STAFF

PRESIDENT DREW GILPIN FAUST’S VALEDICTORY

“The Foundation of Learning”

Before delivering her valedictory Thursday afternoon, Drew Faust thanked everyone present for their generous welcome and offered heartfelt congratulations in return, especially to “our graduates, and to your families.” And she thanked the guest speaker: “There can be no finer example of how to live a life than that of John Lewis, whose courage, dedication, selflessness, and moral clarity have for more than a half-century challenged this country to realize its promise of liberty and justice for all.”

ALMOST eleven years ago I stood on this platform to deliver my inaugural address as Harvard’s twenty-eighth president. Today’s remarks represent something of a bookend—a kind of valedictory—valedictory, literally, “farewell words.” When I spoke in 2007, I observed that inaugural speeches are “by definition pronouncements by individuals who don’t yet know what they are talking about.” By now I can no longer invoke that excuse. I am close to knowing all I ever will about being Harvard’s president.

But I then went on to say something else about the peculiar genre of inaugural addresses: that we might dub them, as I put it then, “expressions of hope unchastened by the rod of experience.” By now I should know that rod. In my mind I hear Jimi Hendrix of my youth asking: “Are you experienced?” I would have to answer affirmatively. Perhaps not as experienced as Charles William Eliot, who made it through 40 years as Harvard president. But 11 years is a long time.

Think about it: The iPhone and I were launched within 48 hours of each other in the summer of 2007. All of us are now so attached to our devices that it seems almost unimaginable that they were not always there. The smartphone initiated a revolution in how we communicate, how we interact, how we organize our lives. And we are only beginning to understand the impact of this digital transformation on our disrupted society, economy, politics—even on our brains.

Two thousand and eight brought the financial crisis and the loss of close to a third of our endowment—prompting us in the ensuing years to overturn a system of governance that had been in place here at Harvard since 1650, and to transform our financial—and ultimately our investment—processes and policies.

Five years ago, we lived through the Marathon bombings and the arrival of terror in our very midst—and we came together as Boston Strong.



We have experienced wild weather, from hurricanes to Snowmageddon to Bombogenesis, and we’ve doubled down on our commitment to combat climate change.

We have confronted a cheating crisis, an email crisis, a primate crisis, and sexual assault and sexual harassment crises—and we’ve made significant and lasting changes in response to each.

We have faced down H1N1, Ebola, Zika, and even the mumps.

We have been challenged—as well as often inspired and enlightened—by renewed and passionate student activism: Occupy; Black Lives Matter; Divest Harvard; I, Too, Am Harvard; Undocumented at Harvard; and #MeToo.

We have faced a political and policy environment increasingly hostile to expertise and

skeptical about higher education: The unprecedented endowment tax passed last December will, we estimate, impose on us a levy next year equivalent to \$2,000 per student.

There has indeed been a good measure of chastening. But today I want to focus not on that “rod of experience,” but on what I then defined as the essence of an inaugural message: the expression of hope. Now, as then, that is what fills both my mind and my heart as I think about Harvard, about its present and its future. These past 11 years have only strengthened my faith in higher education and its possibilities. Hope, I have learned, derives not just from the innocence of inexperience, but from the everyday realities, the day-to-day work of leading and loving this University. At a time of growing distrust of

“Building a more enlightened world is the fundamental work of the faculty, and at the core of Harvard’s identity as a research university.”

institutions and constant attacks on colleges and universities, I want to affirm my belief that they are beacons of hope—I think our best hope—for the future to which we aspire. In their very essence, universities are about hope and about the future, and that is at the heart of what we celebrate today.

Hope is the foundation of learning. The 6,989 graduates we honor today arrived here with aspirations about what education could make possible, with dreams about how their lives would be changed because of the time they would spend here. Dean Rakesh Khurana of the College regularly speaks to students about the transformations—intellectual, social, personal—they should seek from their undergraduate experience—he urges them to articulate their hopes and define a path toward realizing them. And we do have such very high aspirations for them: that they find lives of meaning and purpose, that they discover a passion that animates them, that they strive toward *veritas*, that they use their education to do good in the world.

Never has the world needed these graduates more, and I think they understand that. I had lunch with a dozen or so seniors about a month ago, and I asked them to characterize their four years here. They spoke of the ways they had changed and grown, but, more pointedly, they spoke of how the world seemed to have changed around them. They worried about the health and sustainability

of the Earth; they worried about the health of our democracy and of civil society. And they described how their attitudes and plans had altered because of these changed circumstances. They no longer took their world for granted; the future of our society, our country, our planet could not be guaranteed; it was up to them. Their careers and life goals had shifted to embrace a much broader sense of responsibility extending beyond themselves to encompass an obligation to a common good that they had come to recognize might not survive without them.

I thought of these students as something akin to alchemists—confronting dark realities and forging a golden path that offered hope—to themselves about their own lives, but to all of us as we imagine what these extraordinary

graduates will do with and for the damaged world we offer them as their inheritance. It would be impossible to be surrounded by these students as they move through their time at Harvard without being filled with hope about the future they will create. To paraphrase the Ed School’s campaign slogan, they are here learning to change the world.

Building a more enlightened world is, of course, the fundamental work of the faculty as well, and at the core of Harvard’s identity as a research university. The fundamental question we ask as we consider appointing a professor is, “What has this person done to alter and enhance our understanding of the world?” Perhaps they have revealed how the microbiome works, or how international trade agreements affect economic prosperity, or how undocumented students confront educational challenges. Perhaps they’ve unlocked ways to identify the actual location of genes that cause schizophrenia, or perhaps they have discovered how to engineer an exosuit to enable a person to walk. Harvard scholars explore history and literature to help us understand tyranny; art to illuminate the foundations of justice; law and technology to address fundamental assaults on assumptions about privacy.

With its eye cast on creating a different future, all of this work is founded in hope—of seeing something more clearly, of influencing others to change their understanding

and perhaps even their actions. We are by definition a community of idealists, thinking beyond the present and the status quo to imagine how and when things could be different, could be otherwise.

The privilege of interacting with Harvard’s remarkable students and faculty, and the dedicated staff who support their work, has uplifted me every day for the past 11 years. It would be next to impossible not to believe in the future they are so intent to build. But there is another way that Harvard fills me with hope, and that is the way that we as a community—living and working together within these walls—are endeavoring ourselves to grapple with the challenging forces dividing and threatening the world—forces like climate change, or the divisiveness that poisons our society and polity, or the undermining of facts and rational discourse, or the chilling of free speech.

We might in some ways see the work we have undertaken together on sustainability as emblematic of these wider efforts. We have come to consider ourselves a living laboratory. Our research and engagement on environmental issues of course stretches well beyond our walls: our faculty, for example, have played critical roles in forging international climate agreements, have engineered innovative ways to create and store renewable energy, have influenced regulatory frameworks from Washington to Beijing, have explored the searing impact of climate change on health. But at the same time we have endeavored to make our own community a model for what might be possible—what we might hope for as we imagine the future. We have reduced our greenhouse gas emissions by 30 percent, our trash by 44 percent; we produce 1.5 megawatts of solar energy—enough to fuel 300 homes. We have programs experimenting with healthy building materials, green cleaning, and food waste, and we have constructed HouseZero, an energy-neutral structure that is essentially an enormous computer generating data about every aspect of its operation and design, making information available to others as they build for the future.*

We seek to be a living experiment in other ways as well. We gather here in Cambridge, face-to-face in a residential educational setting because we regard this very community as an educational machine. I have often observed that Harvard is likely the most diverse environment in which most of our

*See “The Brain in the Basement,” page 10.

students have ever lived. We endeavor to attract talented individuals from the widest possible range of backgrounds, experiences, and interests, from the broadest diversity of geographic origins, socioeconomic circumstances, ethnicities, races, religions, gender identities, sexual orientations, political perspectives. And we ask students to learn from these differences, to teach one another—and to teach us as well—with the variety of who they are and what they bring. This isn't easy. It requires individuals to question long-held assumptions, to open their minds and their hearts to ideas and arguments that may seem not just unfamiliar, but even disturbing and disorienting. And it is an experiment that becomes ever more difficult in an increasingly polarized social and political environment in which expressions of hatred, bigotry, and divisiveness seem not just permitted but encouraged. But in spite of these challenges all around us, we at Harvard strive to be enriched, not divided, by our differences.

To sustain this vision of an educational community, we must be a living laboratory in another sense as well. We must be a place where facts matter, where reasoned and respectful discourse and debate serve as arbiters

of truth. There has been much recent criticism of universities for not being sufficiently open to differing viewpoints. Protecting and nourishing free speech is for us a fundamental commitment, and one that demands constant attention and vigilance, especially in a time of sharp political and social polarization. The uncontrolled—and uncontrollable—cacophony that defines a university means that sometimes inevitably we will fall short; we cannot always guarantee that every member of this community listens generously to every other. But that must motivate us to redouble our efforts. Silencing ideas or basking in comfortable intellectual orthodoxy independent of facts and evidence blocks our access to new and better ideas. We must be dedicated to the belief that truth cannot be simply asserted or claimed, but must be established with evidence and tested with argument. Truth serves as inspiration and aspiration in all we do; it pulls us toward the future and its possibilities for seeing more clearly, understanding more fully, and improving ourselves and the world. Its pursuit is fueled by hope. Hope joins with truth as the very essence of a university.

And so I come back to hope—the hope implicit in our efforts to model a different

way for humans to live and work together, the hope in the ideas and discoveries that are the currency we trade in, the hope in the bright futures of those who graduate today. Yet as I step down from my responsibilities as Harvard president, I am keenly aware of another of hope's fundamental attributes. It implies work still unfinished, aspirations not yet matched by achievement, possibilities yet to be seized and realized. Hope is a challenge.

I think of the words the beloved late crew coach Harry Parker once spoke to a rower—words I quoted often during the campaign: “This,” he said to the rower, “this is what you can be. Do you want to be that?” These are the words and the message I would like to leave with Harvard. The work is unfinished. The job remains still to be done in times that make it perhaps more difficult than ever. May we continue to challenge ourselves with the hope of all we can be and with the unwavering determination to be that.

May Harvard be:

As wise as it is smart
As restless as it is proud
As bold as it is thoughtful
As new as it is old
As good as it is great.

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“I would like to offer you what I think is even better than an actual Harvard degree: the ability to pass what I call the Harvard Voight-Kampff,” writes Alexandra Petri '10.

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Solzhenitsyn in My Inbox

Reflections on Solzhenitsyn's Commencement speech 40 years on, by Wanda Urbanska '78

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Alma Mater, Updated

Janet Pascal '84 crafts the new final line for “Fair Harvard,” debuted this Commencement.

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Saving Stephen Hawking

David H. Abramson '65, the First Marshal of his class, writes of a close call on Commencement day 1990, when he was assigned to escort honorand Stephen Hawking on campus.

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HARVARD PORTRAIT



Erika Bailey

Like many young thespians, Erika Bailey once dreamed of acting Ibsen and Molière. Eventually, though, the years of auditions wore on her. “As an actor, you’re always asking for jobs,” she says. “You’re like, ‘Please, I need the Cheez-It commercial!’”—which wasn’t exactly the kind of poetic, “heightened text” she’d pored over while studying theater (at Williams), or acting (for an M.F.A. at Brandeis). Seeking more “authority” over her career, she left the New York City cattle calls and a day job at the Council on Foreign Relations, heading to a London conservatory to study the performance element she loved most: voice. Since then, Bailey has collaborated with actors playing roles from Andy Warhol to Mary Stuart, fine-tuning dialects (regional quirks) and “idiolects” (personal ones) and advising them on how to safely reach “vocal extremes” such as “screaming, shouting, vomiting, or even coughing a lot.” In 2014, after working in theaters from Kansas City to Broadway, she became the American Repertory Theater’s new head of voice and speech. (The move was a kind of homecoming: her parents met and married as Harvard students, and she spent her early years at Peabody Terrace, reading books aloud and in character.) Now, in addition to coaching A.R.T. productions, she teaches the basics of voice to seasoned performers, public speakers, and total novices alike. Atop anatomy and phonetics lessons, class can involve yawning, tongue-stretching, and rolling around on the floor. The full-body experience carries a deeper and more resonant lesson: Whether they love them or hate them, she says, “people think about their voices as kind of a given thing”—a fixed aspect of their identities. Bailey aims to instill a sense of power and play over that sound, and help them make their words carry. —SOPHIA NGUYEN

“Crimmigration”

At HLS, a new frontier in immigration law.

“IT OFTEN HAPPENS,” says Phil Torrey, managing attorney of the Harvard Immigration and Refugee Clinical Program (HIRC), “that I’ll get a phone call from criminal-defense counsel somewhere random in the country, like the one last week I got from Tennessee. The lawyer says, ‘Hey, I’m about to go into the courtroom, here’s the plea deal that’s on the table—and my client’s not a U.S. citizen. What’s gonna happen?’” Torrey is addressing the four law students in his “crimmigration” clinic, who are learning how to advocate for criminal defendants who are not American citizens. A complex tangle of state and federal offenses—from petty theft to murder and drug crimes—can lead to detention or deportation for non-citizen immigrants, even those with green cards who have lived in the country for many years.

“Crimmigration”—the intersection of criminal and immigration law—is the newest policy area for HIRC, one of oldest clinical programs at Harvard Law School (HLS). In addition to its broader Immigration and Refugee Advocacy clinic, HIRC offers Torrey’s crimmigration clinic in the spring: an opportunity for students to gain direct experience working on and contributing to case law in this young field. When she co-founded HIRC in 1984, says clinical professor of law Deborah Anker, it “was at the bottom of the pile”; immigration issues were barely recognized as a subfield of law. But student interest has spiked since the 2016 election, and now, she says, the Immigration and Refugee Advocacy clinic has one of “the longest waiting lists among [HLS] clinics—about 100 students.”

As Nancy Kelly, a clinical instructor and lecturer on law, puts it, Donald Trump “ran on a platform of immigrants being criminals, and now he’s doing his best to make that a reality.” Crimmigration reflects, on one hand, an increase in the number of crimes that can result in deportation, and on the other, a push among immigration opponents to create ever more crimes for which to prosecute immigrants. For example, entering the country without inspection is already a crime, but the recent Republican immigration bill, the Securing America’s Future Act, would have made it a federal crime to *be*

in the United States without a valid immigration status, thereby criminalizing the estimated 11 million undocumented immigrants in the country.

THE U.S. criminal and immigration systems used to be almost entirely separate: criminal violations didn't have immigration consequences, and vice versa, so immigrants convicted of burglary were sentenced in the criminal-justice system, but didn't face loss of immigration status and deportation. In the last few decades, though, Congress has created an ever-growing list of crimes that can get both legal and illegal immigrants kicked out of the country. Today, immigration-related cases make up the largest category of federal prosecutions (more than drug crimes, white-collar crimes, or violent crimes).

During the Reagan administration, the Anti-Drug Abuse Act introduced the concept of "aggravated felony"—a crime that could get a non-citizen deported immediately. But a crime doesn't need to be either aggravated or a felony to qualify: "aggravated felony" does cover brutal crimes like murder and rape, but has also been expanded over the years to include things like failing to appear in court, theft, or falsifying a tax form. Because aggravated felonies trigger deportation regardless of how long immigrants have been in the United States, mandates that the accused be detained, and makes them ineligible for asylum and certain procedural protections (like a hearing before an immigration judge), the category is considered especially severe. But Congress has also designated many other types of convictions that can subject immigrants to deportation, including "crimes involving moral turpitude."

In the 2006 article that originated the idea of crimmigration, assigned in Torrey's course, Juliet Stumpf of Lewis & Clark Law School argued that "Both criminal and immigration law are, at their core, systems of inclusion and exclusion...Viewed in that



Phil Torrey

COURTESY OF PHIL TORREY

light, perhaps it is not surprising that these two areas of law have become entwined. When policymakers seek to raise the barriers for noncitizens to attain membership in this society, it is unremarkable that they would turn to an area of the law that similarly functions to exclude." Both criminal and immigration law deem certain categories of people undeserving of rights belonging

to everyone else: felons, for example, aren't allowed to vote, and their movement is restricted. The Obama administration gambled that by embracing a strategy of deporting "felons, not families," it could create a positive image of "good" immigrants in the public imagination—particularly the "Dreamers," some 800,000 young people

brought into the illegally country as children. But the flip side of DACA (Deferred Action for Childhood Arrivals) made it easier to create a class of immigrants—those with criminal records—who were deserving of deportation. The Trump campaign picked up on that narrative to further link immigrants with criminality, a link that's been used, with the pending repeal of DACA, to pull the rug out from under the "good" immigrants, too.

Crimmigration as a school of thought, a community of lawyers and scholars writing about the criminalization of immigrants, calls for decoupling crime from a person's immigration status; deportation amounts to an additional punishment, they argue, exacted only on non-citizens. "I'm definitely of the mind-set that the criminal-law system and the immigration system should be completely divorced from one another," Torrey says. Barring that, he says, the immigration-court system that determines whether a person can stay in the United States needs reform. "What the immigration system should take into account are things like the circumstances in which a felony was committed, how long ago it was committed, any

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rehabilitation—all those are important factors” that are not considered currently, he explains. Instead, the system is “sort of a rubber stamp.”

TORREY HAS BEEN leading the crimmigration clinic each spring since 2013, in conjunction with a crimmigration law course (a prerequisite for the clinic) in the fall. In 2009, after a brief stint at Skadden, Arps, Slate, Meagher & Flom, his first job out of law school, he left for a fellowship at the nonprofit Greater Boston Legal Services, which offers free legal advice and direct representation to low-income residents. There, he says, “The cases that I was working on all had criminal issues enmeshed with them.” One client, charged with assault and battery with a dangerous weapon for beating another man with his shoe, was

being held in immigration detention pending deportation proceedings. But he wasn’t guilty: the main witness recanted her false testimony; the client was allowed to remain in the country and now has his green card.

What are citizenship and immigration status but a way of arbitrarily allocating resources based on where people are born?

“Seeing how the criminal-law system can be used against somebody in the immigration system, how unfair that can be,” Torrey says, “is what energized me to focus my practice in this particular area.”

A large component of his clinic’s regular work involves so-called Padilla advisals. Some federal courts in recent years have be-

gun to check the executive branch’s ability to deport convicted immigrants, and in 2010, in *Padilla v. Kentucky*, the Supreme Court ruled that criminal-defense counsel must advise their non-citizen clients about the potential

risk of deportation following a conviction, to help them decide how to plead. (In that case, the attorney for a Honduran who’d lived legally in the United States for more than 40 years wrongly told him he wouldn’t face deportation after pleading guilty to trafficking marijuana.)

Since that ruling, criminal defenders all

Seasons at the Arboretum

In 2008, photographer Jim Harrison, whose portraits of Harvard community members have appeared in this magazine for decades, turned his eye to a new subject: the plants at the University’s Arnold Arboretum, where he began capturing the dramatic seasonal changes of a world-

class collection of trees and shrubs.

Photographers know that, when shooting outdoors, the “golden hours” just after sunrise and just before sunset provide dramatic light. For Harrison, that meant rising on some summer days at 4 A.M. to record the fuschia glow of first light, or

venturing out into frigid winter dawns the day after a blizzard to record a landscape shrouded in shades of white. Some plants present specific challenges, such as the kerchief-like white bracts of *Davidia involu-crata*, the dove tree, gently backlit by the sun in the image opposite.

This summer, an exhibition of 31 prints from his project will open at the Arboretum’s Hunnewell Visitor Center. In *Con-*

tinuations: Seasons at the Arboretum (July 28 through the first week of October), Harrison’s fascination with the architecture of plants—the way they branch or form their flowers—is a thematic undercurrent. Another is decay: the bloom gone by, or the fallen leaf.

These five photographs from the exhibit illustrate those themes; they also show off some of the finest plant specimens growing on the Arboretum’s 281-acre grounds. At far left is *Acer griseum*, the paperbark maple, its cinnamon limbs

Seen at the Arnold Arboretum (from left): a paperbark maple in winter; magnolia blooms in spring; a mid-summer Stewartia; and autumn leaves in Bussey Brook



over the country have relied on immigration attorneys like Torrey to prepare Padilla advisals for their clients—often in hasty circumstances, without enough time to conduct a proper analysis. To provide the advisals this past semester, his students partnered with students in the Criminal Justice Institute (HLS's clinic for students training to become public defenders; see "Criminal Injustice," September-October 2017, page 44).

To draw up a Padilla advisal, students must engage with both the criminal and the immigration systems to combine information about a client's immigration status with data about the particular crime at issue, and determine whether that crime meets federal grounds for deportation. Most convictions occur at the state level, and there are *thousands* of state statutes, many with no precedent for triggering deporta-

tion, so students must conduct a "categorical analysis" to determine whether a particular state criminal statute matches the generic, federal definition for a given crime, regardless of the particular circumstances of the defendant's crime. A state statute that defines burglary as "entry" into a home with intent to commit a crime, for example, would be too broad to meet the federal definition: "an unlawful or unprivileged entry." "You have different sovereigns, the federal and state governments—two bodies of law with different protections and procedures attached to them," Torrey explains. "It can be very difficult to figure out when a state-level conviction would trigger something in the federal civil process."

The most fraught part of this process, though, is making a judgment about U.S. Immigration and Customs Enforcement

(ICE) deportation priorities: how likely the agency is to target the client for deportation. The students' main frustration involves the difficulty of communicating the relative risk of deportation to a terrified client. The Trump administration "is trying to stretch every removal ground," third-year student Paulina Arnold points out: revised priorities for deportations target not just immigrants convicted of crimes, but also those who have been charged with crimes, or have committed acts that *could* be charged as crimes. That raises the stakes for advisals, and makes it even harder to communicate deportation risks. A few years ago, she says, she would have been comfortable telling a client that deportation was unlikely. "Now, if there's any possible chance [the client] could fit under any removal ground, you want to flag it."

capped with snow. The plant, known for its finely exfoliating bark, often grows straight up on a single, columnar stem, but this particular ancient specimen branches in surprising ways against the sky. The magnolia blossom with elongated petals (opposite, right, a hybrid named "Judy," was developed at the National Arboretum in the 1950s as part of the "Little Girl" series. Harrison's photograph hints at the parentage: the star magnolia (*Magnolia stellata*), known for white, ribbon-like petals, contributes this characteristic to its offspring while the purple flowers of *Magnolia lilliflora* 'Nigra' explain the tinge of color that rims the petal edges. Beneath the bloom, petals that have gone by lie in soft focus where they have fallen. In Bussey Brook (far right), which flows east at the foot of Hemlock Hill, brightly colored fall leaves (Japanese maple among them) gather at a spot where the water meets rocks in midstream.

One of the great challenges of photographing any flowering tree is that doing justice to the blooms demands moving in close, while showing the trunk

and limbs typically requires a wider field of view. With his photograph (below, left) of *Stewartia pseudocamellia*, Harrison flatters this showy, summer-blooming tree, capturing both the waxy, white flowers for which it is named and—through a window in the leaves—the beautifully mottled bark for which it is best known.

Seven more images from the exhibition appear online at harvardmag.com/harrison-trees-18. ~JONATHAN SHAW



Yesterday's News

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

1918 Between July 1 and August 12, the Harvard Reserve Officers' Training Corps prepares almost 600 men (about half undergraduates) for military service.

1938 At the fifth annual joint outing of the Harvard and Yale Clubs of New York City, at the Rockaway Hunting Club, Cedarhurst, Long Island, Harvard wins the baseball game 4-0, loses the golf match 427 to Yale's 409, and wins the tennis competition five matches to none.

1943 *The Harvard Advocate's* president announces that lack of finances and manpower make its forthcoming issue the last "for the duration," though the organization will continue its "social function."

1953 Assistant professor of anatomy Helen Dean Markham, suspended in June by the Corporation on suspicion of being a Communist, has her suspension lifted on August 31, but the Corporation states that she will not be rehired when her current appointment ends on June 30, 1954.

The School of Public Health has air-freighted a library of "more than 300 texts and reference works on public health

and preventive medicine" to the first school of public health to be established in South Korea.

1968 President Pusey refuses to allow the Boston Patriots to play regularly in Harvard Stadium because "professional football [cannot be] introduced into an academic environment without...exerting a disruptive and disturbing influence...."

1973 Two major construction projects keep the Yard bustling: the demolition of Hunt Hall to make room for the future Canaday Hall, and the excavation of the site for Pusey Library.

1998 On July 4, the day Henry David Thoreau, A.B. 1837, matriculated at Walden Pond, 100 naturalists—including the day's other honoree, Pellegrino University Research Professor E.O. Wilson—descend on Concord and Lincoln, Massachusetts, in what is labeled "the world's first 1,000-species Biodiversity Day." The 24-hour event turns up a species total tentatively set at 1,620.

AFTER THE 2016 election, Deborah Anker remembers, HIRC was overwhelmed by a spike in interest in its work among law students and the wider Harvard community. President Trump had promised to immediately rescind DACA, a group including about 65 Harvard undergraduates. The clinic hired a staff attorney, Jason Corral, in January 2017 to represent members of the University community; soon after, a number of additional Trump administration executive orders affected various Harvard students and staff members: the ban on travel from seven majority-Muslim countries (HIRC wrote an amicus brief challenging that order), the repeal of DACA (now under challenge in courts), and the revocation of Temporary Protected Status (TPS) for 400,000 immigrants from El Salvador, Haiti, Nicaragua, Nepal, and, most recently, Honduras (see harvardmag.com/daca-tps-18). Corral declines to say how many Harvard affiliates will be affected by the repeal, because the University has no way of knowing precisely, but adds, "TPS is a huge issue here."

If the repeal proceeds without challenge, Corral says, HIRC may consider building asylum arguments for TPS holders. To qualify for asylum, refugees must show that they have been persecuted based on race, religion, nationality, political opinion, or membership in a "particular social group." (HIRC is widely known for Anker's work in helping establish women fleeing domestic violence as a "particular social group" eligible for asylum.) "What about the fact that someone has lived in the U.S. for 20 years?" Corral asks. "The way that they talk now, or their perceived wealth or culture or politics that they developed while living in the U.S.—that can create a particular social group such that they're likely to be targeted in their country of citizenship." At the same time, many more law students are interested in practicing and expanding the bounds of im-



migration law. Arnold, who came to HLS specifically to study and work on criminal migration, was a second-year student during the election. As a co-president of the Harvard Immigration Project (HIP), a student group providing legal representation to immigrants, she helped form the Immigration Responsive Initiative, which quickly signed up more than 400 students (one-fifth of the student body) to contribute to post-election refugee and immigrant advocacy. Approaching large corporate firms for funding has suddenly become easier, too. Before the election, she says, firms recoiled from funding things like deportation defense “because *Obama* had created this criminal-alien narrative... people thought, ‘You’re just helping criminals.’ But now, increasingly, they’re will-

ing to help out on bond, they’re willing to help out on Board of Immigration Appeals stuff that we do for people with criminal convictions. I think the narrative around that is really changing.”

Arnold will spend the next two years clerking in New York and Washington, D.C.; she thinks about becoming an immigration-law professor as a longer-term goal. “I’m really interested in what immigration status *means*,” she explains. The answer isn’t obvious. What are citizenship and immigration status, after all, but a way of allocating resources based on where people are born? “Citizenship exists sort of in the ether—there’s no formal document that *makes* you a citizen,” she continues. “People can be citizens and not know it. And things like DACA are creating whole new, liminal

areas of immigration status.

“There’s a massive disconnect between the kinds of rights that we aggressively protect for folks” as part of the criminal-justice process—like the right to an attorney—versus what happens in immigration, she continues. “I worked for a public defender last summer...the kind of process that even the broken criminal-justice system gives to defendants is so divorced from what you get as a non-citizen in immigration hearings. You’re arrested, you’re put in jail in a jumpsuit, you get maybe one hearing, and you can be detained for months and months and deported—and yet you get essentially no process. Conceptually, what that means about what we think about the status of being a non-citizen is really horrible. And interesting.” ~MARINA BOLOTNIKOVA

Changes at the Top

IT’S THE CHANGING of the University guard, as President Drew Faust steps down and Lawrence S. Bacow moves from the Corporation to Massachusetts Hall. That created a vacancy on the senior governing board. But in fact there was a second: Joseph J. O’Donnell ’67, M.B.A. ’71—like Bacow, a member elected in 2011 in the first cohort of new fellows as the Corporation expanded from seven members to its current 13—also concluded his service. Accordingly, the University announced on May 23 that two new Corporation members have been elected as of July 1: Penny S. Pritzker ’81 and Carolyn A. “Biddy” Martin. The annual transition in the Board of Overseers’ leadership will take effect at the same time.

Pritzker—former U.S. Secretary of Commerce and a past Overseer—has long been involved with her alma mater, but took a slight diversion from one of her intended engagements, as a leader of The Harvard Campaign, when President Barack Obama appointed her to a cabinet post. Now, she returns as a member of the Corporation. “It’s an incredible honor and privilege to be returning to Harvard in this important role,” she said in a statement in the University news announcement. “I am deeply grateful to this university community for its transformative impact on my life and career, helping to shape not only my learning but also my values and commitment to others. Harvard’s faculty, students and staff are dedicated to academic rigor, world-class



Penny S. Pritzker

research, and making positive contributions to people across America and throughout the globe.”

A leading member of a leading Chicago family, Pritzker has founded and led diverse businesses in real estate, hospitality, financial services, and other industries. She is founder and chair of PSP Partners, a global private investment firm. She has chaired the board of the Museum of Contemporary Art Chicago, and has been a trustee of Stanford, where she earned her J.D. and M.B.A. At Harvard, in addition to her 2002 election as an Overseer, Pritzker was a founding member of the Corporation’s committee on facilities and capital planning; given her real-estate experience, it was natural for her to be an



Carolyn A. Martin

adviser on Allston planning. She has served on visiting committees for the Harvard Art Museums, the College, the Graduate School of Design, and the Graduate School of Education. Pritzker and her husband, Dr. Bryan Traubert, have supported work on childhood obesity at the public-health school. The redesign of Cabot Science Library and its common spaces, now named Pritzker Commons, reflect her campaign support. In many respects, she seems to bring to her new role many of the strengths and experiences that O’Donnell offered to the Corporation, plus, of course, her own interests and insights.

At a moment when president-elect Bacow has expressed deep concern about rising antipathy toward higher education, Martin, a

multitalented educator, brings relevant experience across the sector to her Corporation service. A first-generation student from a Virginia family, she earned her bachelor's degree from the College of William & Mary, a master's degree from Middlebury College's program at the Johannes Gutenberg Universität in Mainz, Germany, and a Ph.D. in German literature from UW-Madison. Martin served on Cornell's faculty for more than 20 years as a distinguished scholar of German studies and women's studies. As provost from 2000 to 2008, she oversaw the

development of a new life-sciences building, elevated the stature of humanities research and education, implemented a major financial-aid initiative that replaced need-based loans with grants, and developed the university's priorities for a major capital campaign.

Martin was chancellor of her doctoral alma mater from 2008 to 2011—and thus knows, at first hand, what cuts in state higher-education budgets since the Great Recession have meant to flagship public universities. In 2011, she took the helm at Amherst, one of the nation's premier liberal-

arts institutions, where she has furthered that college's leadership in ensuring access for low-income students. Martin, who has championed diversity, inclusion, and free expression, is one of the few openly gay higher-education leaders in the country.

"I am honored to be asked to serve on the Harvard Corporation," she said in the news announcement. "The values that guide Harvard and the example it sets matter, not only to Harvard and its future, but also to the future of American higher education more broadly. I look forward to working with

University People

Top Teachers

The Faculty of Arts and Sciences annually recognizes its most outstanding teachers of undergraduates by conferring Harvard College Professorships: a five-year title that is accompanied by supplemental research support. This May, the dean of the faculty, Michael D. Smith, recognized Robin Bernstein, Dillon professor of American history and professor of African and African American studies and of studies of women, gender, and sexuality; Lawrence Bobo, Du Bois professor of the social sciences; George Lauder, Bigelow professor of ichthyology; Yukio Lippit, professor of history of art and architecture (featured in "Works in Wood,"

September-October 2008, page 44); and Amy Wagers, Forst Family professor of stem cell and regenerative biology (see "A Hidden Youthfulness," January-February 2010, page 27).

Faculty Leaders

This spring, Dean Smith also unveiled the Arts and Sciences Professorships, a new honor recognizing faculty members who have made significant leadership contributions while sustaining their teaching and scholarship. The new chairs, lasting five years like Harvard College Professorships (above), have been enabled by funds raised through the capital campaign since 2012, and come with incremental support for the recipients' research.

An initial recipient, in 2013, was Jeff Lichtman, Knowles professor of molecular and cellular biology (covered in "Shedding Light on Life," May-June 2008, page 40). A fuller cohort, presented this April, includes Catherine Dulac, Higgins professor of molecular and cellular biology (see "The Mr. Mom Switch," May-June 2015, page 11); Jennifer Lewis, Wyss professor of biolog-

ically inspired engineering (featured in the January-February 2017 cover article, "Building Toward a Kidney"); Louis Menand, Bass professor of English (and a Harvard College Professor); and Mary C. Waters, Loeb professor of sociology (covered in "End of the Melting Pot?" May-June 2007, page 44).

Radcliffe Roster

The Radcliffe Institute has announced its 53 fellows for the 2018-2019 academic year. Nine are Harvard faculty members: Robin Bernstein, Dillon professor of African and African American studies and of studies of women, gender, and sexuality; Sara Bleich, professor of public health policy; Marine Denolle, assistant professor of earth and planetary sciences; Lisa R. Diller, professor of biology and medical sciences; Cora Dvorkin, assistant professor of physics; Cynthia Dwork, McKay professor of computer science; Myrto Kalouptsi, assistant professor of economics; Durba Mitra, assistant professor of women, gender, and sexuality; and Janet Rich-Edwards, associate professor of medicine and associate professor of epidemiology (and co-director of the science program at Radcliffe). Further details appear at harvardmag.com/rias-fellows-18.

Guggenheims Galore

Faculty members awarded 2018 Guggenheim Memorial Fellowships include Joyce E. Chaplin, Phillips professor of early American history; Peter A. Hall, Krupp

Foundation professor of European studies (see "Anatomy of the Euro Crisis," July-August 2013, page 24); Jane Kamensky, professor of history and director of



PORTRAITURE PROJECT: Harvard's Portraiture Project, meant to include important members of the community, has now produced its likeness of the late S. Allen Counter, founding director of the Harvard Foundation for Intercultural and Race Relations. The painting was unveiled in Annenberg Hall in late April.

President Bacow and the members of the Corporation to help steward this remarkable institution and promote its mission in the world.”

In the sense that Martin succeeds Bacow (who of course remains on the Corporation as president), the board retains in active service a strong complement of higher-education leaders.

Newly elected Overseers’ president Susan L. Carney ’73, J.D. ’77, has been a judge on the U.S. Court of Appeals for the Second Circuit since 2011. Previously, she served as depu-

ty general counsel at Yale, where she was involved in a broad range of university issues; and as associate general counsel of the Peace Corps. She has chaired the Overseers’ standing committee on humanities and arts, and served on its executive and nominating committees, among others. Carney also served on various visiting committees, including those for the Medical School and School of Dental Med-



Susan L. Carney



Gwill E. York

icine. One element of continuity in the transition: Carney served on the search committee that resulted in the election of Bacow as twenty-ninth president. (Her husband, journalist Lincoln Caplan ’72, J.D. ’76, is a frequent contributor to and contributing editor of *Harvard Magazine*.)

Gwill E. York ’79, M.B.A. ’84, will serve as vice chair of the Overseers’ executive committee. She co-founded and is a man-

UNDERGRADUATE EDUCATOR: Amanda Claybaugh has been appointed dean of undergraduate education, effective July 1, succeeding Jay H. Harris, on whose decade-long watch the Faculty of Arts and Sciences adopted an honor code (violations of which are administered by an Honor Council); adjusted class schedules to accommodate instruction in Allston; and revisited General Education. Claybaugh, Ph.D. ’01, the Samuel Zemurray Jr. and Doris Zemurray Stone Radcliffe professor of English (see *Harvard Portrait*, May-June 2012, page 47), is a scholar of nineteenth-century literature and history (she chaired *Hist & Lit* for four years). Getting the revised Gen Ed curriculum up and running by the 2019 fall term will be among her most pressing priorities (see page 3). Other continuing-business items range from rethinking students’ course “shopping week” and revising course evaluations to ensuring that the launch of undergraduate teaching in Allston on a large scale in 2020 proceeds smoothly.

the Schlesinger Library (see “Facing Harvard,” November-December 2016, page 42); Wai-ye Li, professor of Chinese literature; Naomi Oreskes, professor of the history of science (see *Harvard Portrait*, July-August 2014, page 23); Lisa Randall, Baird professor of science (see “Meeting the Multiverse,” November-December 2005, page 19); and Robert J. Sampson, Henry Ford II professor of the social sciences (see “The Persistence of Place,” January-February 2012, page 22).

Honor Roll

Elizabeth Hinton, assistant professor of history and of African and African American studies, who studies incarceration and criminal justice (see *Harvard Portrait*, March-April 2017, page 19), has been awarded a



Elizabeth Hinton

2018 Carnegie Fellowship, which confers a \$200,000 stipend to support research....Separately, Adams professor of political leadership and democratic values Jane Mansbridge, of the Kennedy School, has won the 2018 Skytte Prize



Jane Mansbridge

in Political Science, the leading international recognition in the field; it comes with a 500,000 Swedish kronor honorarium.

AAAS Honorands

The American Academy of Arts and Sciences announced the election of 213 new members to its class of 2018, including 11 faculty members: Cynthia M. Friend, Richards professor of chemistry and professor of materials science; Susan M. Dymecki, professor of genetics; Naomi E. Pierce, Hessel professor of biology; Patricia A. D’Amore, Schepens professor of ophthalmology; Christopher A. Walsh, Bullard professor of pediatrics and neurology; J. Wade Harper, Vallee professor of molecular pathology; Gita Gopinath, Zwaanstra professor of international studies and of economics; Jeffrey A. Frieden, Stanfield professor of international peace; Pippa Norris, McGuire lecturer in comparative politics; Evelyn Brooks Higginbotham, Thomas professor of history and of African and African American studies; and Rebecca M. Henderson, McArthur University Professor.

Literary Lions

Frank Bidart, A.M. ’67, was awarded the Pulitzer Prize in poetry for the collection



JUSTINE COOPER PHOTOGRAPHY

Half-light, and Caroline Fraser, Ph.D. ’87, the Pulitzer in biography for *Prairie Fires: The American Dreams of Laura Ingalls Wilder....* Winners of 2018 Whiting Awards, which confer \$50,000 stipends on emerging writers, included Wei-ke Wang ’11, S.D. ’17, whose recent novel is *Chemistry*, and Antoinette Nwandu ’02, a playwright who wrote *Breach: a manifesto on race in america through the eyes of a black girl recovering from self-hate*.

Library Leave-Taking

Sarah E. Thomas, since 2013 vice president for the Harvard Library and University Librarian and Larsen librarian of the Faculty of Arts and Sciences, will retire at year-end. Provost Alan Garber made the announcement on May 30; he will begin the search for a successor during the summer. Thomas consolidated library functions following cuts and reorganization after the financial crisis; a University library committee now guides common practices and policies.

aging director of Lighthouse Capital Partners, a venture-capital firm, and has been an entrepreneur-in-residence at the Business School. York is a member of the dean's advisory group for the School of Engineering and Applied Sciences and co-chair of the Boston Major Gifts Committee. She

co-chairs the Corporation-Overseers joint committee on alumni affairs and development, and has been a member of visiting committees to the Art Museums and to departments including astronomy and statistics. York chairs the board of the Boston Museum of Science, and serves on the

boards of the Isabella Stewart Gardner Museum and Partners HealthCare (the parent to Massachusetts General Hospital and Brigham and Women's Hospital).

A more detailed report appears at harvardmag.com/govboards-change-18.

—JOHN S. ROSENBERG

News Briefs

Dean Duo

AS THE HARVARD PRESIDENCY transitions from Drew Faust to Lawrence S. Bacow, two deanships were filled by appointments announced late in spring term.

Tomiko Brown-Nagin, Paul professor of constitutional law and professor of history, has been appointed dean of the Radcliffe Institute for Advanced Study, effective July 1. She succeeds Jones professor of American studies Elizabeth Cohen, who returns to research and teaching, following seven years leading the institute.

Brown-Nagin, who earned her J.D. at Yale and her Ph.D. at Duke, came to Harvard from the University of Virginia in 2012. Her academic footings, in a professional school and the liberal arts, mirror the institute's University-wide interests and programs—and she has direct experience at Radcliffe as well, as a fellow in the 2016-2017 academic year. She is currently faculty director of the law school's Charles Hamilton Houston In-

see harvardmag.com/brown-nagin-18.

At the Graduate School of Education, Bridget Terry Long, Saris professor of education and economics, has been appointed dean as of July 1, succeeding James E. Ryan, president-elect of the University of Virginia.

Long earned her doctorate at Harvard and began teaching at the school in 2000; she served as academic dean from 2013 to 2017. Her research focuses on the transition from high school to college, including such factors as college preparation and financial aid. She

Graduate Student Union

IN APRIL, Harvard graduate students voted 1,931-1,523 in favor of forming a labor union, ending a protracted, fiercely contested debate over unionization across the University. Provost Alan Garber announced in early May that Harvard "is prepared to begin good-faith negotiations" with the union—a notable break from the precedent set by Columbia, Yale, and the University of Chicago, which have refused to bargain with the victorious student unions elected on their respective campuses.

Breaking with a precedent set by some peer schools, Harvard will begin negotiations with the newly elected graduate-student union.

is a research associate of the National Bureau of Economic Research, and also serves on the board of directors of Buckingham Browne & Nichols School in Cambridge.

As president-elect Lawrence S. Bacow emphasizes the importance of higher education in face of

public criticism and partisan challenges (see "Continuity and Change," May-June, page 14), Long's expertise, and Bacow's familiarity with her work, may be especially pertinent. In a statement accompanying the news, he said, "I came to know

Bridget Terry Long during my time in residence at the Gradu-

ate School of Education. We share a common interest and passion for improving access to higher education for talented students from families of limited means. I look forward to working closely with her to achieve this goal and to advancing the important work of the School." A more detailed report appears at harvardmag.com/long-18.

The Harvard Graduate Student Union-United Auto Workers (HGSU-UAW) covers a bargaining unit of about 5,000 research and teaching assistants from across Harvard's schools, including the Graduate School of Arts and Sciences, the professional schools, and the College. This election was Harvard's second: graduate students previously voted on unionizing in November 2016, an election that turned out to be inconclusive. A majority of students then voted *against* unionizing, but after more than a year of legal battles that reached the federal National Labor Relations Board (NLRB) in Washington, Harvard was ordered to hold a second election. The University had failed to provide a complete list of eligible voters prior to the election, creating confusion about eligibility, the NLRB found.

HGSU-UAW was notably better organized in the weeks leading up to this election than the previous one: student organizers at the Law School and other professional schools, not just Ph.D. candidates, rallied support among their peers, and the union's social-media messaging stressed the benefits of unionizing for students across Harvard. Still, at the vote count at the Boston NLRB on April 20, representatives from HGSU-UAW were ecstatic and appeared,



Tomiko Brown-Nagin



Bridget Terry Long

STEPHANIE MITCHELL/HFAC

stitute for Race and Justice, bridging scholarship and practice. Her 2011 book, *Courage to Dissent: Atlanta and the Long History of the Civil Rights Movement*, won the Bancroft Prize, conferred on outstanding works on U.S. history, and she is now working on a life of Constance Baker Motley, the first African-American female federal judge. For a full profile,

Academic Advances

An interdisciplinary Quantitative Biology Initiative, supported by the president's office and the Faculty of Arts and Sciences, aims to apply expertise in biology, mathematics, statistics, and engineering to explore fundamental questions about the behavior of biological systems. The faculty leaders are Vinodhan Manoharan, Wagner Family professor of chemical engineering and professor of physics, and Sharad Ramanathan, Gund professor of neurosciences and of molecular and cellular biology, and professor of applied physics and stem cell and regenerative biology.... And the Kennedy School's Belfer Center has launched a Project on Europe and the Transatlantic Relationship; the faculty chair is Nicholas Burns, Goodman Family professor of the practice of diplomacy and international relations.

Campus Comings and Goings

Pierre Berastain Ojeda '10, M.Div. '14, has been appointed director of the office of sexual assault prevention and response, overseeing advocacy, education, prevention services, and coordinating throughout Harvard.... Gene Corbin, assistant dean of the College for public service, who has served in that position after previously leading Phillips Brooks House, stepped down in May; he is pursuing a doctoral degree at the University of Massachusetts Boston.... With dean of freshmen Thomas Dingman's planned retirement at the end of the academic year (see harvardmag.com/dingman-18), Harvard College dean Rakesh Khurana announced the consolidation of that office and the Office of Student Life under the direction of current dean of students Katie O'Dair, in an effort to integrate undergraduate programming throughout the four years of residence; a full report appears at harvardmag.com/fdo-osl-merger-18.

Pay Days

The University's annual tax filing and disclosure of compensation, released each May,

Brevia



SUMMER TOUCHUPS. In addition to the previously reported sprucing-up of Massachusetts Hall's systems ("Building Unabated," May-June, page 24), the Stadium's concrete walls and steps underwent repairs, beginning this spring, that are scheduled to conclude before this fall's football games; fans will find that the seats have gotten an overdue power washing. And the "HBS Commons" took form, as the Business School prepared to commission Klarman Hall and repurpose the space formerly occupied by Burden Hall, yielding a new open quad, pavilion, and outdoor gathering area that will complement meetings and conferences at Klarman, scheduled to be available for use by this fall (see "Klarman Construction," March-April, page 18).

reveals that Harvard Management Company's most senior real-estate investment manager, Daniel Cummings, earned \$23.9 million (including \$12.3 million vested based on his age and years of service), during the latest reporting period. (He and his unit have since transferred from HMC to Bain Capital, part of the restructuring of endowment management). President Drew Faust received total compensation of \$1.533 million, including retirement and deferred compensation and nontaxable benefits (the latter principally for use of the Elmwood residence).

Details are available at harvardmag.com/earnings-18.

On Other Campuses

Brown University announced a \$100-million gift from alumnus Robert J. Carney and Nancy D. Carney for its brain-science institute, which will be named in their honor.... The University of Michigan medical school received a \$150-million gift to fund research and training at its cancer center; it will be renamed to honor donors Richard Rogel and Susan Rogel (they are the university's second-largest individual donors).... Columbia's Vagelos College of Physicians and Surgeons, drawing on a \$150-million gift received last year, has eliminated the loan portion—often \$30,000 or more per student per year—in its students' financial-aid package; beginning in August, medical students who qualify for scholarships will have their full need met without borrowing.... The University of Pennsylvania, which concluded a \$4.3-billion Making History capital campaign in 2012, has launched its successor, The Power of Penn, aiming to raise \$4.1 billion—its second fund drive under President Amy Gutmann.... The Blavatnik Family Foundation, let by Len Blavatnik, M.B.A. '89, which underwrote Harvard's "biomedical accelerator" with gifts totaling \$55 million (see harvardmag.com/blavatnik-13), is deepening its commitment to translating medical advances into applications at Yale, too; the Blavatnik Fund for Innovation there, initially seeded with \$10 million in 2016, has received an additional \$15-million gift.

Nota Bene

ESSAYS ENVOI. Harvard College will no longer require applicants to submit the essay portion of the SAT or the ACT. Although the application still entails writing an essay, the writing part of the standardized tests is now optional.

SCHOOL STUDIES. The College and the Graduate School of Education are creating a new secondary field in "educational studies,"

debuting this fall. It echoes other nonprofessional secondary fields, in areas like global health and architecture studies (see “Architecture as Liberal Art,” January-February 2015, page 22), that give undergraduates a structured way to pursue their interests by drawing on the expertise of other faculties.

SENIOR LEGAL COUNSEL. William F. Lee, senior fellow of the Harvard Corporation and a litigator at WilmerHale, has assumed the role of lead trial lawyer representing Harvard in the lawsuit brought against its admissions practices by Students for Fair Admissions, which is challenging affirmative action. The case has been characterized by prolonged discovery and disagreements about what, if any, records will be made public; it may proceed to trial this fall. The University noted that Harvard does not compensate Lee for his work on the matter, and he recuses himself from associated Corporation deliberations.

ONLINE OUTPOURING. While HarvardX continues to offer massive, open online courses for free, and professional schools pursue revenue-generating classes, the real action appears to be at the Extension School. In reporting next year's offerings to the Faculty Council in mid April, its dean, **Huntington Lambert**, noted that of 878 courses given during the academic year just ended, two-thirds were online, 71 of which incorporated intensive weekend sessions on campus.

EXCISING THE ENDOWMENT TAX? No one expects further action during this Congress, but both Harvard and Yale are supporting a bill sponsored by Alabama Republican representative **Bradley Byrne** (a Duke graduate) and Maryland Democratic representative **John Delaney** (Columbia) to repeal the 1.4 percent excise tax recently imposed on the investment earnings of the colleges and universities with the largest endowments. (Mihir Desai discussed the provision in “Tax Reform, Round One,” May-June, page 57.)

MEMORIAL MARATHON. Most Faculty of Arts and Sciences meetings begin with abbreviated Memorial Minutes on the life and services of deceased professorial colleagues. On May 1, Baird professor of science emeritus **Dudley R. Herschbach** did the honors *four* times, seriatim, honoring chemists **Konrad E. Bloch** (d. 2000), **Eugene G. Rochow** (2002), **Leonard K. Nash** (2013, whom historian of science **Thomas Kuhn** '44, Ph.D. '49, JF '51, thanked in his first book for a “vehement collaboration”), and **William A. Klemperer** (2017). President Drew Faust rightly thanked Herschbach for this “Memorial marathon.” No one noted one Nobel co-winner (**Bloch**, 1964) being memorialized by another (**Herschbach**, 1986) from the same department.

D.B.A. REDONE. At its May 1 meeting, the Faculty of Arts and Sciences unanimously approved Harvard Business School's proposal that the former doctor of business administration (D.B.A.) degree be transformed into an interfaculty Ph.D. in business administration, consistent with similar degrees in business economics, organizational behavior, and health policy and management.

ADAMS ON DECK. As renewal continues for a second full year of construction at **Lowell House**, the Faculty of Arts and Sciences has outlined a *three-year* renovation sequence for **Adams House**, which comprises seven buildings spread across three blocks. Beginning next year, **Claverly Hall** and **Senior House** will be redone, reopening in **August 2020**, to be followed by **Randolph Hall** and **Apthorp House** (reopening **August 2021**) and then **Russell Hall**, the library commons, and **Westmorly Court** (reopening **August 2022**).

POLICING PERSPECTIVE. In the wake of the controversial arrest of a black undergraduate by the Cambridge police department in April, and community concerns about the degree of physical force applied, President Drew Faust on April 30 announced a review committee, chaired by **Annette Gordon-Reed**, Warren professor of American legal history and professor of history, to determine the sequence of events that evening, the response of University police and health services, and opportunities “for improvement across a range of institutional activities,” including policy matters, mental health, and community policing. A report and recommendations are expected by the fall semester.

HARVARD CLUB OF BOSTON. Some Harvard Club of Boston members have expressed concern that its recently organized **Higginson 1908 Foundation** commingles giving for scholarships with giving in support of its “expanded charter of funding historical preservation of our Club House, maintaining our art collection, and providing financial assistance to others.”

MISCELLANY. **Parag Pathak** '02, Ph.D. '07, JF '09, who studied applied math in the College and earned his doctorate in business economics, and now professes downriver at MIT, has been awarded the American Economic Association's **John Bates Clark Medal**, granted annually to the leading economist under age 40.... **Mark Lee**, professor in practice of architecture and founding partner of **Johnston Marklee**, has been appointed chair of the Graduate School of Design's department of architecture.... **Lorraine Daston** '73, Ph.D. '79, of the Max Planck Institute for the History of Science, in Berlin, has been awarded the \$1-million **Dan David Prize**, in recognition of her foundational work on what she called the “ideas and practices of rationality,” the basic categories of scientific investigation (reason, proof, data, and so on).... **Jesse D. McCarthy** has been appointed assistant professor of English and of African and African American studies; while completing his doctoral studies at Princeton, he profiled novelist **Colson Whitehead** and black-studies theorist **Fred Moten** for this magazine (September-October 2016 and January-February 2018, respectively).



HARVARD MAGAZINE/JC

perhaps, a bit floored by their victory.

Meanwhile, some universities are seeking to reverse the NLRB's position on the union rights of graduate students. The NLRB ruled in August 2016 that graduate students are university employees and thus have collective bargaining rights. The agency has reversed its position on that matter twice since 2000, and, if a relevant case appears before it, the Trump-era NLRB is thought likely to do so again. For further details, see harvardmag.com/bargaining-ok-18.

Final-club Recognition

THE COLLEGE has announced that unrecognized single-gender social organizations (USGSOs; final clubs and Greek organizations) seeking to gain recognition and thus avoid the sanctioning of their members, will have to file a gender breakdown of their membership and their governing documents, among other steps.

Harvard policy now prohibits students who have belonged to USGSOs within the previous year from receiving the required College endorsement for certain fellowships or from holding leadership positions in rec-

ognized student organizations or athletic teams. To designate previously unrecognized social clubs, the new Dean of Students Office (DSO; see harvardmag.com/fdo-osl-merger-18) will create a new category, Recognized Student Organizations (RSOs).

To become an RSO with "interim" recognition (lasting for one academic year), final clubs will need to submit not only their gender breakdown (which need not include information that could identify members), but also a public affirmation of gender-inclusive membership and recruitment policies; the appointment of an official who will be a liaison between the club and the College; documentation of certain required trainings for its board members, including coverage of sexual-assault and anti-hazing prevention; and information about local autonomy and governance. (The latter requirement may not mesh with some final clubs' graduate boards, composed of alumni members with power over club policies and membership.) Clubs won't have to achieve any quota or specific gender breakdown.

To receive full recognition after the one-year interim period, RSOs will also need to

provide their recruitment schedules to the DSO, and to offer *all* their members training in areas like anti-hazing and sexual-assault prevention. A *third* tier, "recognition with distinction," will be reserved for organizations that have "achieved a standard of excellence" and have recruitment policies that promote diversity.

This recognition process, announced by dean of students Katie O'Dair in May, is the second step in the College's effort to enforce its sanctions. The rules for individual students were laid out this past March. Undergraduates will not have to make affirmative statements that they don't belong to a USGSO, and the College will not accept anonymous reports of policy violations or actively seek out students in violation of the policy. For further details, see harvardmag.com/usgso-rules-18.

Faculty Diversity

FOR THE last decade, the University has tracked its progress in recruiting and retaining faculty members who can make it more inclusive in terms of race and gender. According to the newest annual faculty-di-

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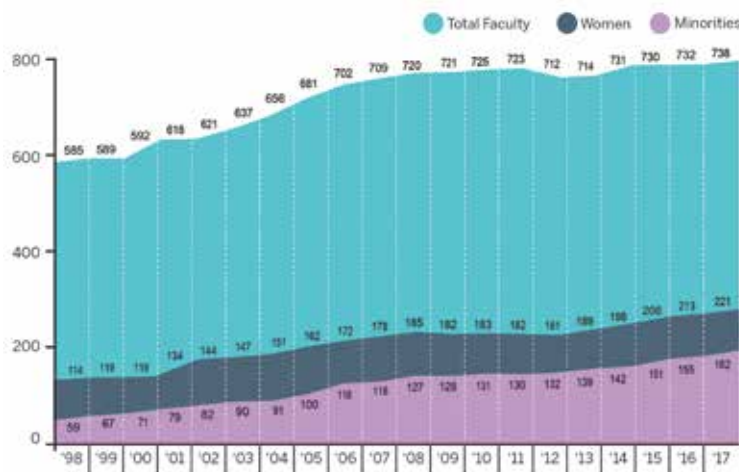
versity report, published April 12 by the office of Judith Singer, senior vice provost for faculty development and diversity, 27 percent of tenured faculty are women as of last September—up from 26 percent last year and 21 percent in 2008. Underrepresented minorities (African Americans, Latinos, and Native Americans) make up 8 percent of tenured faculty—unchanged from last year and up from 5 percent a decade ago.

These gains may sound small, but because turnover in faculty ranks is extremely slow, changes in composition occur in small increments each year. Of the 14 FAS faculty members who were reviewed internally for tenure in 2016-2017, nine were promoted, including six of nine men and three of five women. In the Faculty of Arts and Sciences (FAS), women represent 27 percent of tenured and 43 percent of tenure-track faculty members; Asian Americans make up 12 percent of tenured and 21 percent of tenure-track faculty. Especially noteworthy is the University's persistent lack of black and Latino faculty members—just 9 percent of *both* tenured and tenure-track faculty in FAS belong to these underrepresented minorities, pointing to a worrying pipeline problem. The report stresses the need to develop minority scholars much earlier: for example, through un-

dergraduate research programs that promote student-faculty relationships and interest in academic careers.

For the first time, men and women are represented equally on the tenure track of the FAS sciences division, the report shows. But in December, a study led by Elena Kramer, chair of organismic and evolutionary biology, and Radhika Nagpal, professor of computer science, found that in science, technology, engineering, and mathematics (STEM) fields, only 69 percent of female junior professors stayed long enough to come up for tenure review, compared to 84 percent of men. The report attributed the disparity not only to implicit bias against women, “institutional and structural barriers, such as problematic maternal/paternal leave policies, inadequate infant/early childcare on campus, and poor support for

Ladder faculty counts in the Faculty of Arts and Sciences, 1998 to 2017



dual academic career couples that is substantially behind our peer institutions,” but also to “persistent culture problems” in certain departments, including explicit sexism. To improve the retention of women, the University has announced that it will open a seventh childcare center in Allston in 2021—a year after the new science and engineering complex opens there. Read more on this subject at harvardmag.com/fas-diversity-18. ~M.B.

THE UNDERGRADUATE

The Harvard Tour

by NATASHA LASKY '19

ALL OF JUNIOR YEAR, I often woke up to a yell outside my window. Twice an hour, starting at about 11 A.M., I heard a group of people of varying ages letting out a long, measured scream, starting low and increasing in pitch, the way one shouts during “the wave.” After the first few times, I poked my head under the blinds to see what was going on, only to find a tour group standing in the street below. With Lowell House under construction, I was living above The Harvard Shop on Mount Auburn Street, which serves as the last stop for tours. If I looked out my window in the early afternoon, I often saw

at least three groups ambling from stop to stop, like plastic pieces moving through a board game.

At midmorning on days above 60 degrees, tourists swarm Harvard Square. Clumps circulate through the Yard’s big attractions: Widener, Mass Hall, and, of course, the John Harvard statue. Visitors are like a fog that students wade through—for the most part unperceived, save for some days when the Yard is so flooded it’s difficult to navigate. Undergraduates acclimate to living in a tourist attraction; I’ve refined the art of giving directions to people who don’t know the name of the place they’re seeking, and

have accidentally walked through enough people’s photos to fill a scrapbook. But even so, I couldn’t explain those screams. Though I overheard snippets of tours while walking to and from my dorm room, nothing seemed to relate. It was as if tourists and students walked through the University on parallel tracks, never making contact, inhabiting their own, separate Harvard experiences. I decided to investigate—perhaps there was some Harvard that tourists could see, but I couldn’t.

THERE IS NO single Harvard Tour; instead, there is an entire ecosystem of tour-giving, from official admissions tours for prospective students to a range of sightseeing tours. There are University-endorsed tours led by members of the undergraduate Crimson Key Society, but also privately owned tours that feed off Harvard parasitically: a tour led by a guy in Revolutionary War period costume; a tour with a 70-year-old man whom I’ve only heard referred to as “that guy.”

As I checked in at the front desk at the Harvard Information Center for the Crim-

son Key tour, I was handed a sticker proudly stating “Official Harvard Tour,” as if Harvard were sorting even its tourists into those institutionally approved and those not. This cachet seemed to be the Key’s main draw. I asked my student guide why he chose to give University tours rather than work for a private company, and he repeated that this was the *official* tour, blankly, as though the answer were obvious.

At no point in our official travels did anyone scream, which I suppose I should have expected. Crimson Key focuses, above all, on accuracy. The training handbook for the guides clarifies confusing details and corrects popular myths. For instance, one rule states, “The Polaroid Story is FALSE” (referring to the belief that the Science Center was designed to look like a Polaroid camera). “We have been explicitly asked not to tell this story. DO NOT MENTION IT.”

Even so, I was surprised that the Key tour had no overarching narrative. I expected the official tour narrative to depict a sanitized, clichéd version of Harvard filled with Kennedys and “the greatest students in the world.” Or, at a minimum, I expected the

It was as if tourists and students walked through the University on parallel tracks, never making contact....Perhaps there was some Harvard that tourists could see, but I couldn’t.

tour to proceed in chronological order. Instead it seemed a jumbled mix of facts, guided only by whichever landmark was closest—and tied together only by the guide’s personality. At each stop he followed up his historical anecdotes with a personal reflection, as if he was so moved by the memories provoked by each site that he had to share them. But it turns out that this structure was carefully designed—the Crimson Key handbook instructs guides to share their “positive” (it’s underlined for emphasis) experiences consistently with their group.

As we stood in Tercentenary Theatre, our guide recounted an anecdote about the Memorial Church bells waking him up freshman year, while I looked around and recognized the place I sat during Freshman Convocation. I remembered shifting

in my seat under the sweltering August sun as College dean Rakesh Khurana explained to us that, having got into Harvard, we no longer had to jump through hoops; instead we should focus on pursuing “transformative experiences.” Our guide was a transformative-experience machine: no matter how idiosyncratic the anecdote—the 1764 library fire, undergrads kissing their dates under Johnston Gate for good luck—the guide had an aw-shucks personal tidbit to accompany it.

I suppose any undergraduate could filter Harvard life through the Crimson Key lens, compressing college into postcard-perfect platitudes. But as I watched the tour guide wrench personal significance from every single University site, I was reminded of the conversations I’ve had with my grad-

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uating friends, who've wondered if they have transformed the right way, if at all. They have, in fact, begun viewing Khurana's encouragement to "transform" as another hoop to jump through. But without a grade or an acceptance letter at the end, they have struggled to find ways to make their personal growth concrete. They commodify their "transformation" for fellowship proposals and job applications and catalog their regrets and accomplishments at the end of each semester. They are solidifying the definitive narrative of their college experiences, as if creating tours of their own.

lege. "And here we have a Harvard student, looking to learn more about the university she attends," said my guide, as if I were another on-campus attraction.

Qualifying as a Hahvahd Tour guide did not seem to demand the rigorous training of Crimson Key. The guide felt free to give speculative accounts (*he* told the Polaroid Story, for example). Where the Key capitalizes on students' heartfelt anecdotes throughout, the only time the Hahvahd guides mention *their* experience is at the end. At our last stop, we gathered in front of the Lampoon building in a tight circle.

swathe of my peers. Even so, we mimicked a "primal scream" in hesitating warbles in the middle of Mount Auburn Street. This was the noise I'd heard from my dorm-room window—an imitation of a Harvard ritual that no one in the group had ever done.

I found it strange that Hahvahd chose Primal Scream as the sole piece of "insider student information." Even at that event, one always sees a group of curious tourists, watching the bacchanalia unfold and taking photos. Maybe there is no insider information. These student-led tours operate under the conceit that having a Harvard student show you

around will give you a window into "the real Harvard," whatever that may mean. But the tours I took didn't reveal anything meaningful about the University that visitors couldn't have guessed—even our Crimson Key guide's heartfelt anecdotes about waking up to church bells and marveling at Gen Ed classes could have come from anyone.

But ultimately, the students are visitors, too, and as such there is a sense in which they never stop touring the University. Harvard funnels undergrads through a series of rituals as if they were stops on a tour—Convocation, getting into a House, picking a concentration, graduation. Even Khurana's language of "transformative experiences" echoes the rhetoric of tourism—tourists and students alike walk

through campus, hoping to be changed, at least slightly.

When we got back to the Yard, one of the tourists snapped a candid photo of her husband with our guide. The guide grimaced, both confused and slightly violated, but she pointed to her husband, still smiling from the photo, and shouted, "This is his *dream!*" The tour guide nodded, with a wry smile. It seemed unclear to him whether this man's dream was to visit, or attend, the University or simply to be photographed with a tour guide. He took a moment to think, before finally saying, "Well, whatever your dream is, I hope you found it at here at Harvard." ♡

*Berta Greenwald Ledecy Undergraduate Fellow
Natasha Lasky '19 is often seen pointing tourists in the direction of the John Harvard statue.*



THE HAHVAHD TOUR, owned by a private company, may not be official, but billboards in the Square advertise it as "the best." It's one of the most visible tours on campus, not only because its headquarters is right next to the T stop in the middle of the Square, but also because of its strictly enforced dorkiness. Guides must wear a straw hat emblazoned with the Hahvahd logo and recite a script filled with obligatory puns, making its undergraduate guides the subject of gentle ridicule.

I easily found my guide, wearing the signature hat. Most of the group had assembled, and we all introduced ourselves. Most were Canadian, with a few from small towns in the Northeast. When we got around the circle, I revealed that I also went to the Col-

"I'm going to let you in on some insider information about Harvard culture," our guide said. He explained the pre-final-exam tradition of "Primal Scream," in which some undergraduates run a lap through the Yard naked, purportedly to relieve stress before finals. ("Just another day in the life of the nation's most talented students," a man in the group quipped.) But when pressed, the guide revealed that he had never actually done Primal Scream.

"I don't really feel comfortable with it," he explained.

"I understand—shrinkage," a man said, so encouragingly that it was unclear whether or not he was joking.

I had never participated either—I've never had a particularly strong desire to run around the Yard naked in front of a random



THE “GLOBAL CHEMICAL EXPERIMENT”

ELSIE SUNDERLAND
MAPS INVISIBLE
OCEAN POLLUTANTS.

by COURTNEY HUMPHRIES

ELSIE SUNDERLAND GREW UP where the sea was as present as the land: a small rural community in Nova Scotia, Canada. It's an area steeped in natural beauty and intimately tied to the ocean. But Sunderland, Cabot associate professor of environmental science and engineering, also remembers an early lesson in the fragility of that connection; in her teenage years, the community suffered financially as the natural resource its economy relied on—fishing—failed when Atlantic cod stocks collapsed.

Humans have long seen oceans as sources of endless bounty. “We thought that there were so many fish in the ocean that we could never possibly impact the populations,” Sunderland says. Again and again, that assumption has proven false; two-thirds of the world's fisheries are considered overexploited.

“People struggle with this idea that we could impact planetary level processes,” she says. “But we do. There's irrefutable evidence on many, many scales that we're changing the natural functioning of these ecosystems.”

Such planetary-scale changes are not easy to study or understand. It has taken considerable effort spanning decades, for instance, for researchers around the world to collect the data and to assemble the

complex computer models that allow other people to comprehend how human greenhouse-gas emissions are changing the Earth's climate system. Sunderland's research is focused on different, but equally complex, questions: how are human societies transforming the environment, particularly the oceans, through the pollutants they release—and how do those transformations boomerang to affect human health?

Humans have also treated the ocean as an endless repository for anything disposable—sewage or trash or chemical byproducts of industry—but mounting evidence suggests there are limits: from coastal “dead zones” caused by polluted runoff, to enormous pools of plastic trash collecting in the oceans. Coal-fired power plants alone release more than 200 hazardous pollutants into the atmosphere—many of which eventually end up in the ocean—and hundreds of other substances pour each day into rivers and oceans as part of urban runoff, or with effluent from industry and wastewater-treatment plants. There's a huge gap in knowledge about what Sunderland calls the “global chemical experiment” that civilization is conducting with these substances: Where do they go, and how do they make their way into wildlife and humans?

Her lab has approached this question by focusing on a few com-

pounds of concern to human health, particularly methylmercury and man-made chemicals called PFAS (per- and polyfluoroalkyl substances) that are used in such consumer products as food packaging, nonstick products, and stain-repellent fabrics. The lab connects research on chemistry, environmental dynamics, ecology, and epidemiology by piecing together a large-scale picture of how these compounds wend their way through the environment—and ultimately depicts the oceans as part of a closed, interconnected system that can be mapped and understood.

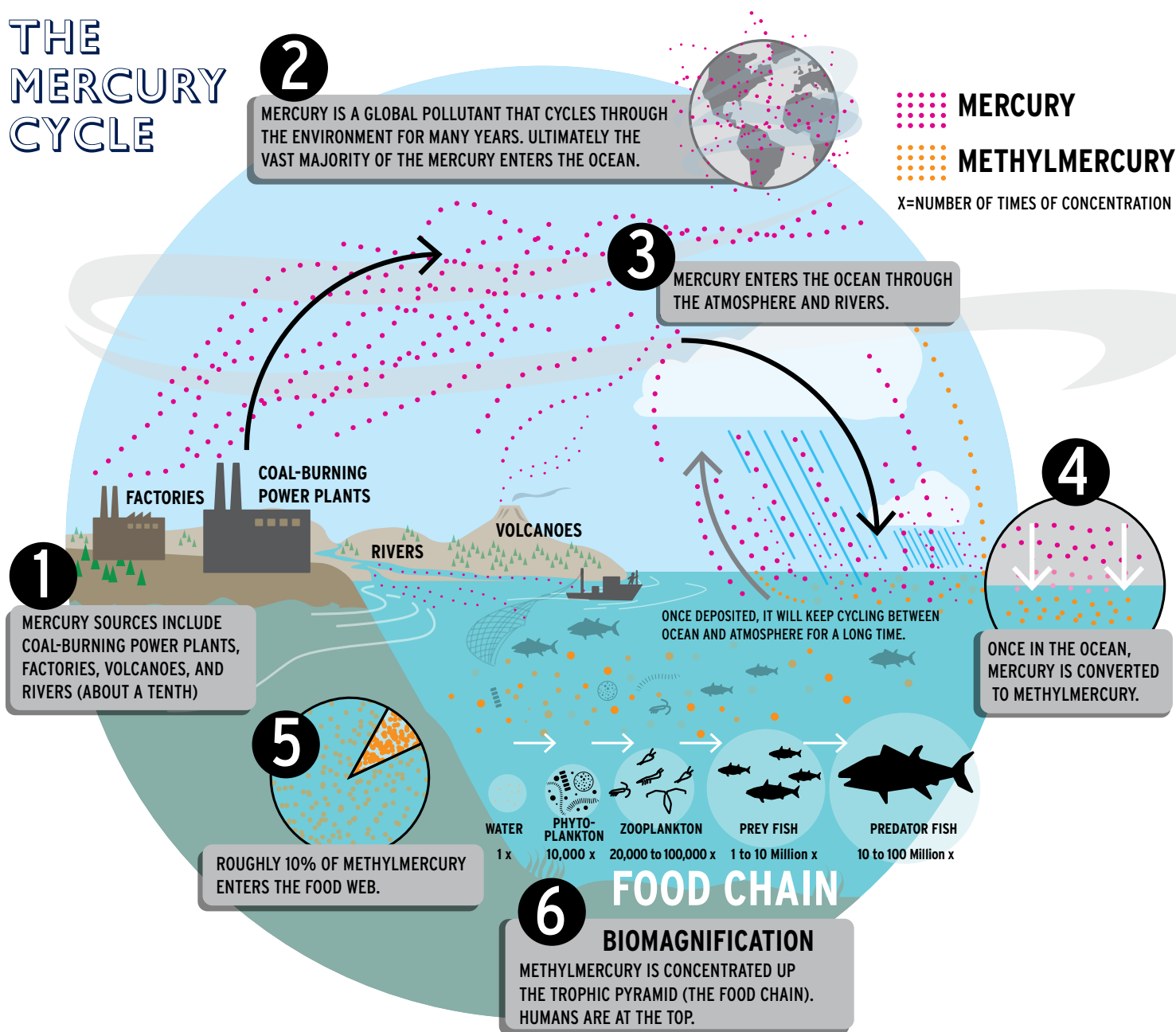
THE GRASSHOPPER EFFECT

SUNDERLAND'S UPBRINGING taught her about the fragility of ocean ecosystems, but it also gave her a sense of optimism about action. During her teens and early adulthood, she watched her community's environmental crisis turn into an awakening. As the local government looked for other industries to develop, a toxic-waste incin-

eration plant was proposed. Sunderland's father launched a community action group to fight the proposal, and she wrote op-eds, participated in protests and public hearings, and helped research the health and environmental effects of toxic-waste pollution, stirring her interest in chemistry and toxicology. The opposition movement blossomed into a growing environmental awareness. Sunderland assisted the municipal government in a project to launch the first large-scale composting and recycling facility in North America, which kept about 90 percent of the local municipal waste from a landfill.

The experience inspired her to work in policy, and after getting her Ph.D. in environmental toxicology, in 2003 she took a job with the U.S. Environmental Protection Agency, then the most powerful such agency in the world. She spent five years there, at one point developing a rule to regulate air pollution from coal-fired utilities. But ultimately she decided she could make a more enduring contribution through academic research.

THE MERCURY CYCLE



At Harvard, Sunderland's focus has been mercury pollution, a prime example of how the waste products people put into the oceans come back to harm human health. Mercury is a naturally occurring heavy metal that can be toxic to the nervous system of humans and other animals. Elemental mercury is most familiar to people in its liquid form, called quicksilver, but it also exists as a gas, and can interact with other chemicals to form organic and inorganic compounds. Most of the earth's mercury stores are buried deep within the planet's crust, but some is released to the environment naturally through processes such as volcanic activity, including through hydrothermal vents on the ocean floor. Humans have also been extracting and using mercury since antiquity; it's been used to separate silver and gold from raw ore, and is present in many products, from batteries to light bulbs and paints.

Mercury is still used in mining. Small-scale, artisanal gold extraction, an informal industry practiced by an estimated 10 million to 19 million people in 70 countries, has become the biggest source of emissions today—one that causes grave pollution problems for local communities and ecosystems. Coal-fired power plants are another major source of oceanic mercury pollution. Annually, humanity burns several billion tons of coal. Thus, even though coal contains only trace amounts of mercury, the sheer volume combusted by humans—when combined with the metal's unique properties—has created a global problem.

Mercury traces a map across the planet that is determined by its particular chemistry. When it is released from power plants, some binds with water and dust particles in the atmosphere, causing it to be deposited on nearby land and water. But most of the released mercury is “so stable in the atmosphere, it can travel long distances and be mixed at least hemispherically, if not globally,” Sunderland says.

When it eventually falls to earth, microorganisms can convert it into an organic form, called methylmercury, which accumulates in living organisms. In some environments, methylmercury can undergo further reactions that re-release it into the atmosphere as elemental mercury again. This phenomenon, called the “grasshopper effect,” means that mercury keeps cycling through water, land, and air for long periods of time.

To build biogeochemical models—mathematical representations that capture the larger scope and dynamics of global mercury pollution's cycles and effects on humans—Sunderland's research connects disparate information, including inventories of mercury emissions, knowledge of environmental chemistry, and direct measurements of the metal in the environment. Because mercury is a naturally occurring element, she says, many people view methylmercury exposure in humans as a “natural” phenomenon. But her work shows otherwise. “The cumulative releases of mercury from human sources since 1850 are 78 times larger than natural emissions from the same time period,” she says. Like carbon dioxide, mercury may be a “natural” substance, but at such high concentrations it should be considered a human-caused pollution; she estimates that 88 percent of the mercury in the ocean derives from human sources.

Mercury's tenacity means the biogeochemical models must take into account cumulative emissions over time. David Streets, an energy and environmental policy scientist at Argonne National Laboratory, has collaborated with Sunderland's lab on a cumulative ac-

counting of mercury emissions; they've also shown how mercury emissions have changed over time. “What's changed are the sources and the regional distribution,” he says. At one time, mercury came from mining booms in the Americas, and later, coal combustion in the United States and Europe. Today, coal combustion is higher in Asia and Africa, even as many developed countries have cut back on coal use and mercury-containing products.

WHEN RESEARCHERS LOOK AT LARGE GROUPS OF BABIES AND CHILDREN, THEY SEE LOWER AVERAGE SCORES IN COGNITIVE ABILITY, MOTOR SKILLS, AND MEMORY IN THOSE EXPOSED TO HIGH LEVELS OF METHYLMERCURY.

About half of the mercury released into the atmosphere makes its way into the oceans, often in sediments at or near coastlines. Such long-term marine burial is the best chance for mercury to be removed from its perpetual cycles. But Sunderland points out that, even there, human activity can interfere: dredging and trawling may release mercury from the ocean floor, a phenomenon her group is beginning to study.

METHYLMERCURY AND SEAFOOD: THE MINAMATA INCIDENT

DIRECT CONTACT with mercury has long been known to cause poisoning (the use of mercury in felt-making was associated with “Mad Hatter's disease,” a potentially fatal neurological condition, beginning in the seventeenth century). But it was not until the mid twentieth century that exposure to methylmercury from fish and shellfish consumption raised health concerns. In the 1950s, methylmercury poisoning, now called Minamata disease, was first recognized when residents in Minamata City, Japan, fell gravely ill after eating fish and shellfish contaminated with mercury from a chemical plant. Methylmercury is now understood to be toxic to nerve cells; at high exposures, it can cause nerve tingling, muscle weakness, sensory loss, paralysis, and even death. But research on the epidemiology and toxicology of methylmercury has found more subtle effects at low doses, too. “Over the years, the evidence has been extended, and we now believe adverse effects can be seen within the range [to which] Americans are normally exposed,” says adjunct professor of environmental health Phillipe Grandjean, who has studied methylmercury's human impacts and collaborates with Sunderland.

The greatest effect occurs on the developing nervous systems of fetuses, infants, and children. When researchers look at large groups of babies and children, they see lower average scores in cognitive ability, motor skills, and memory in those exposed to high levels of methylmercury. The children are “still within the normal range,” Grandjean says, “but are not quite functioning as well as they should have.”

Fish and seafood consumption remains by far the primary route through which people are exposed to mercury. Biological tissue is a potent storehouse for methylmercury; the mercury build-up in one organism is passed along to any other organism that eats it, and on

THE DOUBLE SMACK OF FISHERY COLLAPSE

POLLUTION OF marine ecosystems threatens human health, but a graver concern is the collapse of global fisheries due to overharvesting. A growing global population is consuming more fish, a generally healthy and important source of nutrition, but the United Nations Food and Agriculture Organization estimates that nearly 90 percent of global stocks are being fully fished or overfished, a situation that could lead to serious future declines in availability. (A species is considered overfished when it is harvested past the point that it can sustain itself through reproduction, as has happened with Atlantic cod.) That could have a devastating impact in particular on subsistence fishermen and the communities they feed, says Christopher Golden, a research scientist at the Harvard T.H. Chan School of Public Health.

With funding from the Wellcome Trust, Golden and his colleagues are studying how these declines, combined with climate change, will affect human nutrition and food security; they are investigating the problem of unsustainable fishing as well as the impacts of sea temperature rise, ocean acidification, and coral bleaching. All those issues will influence the distribution and abundance of fish around the world, Golden says, leading to “particular geographical hot spots in terms of impacts on human well-being, human livelihoods, and human health.” Although such climate-change effects loom in the future, Golden considers overharvesting the biggest problem right now. People are simply taking more than the sea can provide.

His team’s first broad study—published in *Nature* in 2016—estimated that more than 10 percent of the world’s population will be at risk of a deficiency in key nutrients if fish stocks continue to decline in the coming decades. He and his colleagues are conducting more detailed case studies of affected communities

Overharvesting threatens global fisheries with collapse.



GETTY IMAGES

in Belize, the Solomon Islands, Madagascar, British Columbia, and other locations, to understand the local dynamics of seafood harvesting, markets, and nutrition.

For many less-affluent populations around the world, especially in developing countries, seafood is the primary animal-source food available—and therefore “critically important for nutritional delivery,” Golden explains. These groups not only lack access to nutritious foods and dietary supplements, but also often face a higher risk of infections and parasites that can deplete nutrients from the body. Research on the nutritional importance of animal-source foods often focuses on protein, he says, but his work suggests that nutrients like vitamin A, vitamin B12, iron, zinc, and certain fatty acids are even more critical.

Aquaculture—the farming of fish and other seafood—now outpaces wild catch and is often seen as a solution to overfishing. But Golden’s research finds that aquaculture policies and markets frequently fall short. Under current systems, relatively few aquaculture products actually benefit the nutritionally vulnerable; instead, they’re often high-value species that are exported to other countries or sent to wealthier urban households. It’s therefore incredibly important, he says, “that we focus on revising policies and management structures for wild-fish catch, reorient aquaculture development and aquaculture markets to be nutrition-sensitive, and really understand who is accessing this as a food.”

up the food chain. This process, called “biomagnification,” means that mercury emitted into the ocean can quickly and potently come back to haunt consumers. Compared to its presence in seawater, methylmercury concentrates by a factor of a million or more in a large tuna or swordfish.

What’s not always appreciated, Sunderland says, is how the methylmercury aggregating in the open oceans touches U.S. consumers. The seafood market is sprawling and global; people living in New England and other coastal areas may assume that local fisheries play a large role in their diet, but in reality most Americans are eating fish caught in faraway open-ocean fisheries. Sunderland’s team led a recent study, published in *Environmental Health Perspectives*, which calculated how different categories of seafood from different regions of the world contributed to Americans’ mercury exposure from 2000 to 2010. The biggest source of methylmercury, Sunderland’s team found, is fish caught in the Pacific Ocean. And the largest source is tuna, which is enduringly popular in the United States and accounts for 37 percent of domestic methylmercury exposure.

Health authorities have struggled to craft public-service messages

about seafood intake. The United States and several other countries have sought to limit exposure to methylmercury in pregnant women, infants, and children, by issuing guidelines that specify weekly portion sizes and suggest limits to consumption of certain high-mercury species.

The problem? Fish and seafood contain nutrients such as omega-3 fatty acids that are also known to be highly beneficial for development. And replacing a portion of fish with something that is low in mercury but less nutritious isn’t a good strategy, either. “It’s not a simple message,” Sunderland acknowledges, and recommendations can quickly become confusing.

“From a nutritional perspective,” she says, “humans would ideally consume *more* fish, not less.” Wealthier populations can respond to declining fish stocks and pollution by finding healthy substitutes. But many people around the world depend on fish and seafood for daily subsistence (see “The Double Smack of Fishery Collapse,” above). Globally, she suggests, the best solution is to stop pollution at its source, rather than expect individuals to follow complicated guidelines, “because everybody can agree that we want less methylmercury in our fish.”

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The Minamata Convention, signed by 128 countries in 2013 and put into effect in 2017, is a first step toward global action on mercury pollution, addressing issues such as the mining, transport, storage, and disposal of mercury, and its use in products. Sunderland's teams have estimated that global mercury emissions declined by 30 percent between 1990 and 2010, mostly because of a phase-out of mercury in commercial products, declining coal combustion in many developed countries, and the use of technologies that capture pollutants released by coal combustion.

These results show that policies can have measurable impacts, though it may take decades to significantly reduce the total amount of mercury pollution, because of its centuries-long lifetime in the environment. But the Trump administration's recent effort to roll back the Clean Power Plan, which set carbon emissions limits on power plants, heads in the opposite direction. Discussions about reducing fossil-fuel energy and greenhouse gases often take place separately from discussions about pollution, Sunderland says, but "They're very much related, because many energy sources like coal release hundreds of hazardous air pollutants at the same time."

CHEMICAL WHACK-A-MOLE

THOUSANDS OF DIFFERENT CHEMICALS now being used in industry and commerce are also entering the environment in growing concentrations. Unlike mercury, their environmental and biological behavior is often unknown.

The PFAS chemical class that Sunderland has been studying is wholly a human invention, widely used to give consumer products coatings that make them waterproof, stain-resistant, or non-stick, and also used in fire-fighting foams. Although PFAS come in many forms, they all contain fluorine atoms that attach extremely stably to chains of carbon atoms.

The same properties that make these chemicals repel oil, water, and heat for long periods of time also make them extremely persistent in the environment. Within the entire PFAS family, "There are about 3,000 different compounds that we know of, and in that 3,000, hundreds have been detected in the environment," she says. They are also readily detectable in wildlife and in humans. The U.S. Centers for Disease Control's National Health and Nutrition Examination Survey found PFAS in 98 percent of blood samples from thousands of Americans collected in 2003 and 2004.

These substances make their way into wastewater, rivers, and the oceans. Some react with other chemicals and degrade into different substances. "The Double Smack of Fishery Collapse" They reach this very stable form and then they just sit there and are transported by water movement." In animals, PFAS can affect reproduction, immunity, and liver and kidney function. Philippe Grandjean has found that they may interfere with the effectiveness of childhood vaccines: infants who have high PFAS levels later have a lower antibody response to vaccines, suggesting that the substances depress the immune system. "Fishermen and the communities they face" A worldwide decline in wild saltwater fish populations threatens subsistence fishermen and the communities they face. He and Sunderland are collaborating with the University of Rhode Island on a new research center funded by the National Institute of Environmental Health Sciences to study PFAS in the environment and their effects, particularly through drinking water.

PFAS were listed as persistent organic pollutants under the Stockholm Convention in 2009. The most well-studied of these

compounds, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS), were voluntarily phased out of production in the United States and most other countries because of concerns about their environmental and health effects. Many companies have been replacing those substances with different types of PFAS that have shorter chains of carbon molecules, making them less likely to accumulate in biological tissue.

But the impact isn't clear. "The chemical manufacturing industry shifted to these shorter carbon-chained alternatives, which we know very little about," Sunderland explains. Even as her lab collects data on certain compounds, they are being phased out in favor of new "custom" molecules with unknown properties. Researchers, she says, are "just chasing the chemistry, trying to figure out what's being released into the environment." It's a problem that Joseph Allen, assistant professor of exposure assessment sciences at the Harvard T.H. Chan School of Public Health, has called a game of chemical "whack-a-mole."

“OBVIOUSLY, THE CHEMICAL MANUFACTURING INDUSTRY IS ESSENTIAL FOR MODERN SOCIETY. BUT WE COULD DO IT A LOT BETTER THAN WE DO.”

Sunderland hopes to shed light on general properties of chemicals that persist in the environment, to help guide decisions about which ones are safer to manufacture. Ultimately, she believes, a different approach to developing and using industrial chemicals is needed. "Obviously, the chemical manufacturing industry is essential for modern society. But we could do it a lot better than we do," she says. Compounds that are known to cause harm should be replaced, but there should be more emphasis on knowing the "end of pipe" impacts of those replacements *before* they're manufactured. "When you're thinking about mitigating toxicity, you want to do it before any products have been developed," she says. In the past, the environmental impacts of chemicals have been seen as a concern separate from their development; the educational curriculum for chemical engineers, she points out, doesn't typically require learning about environmental science or toxicology.

Facing vast pollution problems like these can easily make people feel defeated. "We need to propose solutions and think about [these issues] constructively," says Sunderland. Many of those solutions will require changes in national and international policies, education, and industry regulations. But some changes will begin locally. Sunderland points to the hundreds of communities near military bases affected by PFAS contamination from firefighting foams, many of which are beginning to come forward and draw attention to the problem. As she has learned from her own upbringing, when communities begin to care about environmental issues close to home, big and unexpected changes can emerge. ♡

Freelance science journalist Courtney Humphries, a contributing editor of this magazine, is pursuing a doctorate in environmental science at the University of Massachusetts Boston.

Moorfield Storey

Brief life of a patrician reformer: 1845-1929

by GEOFFREY D. AUSTRIAN

ON JUNE 15, 1898, when Moorfield Storey, A.B. 1866, stood up to speak in Boston's historic Faneuil Hall, the United States had just invaded the Philippines, promising the inhabitants their freedom—only to quickly renege on its word. Storey was incensed. “A war begun to win the Cubans the right to govern themselves,” he proclaimed, “should not be made an excuse for extending our sway over other alien peoples.” His speech sparked a movement that raced across the country, and he became the first president of the newly formed Anti-Imperialist League.

Born into a long-settled family, comfortable but not wealthy, Storey gained the sense of security he needed to chart an independent course. He inherited from his abolitionist mother, Elizabeth Moorfield, a tenacious adherence to the high principles that characterized his life.

The undergraduate who often skipped classes to go fishing or partied into the early hours made Phi Beta Kappa and entered Harvard Law School, only to leave in his second year to serve as private secretary to Massachusetts senator Charles Sumner, then chair of the Senate Foreign Relations Committee. He saw Sumner—widely known as “the South’s most hated foe and the Negro’s greatest friend”—as “a man of absolute fidelity to principle and...unflinching courage,” and his mentor’s influence proved pivotal for the remainder of his life.

Even so, Storey became “a dangerous example of frivolity” in Washington, wrote Henry Adams, A.B. 1858. Near the end of his stay he met a Southern belle, Gertrude Cutts. “We danced together well and we did it whenever opportunity offered,” Storey wrote later. Though he told her father, “I was not a lawyer, I had no money and no expectation of money,” his future father-in-law was “very gracious and kind”; the couple were happily married for 40 years. But Storey now had his living to make and “reverted to the law,” dropping thoughts of a political career.

Despite a full professional life, Storey felt a sense of noblesse oblige; he also favored Abraham Lincoln’s remark that “those who deny freedom to others, deserve it not for themselves.” At the time, major European powers were carving out colonies in Africa and Asia, while the United States in nine months had brought Cuba under military rule and annexed Puerto Rico, Guam, Hawaii, and the Philippines. Besides leading the Anti-Imperialist League, Storey published articles and speeches against imperialism, sent a steady stream of letters to newspaper editors, and corresponded heavily with prominent officials. He campaigned vigorously for the rights of fellow citizens as well. In words that still ring true he declared, “One of the greatest dangers which threatens this country today is racial prejudice and it should be the duty of every person with any influence to discourage it....” His championship of indigenous peoples led him to advocate for the rights of Native Americans, who he felt had been badly mis-

treated by the U.S. government. And in particular, he put his legal talents to work on behalf of black Americans.

He was one of the prominent, mostly white, Americans who gathered, six months after a bloody race riot in Lincoln’s hometown of Springfield, Illinois, and founded the NAACP in February 1909; in 1910 he was named its president, a post he held until his death. As a former American Bar Association (ABA) president and noted constitutional lawyer, he contributed prestige and hard work to the new group as its legal counsel. In 1913, the NAACP filed its first brief, in *Guinn v. United States*, a case before the U.S. Supreme Court challenging the legitimacy of the so-called grandfather clause—a statutory provision in some Southern states that disenfranchised black voters by specifying that men whose grandfathers were not voters before the Civil War could not themselves vote. The court ruled in 1915 that such a clause was unconstitutional. In another Supreme Court case, *Buchanan v. Warley*, Storey gained a unanimous verdict declaring unconstitutional all ordinances or laws limiting the right of citizens to purchase or occupy property in any section of a town, city, or state. He also prevailed in the so-called Arkansas Cases, in which 12 black men were found guilty of murder and some 60 others of riot or manslaughter; the Supreme Court ruled that the men had not been given a fair trial. A silver cup presented to him in 1918 by black New Englanders called him “a renowned Advocate and gallant Defender of the civil and political rights and equality of American citizens.”

Storey was not averse to controversy, and even seemed to thrive on it: the National Portrait Gallery states that he himself joked that some considered the portrait opposite “a fraud on the public, since it represents such an amiable old gentleman instead of a ferocious bruiser.” He opened the ABA to black lawyers by threatening to resign as president, and as a Harvard Overseer (serving 29 years in all), he led a group that sought to force the University to admit black students to its dormitories. (President Lowell feared the measure would discourage Southerners from applying.) He further courted unpopularity, and perhaps lost an honorary degree, by arguing that football glorified physical force and combat and should not be allowed.

Yet his biographer, M.A. DeWolfe Howe, also wrote of “the warmth of his affections, the tenderness of their display in all his relations with family and friends....” Perhaps he followed the advice of Polonius to Laertes: “To thine own self be true...Thou canst not then be false to any man.” He did not believe in an afterlife, but—like his mentor, Sumner—must have been pleased at having helped to lay down a foundation for future progress in civil rights. ▢

Geoffrey D. Austrian ’53 is indebted to his College classmate, James M. Storey, LL.B. ’56, whose thesis on his grandfather was a major source for this article.





THE MEMORIES may be fading, but Harvard *roared* into the new millennium. In the wake of the \$2.6-billion University Campaign, Neil L. Rudenstine bequeathed to his successor a \$165-million surplus—a huge cushion in an annual budget then totaling \$2.1 billion. In the recovery from the dot.com meltdown, and without the benefit of a successor campaign, the endowment (powered by double-digit annual investment returns from fiscal year 2003 through 2007) doubled, from \$17.5 billion at the end of 2002 to \$34.9 billion on June 30, 2007: the day before Drew Gilpin Faust officially became the University's twenty-eight president.

During the six years between Rudenstine and Faust, an energetic Lawrence H. Summers fueled the institution's animal spirits—if not always respecting its protocols. Harvard's outlays climbed to \$3.0 billion in fiscal 2006 (on their way to \$3.5 billion by the end of Faust's first year). As the flow of money to the schools became a torrent, the Faculty of Arts and Sciences (FAS), whose ranks had held steady for four decades, grew from 592 ladder professors at the beginning of the 2000-2001 academic year to 709 just seven years

assembling a team able to identify Harvard's interests and eager to pursue them harmoniously. Given the fortunate circumstances, with the right people and plans in place, the opportunities to make the world's greatest university even greater seemed limitless.

Fast Start

DREW FAUST is personally warm and gracious, and professionally a top-tier historian, who views the world in its evolving context. This past spring semester, when a visitor called to discuss her administration, the president, as is her custom, met her guest at the reception lobby in Massachusetts Hall and escorted him down the hall to her office. En route, one of her priorities was on display: the corridor is now a gallery of student art, highlighting her focus on bringing artmaking and performance into the curriculum (alongside robust extracurriculars and Harvard's traditional, academic focus on art history and scholarly analysis of music).

Once seated, the historian came to the fore. Faust had exhumed from her personal archive a foundational document: a wire-bound notebook

Faust in Focus

A presidency in perspective

later; enormous new laboratories were built to accommodate some of them. Summers pioneered a significant liberalization of financial aid, encouraged study abroad, and pushed for a generational overhaul of the College curriculum (subsequently reduced to a new sequence of General Education courses).

Most momentously, in early 2007, Harvard filed its 50-year plans for Allston with Boston regulators, envisioning 10 million square feet of new buildings: homes for the education and public-health schools, an arts and museums complex, and vast scientific research facilities. On Monday, July 2, her first day in Massachusetts Hall, Faust met with Christopher M. Gordon, head of the University's Allston Development Group; subject to financing, he said later, the question about the massive first phases of construction was "how fast they could be built. Is it five years, 10 years, 15 years?"

By then, the chief proponent of that expansive vision was no longer in place to promote it: the gap between Summers's style and Harvard's culture having widened irreparably, his presidency ended in June 2006, and Derek Bok returned to office for an interim year. FAS's leadership turned over, too, after Summers forced out his own decanal appointee, William C. Kirby; Bok persuaded former dean Jeremy R. Knowles to make a return to University Hall until illness forced Knowles to step away again in April 2007, and David Pilbeam filled in.

For Faust, the first order of business seemed clear: to move beyond the leadership tensions and turmoil,

from the spring of 2007 (with a suitably red cover) in which she had outlined priorities for her nascent presidency. The items ranged from the customary transition matters (fill vacant deanships in medicine, design, and the Radcliffe Institute) to administrative innovations (hire an executive vice president to address human resources, finance, and so on) to looming ambitions (test, with the deans, a financial-aid fundraising initiative; hire a vice president for alumni affairs and development to begin to assess "readiness" for a capital campaign). Many of the distinctive academic and managerial matters that Faust especially emphasized—drawing from her experience as Radcliffe dean, and from her interactions with the Corporation during the presidential search—were prefigured in her clear hand, too, and would, in time, carry through her 11-year administration. Among them:

- initiate University-wide academic planning, "with an eye to campaign and Allston issues" and beyond, to articulate priorities and resources for the institution, and for boundary-crossing efforts emerging in science and social science;
- support FAS as it rolls out General Education, and in improving pedagogy generally;
- "move Allston to a new phase of action," beginning with construction of the first science complex, and "hard-headed planning," consistent with financial realities—for the education school, a proposed art museum, and, generally, in building the case for Allston with deans and the broader community;

by JOHN S. ROSENBERG

- “continue to stress” access in admissions to the College and the public-service-oriented professional schools; and
- inaugurate planning to “make the arts a more central aspect of Harvard’s educational identity and mission.”

With that agenda elaborated, Faust set briskly about bringing her aims into being.

• *The team.* Early on, she assembled her team. Two appointments were to prove especially consequential: computer scientist Michael D. Smith was named FAS dean in early June, and Tamara Elliott Rogers became the alumni affairs and development vice president in October (having had those responsibilities under Faust at Radcliffe). They remained in those positions throughout Faust’s 11-year tenure. The even-tempered Smith was ideally suited for the crushing financial challenges to come, as well as a strong connection to engineering and the applied sciences—on which Harvard would focus so much of its investments and aspirations. Rogers would in time direct the largest capital campaign in higher-education history—the nearly existential importance of which was not evident in 2007.

In a change both substantive and symbolic, as Faust explained in conversation, she reflagged the Summers-era Academic Advisory Group (of which she had been a member) as the Council of Deans: a group of senior leaders who could share their schools’ perspectives, learn from one another, and, ultimately, define the University’s mission and management collectively. “My cabinet, alter ego, and leadership team,” she called it recently.

Although the president’s office sets the agenda, the council evolved, in Smith’s telling, to become a productive, engaging, and

The bilateral and University-wide relationships that resulted, she said, meant that the participants became “very trusting of each other”—useful during good times, and essential during adverse ones.

At her initial summer deans’ retreat, Faust invited Lawrence University Professor Michael E. Porter, renowned for research on organizational strategy, to prompt thinking about *Harvard’s* strategy. How did being associated with the larger University, he asked, give their individual schools an unfair advantage in competing for the best students and scholars? The aim was to think big and broadly, about the schools, the institution, and their collective pursuit of the future.

• *The themes.* The president gave voice to her overarching themes in her installation exercises that October. As historian, she drew upon Governor John Winthrop’s 1630 guidance for the settlers of the Massachusetts Bay Colony, “A New Modell of Christian Charity,” twice quoting from the same passage his call to the settlers to be “knitt together, in this work, as one....” This summons, suitable for such a ritual occasion, was perhaps also Faust’s way of addressing, for a larger audience, the importance of restoring comity and cooperation to a community riven during and after the Summers presidency.

During her leaderly baptism, Faust had ushered Radcliffe from legacy status as a college to its life as an institute for advanced study, jettisoning old programs and forming new ones. Invoking that kind of transition-based-on-tradition in her address, she defined universities as “uniquely accountable to the past and to the future—not simply, or even primarily, to the present”—a resonant message for the first woman to preside over a 371-year-old place. (Years later, in retrospect, she repeatedly noted that the future was then becoming very imminent: the pace of technological change manifested itself with the January 2007 announcement of the iPhone, just as the Corporation was concluding its search.)

“A university looks both backwards and forwards in ways that must—and even *ought* to—conflict with a public’s immediate concerns and demands,” she said. As “stewards of living tradition,” she continued, universities “make commitments to the timeless,” endeavors pursued “because they define what has, over centuries, made us human, not because they can enhance our global competitiveness.”

But different circumstances a few years later would force Faust to devote her most urgent attention to those “immediate concerns.” She would also move engineering and related fields, with their relevance to “global competitiveness,” higher on the academic agenda. But her sense of the sweep of history, and of the humanizing aims and effects of higher education, would never ebb.

Nor would her sense of who, alongside her, belongs at contemporary Harvard—no matter what blindsers the institution had worn a few hundred years, or even a few decades, earlier. Among those she chose to feature at the installation were historian John Hope Franklin, Ph.D. ’41, LL.D. ’81, novelist and Nobel laureate Toni Morrison, Litt.D. ’89, and artist Kara Walker (on whose Civil War work, exhibited at the Fogg, Faust gave a gallery talk a few weeks later).

• *The program.* People in place, tone set, Faust established an ambitious menu of concrete aims around which the University could rally, and fundraisers could test the waters.

Even before her installation, the division of engineering and applied sciences celebrated its transformation into a school (SEAS),



JUSTIN DE HARVARD PUBLIC AFFAIRS AND COMMUNICATIONS

inclusive forum for diverse perspectives, candid exchanges, and conversations that continued outside formal meetings—both among the deans and with other participating senior managers like the executive vice president and the chief financial officer. Martha Minow, the Law School dean from 2009 to 2017, said that the council enabled the deans to have “honest discussion about issues in their own schools,” and at Faust’s behest, similar exchanges about University matters—from Allston to online education to the regulatory framework governing sexual assault. “It was a feature of Drew’s leadership style to be collaborative and inviting and to build a community,” Minow said, “and I think that happened in that group.”

In the beginning:
Drew Faust, the
Radcliffe Insti-
tute’s first dean,
January 10, 2001

During her leaderly baptism, Faust had ushered Radcliffe from legacy status as a college to its life as an institute for advanced study, jettisoning old programs and forming new ones.

an indication of burgeoning research opportunities and student interest in those fields.

On November 1, pursuing her arts agenda, she chartered a University task force, chaired by Cogan University Professor Stephen Greenblatt, to explore investments in teaching about and supporting creativity, performance, and artistic practice.

Six weeks later, turning to access, she unveiled a major enhancement of undergraduate financial aid, putting in place an income-based standard that scaled families' term bills from 1 percent to 10 percent of income, extending up to incomes of \$180,000 (Harvard remained free for families with incomes of \$60,000 or less) and eliminating loans and excluding home equity from aid calculations. The initial cost, from FAS and University funds, was estimated at an additional \$22 million per year. (Graduate students' stipends and other support had been boosted a few days earlier.)

The following spring, FAS set about planning renovation of the undergraduate Houses—a massive project that would ultimately evolve into its largest, most costly construction program. In April, Faust charged *another* task force with planning “common spaces” that could bring the community together socially and intellectually. And as of that June 30, the Harvard Art Museums planned to begin decommissioning the Fogg for its wholesale overhaul and expansion. Site work on the four-building “first science” complex in Allston, begun in 2007, was succeeded by excavation and heavy construction for its enormous, multistory foundations. Each prospective project would ripple across much of the University.

Each of these initiatives also entailed at least a nine-figure price tag (House renewal, the Allston complex that will house part of SEAS in 2020, and endowing financial aid across the University have become billion-dollar-plus-items): plenty for the fundraisers to discuss with prospective donors. Nor did that exhaust the shopping list: the leadership transition in mid decade had set back Harvard's development calendar, and every school had other deferred, big-ticket requests—for facilities, faculty positions, and more. The formative steps toward a formidable campaign, tied to the academic planning and University perspective Faust sought to inculcate, were clearly under way.

The Reckoning

IN ANY REALM, leaders know that not everything goes according to plan. Harvard had learned that, most recently, in the foreshortened Summers presidency.

In August 2007, Harvard Management Company (HMC) reported a blistering 23 percent investment return, raising the endowment's value \$5.7 billion *after* distributions to fund the schools. Three weeks later, its newish president and CEO, Mohamed El-Erian, a Summers appointee who arrived in February 2006, announced that he would return to his former employer in California—another vacancy to fill. The same month, the Corporation gently tugged on the reins, deferring plans for a second art museum in Allston while the Fogg began its overdue, massive makeover; the Fellows and Faust appar-

ently agreed that there were plenty of projects to manage, priorities to be sorted out by her impending arts task force, and uncertainties about paying for everything.

But those fair-weather clouds barely marred the sunny outlook. Through June 2008, the end of the University's fiscal year and Faust's first presidential year, HMC's investment managers turned in an



Justin Ide/Harvard Public Affairs and Communications
Twenty-eighth, and first: named president, February 11, 2007, with Derek Bok

8.6 percent rate of return (yielding a five-year *annualized* rate of return of 17.6 percent), boosting the endowment's value to a record \$36.9 billion—doubly impressive given that the share of the op-

erating budget from endowment distributions had risen sharply, from 27.6 percent of Harvard revenue at the end of the Rudenstine administration to 34.5 percent of the *much* larger budget in 2008.

And then the world collapsed. The financial crisis and ensuing “Great Recession” ushered in severe challenges for which almost no one had prepared. On December 2, 2008, Faust and executive vice president Ed Forst, a Goldman Sachs alumnus, disclosed that the endowment's value had declined 22 percent through October 31—and “even that sobering figure is unlikely to capture the full extent of actual losses for this period, because it does not reflect fully updated valuations” for certain assets. Because endowment distributions had far outstripped tuition and sponsored-research revenues, “The numbers may seem abstract, but their consequences are real,” this magazine reported, in an article titled “Harder Times.” Indeed: by itself, a 22 percent devaluation of the endowment implied, over time, an annual shortfall of as much as \$400 million in funds for deans' budgets.

It is instructive to take stock of the University's predicament in historical perspective, not just as it unfolded then. In hindsight, during the early-millennium era of irrational exuberance, Harvard had been very exuberant. In 2004, it entered into swap agreements meant to hedge against rising interest rates on the huge borrowing it might

undertake to fast-track Allston development. The appreciating endowment, and the cash it threw off to support operations, apparently emboldened other kinds of leverage. Most of the University's operating funds (the central repository for tuition payments, for example—in effect, its checking account) were invested alongside illiquid endowment assets, which were yielding those bubbly returns. Straining to keep up with the robust cash flows of mid decade, HMC committed to make \$11 billion available in the future for outside investors to manage. Early in 2008, Senator Charles Grassley of Iowa mused aloud about requiring wealthy universities to spend more of their endowments and rein in tuition (an issue that would reverberate in 2017). In response, a University officer suggested Harvard could easily use *twice* the endowment it had to support its aspirations—in a spirit that suggested attaining such riches was feasible.



STEPHANIE MITCHELL/HARVARD PUBLIC AFFAIRS AND COMMUNICATIONS

As FAS incurred hundreds of millions of dollars of debt to build its new labs (University borrowings rose from \$2.2 billion in fiscal 2003 to \$4.1 billion in 2008, *before* the crash), its operations had levered up, too: those new professors' salaries, space, and research; and the more generous financial aid (which would grow further as the recession drained family incomes). Elsewhere, the Allston science complex was sopping up hundreds of millions of borrowed dollars, with perhaps a billion dollars more to be tapped. The art museum was ready for reconstruction, and a large law school facility was under way (together, costing perhaps \$600 million to \$700 million).

Not all of these vulnerabilities, nor their intersecting implications, were widely evident. In the early fall of 2008, Faust said recently, "Things started unraveling fast," and by mid October, Harvard faced "dire straits" that no one had imagined. A full-blown crisis was at hand—the defining one of her presidency.

Lacking other good options, and perhaps perceiving more grim news to come, Harvard's financial team in December 2008 arranged to borrow \$2.5 billion at the relatively high rates then available, knowing that the University would face additional debt-service costs even as revenues shrank; it needed the money. (Interest expense more than doubled from fiscal 2008 to a peak of \$296 million in fiscal 2011—a painful reminder of dues to the past.)

Modernizing the University's governance: with the Corporation's Robert D. Reischauer, May 3, 2010

It was one thing to "knitt together" a community little accustomed to fiscal constraint, but utterly another to introduce real limits to growth. Two events provided the most tangible evidence of the new order. Faust's arts task force presented its report—calling for new degree programs and facilities, premised on "substantial fund-raising"—eight days after she and Forst made their sobering announcement. She and Greenblatt expressed the hope that the economic downturn would be short-lived, clearing a path toward effecting its recommendations—but there would be no immediate relief.

And in February 2009, Faust said Harvard would bring the foundation on the Allston science center—the emblem of University aspirations—up to the surface, but then defer purchases of materials to build the laboratories it would support. An ensuing review would determine whether construction could proceed; the facility would

be reconfigured to save costs; or the project would have to be paused completely. The following December came the inevitable decision to halt construction—and to explore whether it could proceed with a co-developer. More ominously, she said the *entire* Allston enterprise would be reevaluated, with an eye toward drafting a reconceived master plan in 2012, covering just the next decade.

By then, the rationale for retreating was public. The fall reports on the endowment (a negative 27.3 percent return on investments, and an \$11-billion decrease in value) and the fiscal year (*additional* losses of \$3 billion associated with those general-account assets and the interest-rate swaps) revealed the stunning damage. Instead of ever-increasing endowment distributions, the faculties could expect a sharp, swift contraction.

As Mike Smith recalled the sensation of whiplash, FAS—more exposed than most other faculties to the endowment—overnight went from "Don't worry about money, think big" to confronting the reality that the future endowment distribution "doesn't even support reasonable pay increases" for faculty and staff members. Assuming it continued to enlarge the faculty ranks, raise compensation, and so on, FAS envisioned a deficit of some \$200 million; given untouchable expenses—sponsored research, financial aid, and servicing its \$1.1-billion debt—it faced draconian reductions. Once it refrained from making those investments, the path toward a more sustainable fisc became apparent—with similar adjustments in other schools. (There were, to be sure, *de facto* compensation freezes, stretched-out capital projects and new academic programs, and retirement incentives and modest staffing reductions, if no wholesale layoffs.) As an FAS administrator put it this spring, "It's been a tough 10 years."

Compounding the pain, external conditions made it impossible for a capital campaign, on which Faust's initiatives had been premised, to proceed on schedule.

Having been blindsided, and left with a very bare cupboard, she set about putting the house in order. Twentieth-century financial practices were supplanted by consolidated multiyear budgets and routine reporting procedures, Harvard-wide planning for capital projects, much stricter hurdles for funding projects, and changes in accounting so schools depreciated facilities appropriately. Such management disciplines weren't newsworthy, but their absence had contributed to the financial crisis; bearing the cost of putting them in place is part of running the institution responsibly. Operating changes included consolidation of information technology and the libraries' back of-

Reforming the Corporation was Harvard's recognition that the decade's leadership and financial upheavals had structural causes.

fices. Not all these measures were painless: Provost Alan Garber, often the bearer of such news, had tough FAS faculty meetings when he announced changes in the libraries and staffing consolidations; undergraduates lamented the loss of hot breakfasts (though perhaps too few of them partook to make an effective counter-constituency).

The Rebound

AS SHE ADDRESSED Harvard's plumbing, Faust—making virtue of necessity—began pursuing two initiatives that will likely define her administration.

The impossible one came first. In late 2009, she disclosed that the Corporation (including the president) had begun to examine University governance—a 360-year-old edifice—so that the then-seven-member Corporation could better exercise its fiduciary responsibilities and organize itself to provide strategic guidance to the institution's leaders: in other words, to pull back from assuming unrecognized, existential financial risks and move decisively toward some more predictable, productive governance appropriate to a complex, multibillion-dollar, twenty-first-century enterprise. Though she had envisioned administrative streamlining before she became president, Faust recently stressed, the vulnerabilities exposed in 2008 prompted governance reform.

The announcement on December 6, 2010, that the Corporation would be modernized—by enlarging its membership to 13, with more diverse, broader expertise; by forming standing committees pertinent to its fundamental responsibilities; and by introducing new procedures to improve self-governance and enhance its access to critical information—was of fundamental importance. It was Harvard's recognition that the leadership and financial upheavals of the decade then ending had structural causes that had to be addressed. Although the full impact of the changes will come into view only over decades—as the Corporation's membership changes, as it refines Harvard's strategy and oversees policy, and as it manages presidential successions—the effort itself seems certain to rank high among the legacies from the Faust era.

The tasks for which the reformed Corporation organized itself mapped on to similar, simultaneous changes in Harvard's financial management, policies, and procedures. Together, they made it possible, for instance, to synch HMC's investment guidelines and decisions with the University's needs for cash and its capital structure, in a way that aligns with the Corporation's strategic deliberations and guidance. Very much related to those priorities, a new Corporation-Overseers committee on alumni affairs and development pointed to the centrality of philanthropic support; and the added members of the governing board included some individuals with private-equity and venture-capital backgrounds and extensive ties to the financial industry. (Faust herself, perhaps with a nod to campaign outreach, set an apparent precedent for a sitting Harvard leader by joining the board of Staples Inc., deeply rooted in Boston's financial and alumni communities, in April 2012.) A few of her new Corporation colleagues brought to the board a notable zest for high-stakes fundraising.

And so to the second defining initiative. As the financial crisis abated and Harvard tightened its belt, campaign planning resumed,

informed by the new realities: "We were sobered about the fundamental needs of the institution," Faust said recently—for instance, sustaining financial aid for economically stressed families. (In fiscal 2011, when FAS was most constrained, its net tuition and fees—its largest source of unrestricted cash for operations and new programs—*declined*, even with a higher term bill, as aid costs rose more quickly: raising the worrisome problem of eating the seed corn.)

Consistent with her goal of fostering Harvard's collective identity and use of its resources, Faust enlisted Reid professor of law Howell Jackson to define University priorities. Jackson, who had worked on his school's financial plans, had served as interim dean before Martha Minow, so he was familiar with the Council of Deans. For two years, he spent half his time at Mass Hall, seeing to it that overarching priorities (Allston, teaching innovation, the arts) aligned with schools' aims, and helping connect units that had common interests in fields like global health. Melding perspectives as diverse as those of the art museums and the bench scientists, he said recently, he was impressed by their degree of cooperation and faculty members' interest in collaborating. (Jackson himself has taught at the Business School and the Kennedy School.) The campaign's broad success in funding both the University and school goals, he said, reflects this One Harvard approach Faust pursued from the outset.

The Harvard Campaign, begun quietly in 2011 and announced with raucous celebration on September 21, 2013, sought the formidable goal of \$6.5 billion. In a memorable kickoff speech, Faust deftly invoked the memory of long-time men's crew coach Harry Parker—the icon of the energetic team player—and crafted a rousing "At Harvard..."



Partying on: celebrating Harvard's 375th, wetly, with Yo-Yo Ma, October 14, 2011

peroration. The aims were broad—financial aid, buildings, flexible funds, and so on (academic programs were never detailed in a promised case statement)—but donors didn't seem to mind: after

17 globetrotting Faust-led "Your Harvard" events (from Beijing and Berlin to Boston) and countless thousands of meetings and calls and solicitations, some \$9.1 billion had been tallied as of the private campus celebration with donors this past April 14.

Tangible benefits abound: the Kennedy School's reshaped campus; new executive-education and conference facilities at the business school—and broadened field-learning experiences for M.B.A. candidates; landmark naming gifts for the public-health and engineering schools' endowments; substantial growth in the computer-science faculty; more clinical programs, and more public-service funding, for the J.D.s-to-be; a refreshed hockey rink and basketball arena; experiments in educational innovation online and on campus; partial and whole-House renovations at Quincy, Leverett, Dunster, Winthrop, and now Lowell, with Adams on deck; and common spaces like the Science Center plaza and, opening this fall, Smith Campus Center (né Holyoke). Earlier benefactions yielded the remade Harvard Art Museums, and a major bioengineering program.

The principal focus of academic expansion traces back to the 2007 reflagging of engineering and applied sciences: the FAS campaign sought some \$450 million for SEAS faculty, fellowships, and research;

represented what was, after all, deferred maintenance.

Nonetheless, by being extremely creative, as Faust put it, and bootstrapping resources, the University was able to make down payments on some initiatives: an undergraduate concentration in theater, dance, and media (an element of the hoped-for arts curriculum); a nascent Harvard program in data science, and an FAS initiative on inequality in America; and grants for research, where gifts permit, on the environment and international projects. So far, most lack the trappings of academic permanency: regular faculty appointments (adjuncts, postdocs, and visiting teachers are common); and secure, sustained funding. Faust acknowledged that in an era of limited faculty growth, this flexible model has predominated. FAS's Smith has described these ventures somewhat differently: as start-ups, to be put on more substantial footing as professors gain experience in a field, define Harvard's distinctive approach, and then attract more lasting donor and sponsored-research support.

In this sense, Faust and deans like Smith deserve plenty of credit. For all the excitement of cutting ribbons and fulfilling professors' dreams, they have, to a considerable extent, committed themselves to the essential work of paying for past promises—righting the institution at a truly dire moment. Through budget discipline and changed expectations, they have also helped to defend Harvard against new uncertainties, as federal research support, tuition income, and endowment returns all appear less dependable than a decade ago. (Faust and successive University treasurers and chief financial officers have repeatedly sounded this concern about universities' business model in their annual financial reports.)

So far, Congress has rejected President Donald Trump's proposal to slash research outlays (although huge federal deficits loom), and tuition rates have been increasing about 3 percent annually. But the persistent shortfall in endowment performance—2 to 3 percentage points below HMC's 8 percent annual return goal in the decade from El-Erian's departure through Faust's successor appointees, Jane Mendillo and Stephen Blyth—has upended Harvard's finances. At its fiscal 2017 value of \$37.1 billion, the endowment was slightly above the nominal total in 2008—but billions of dollars less, adjusted for inflation. From fiscal 2007, endowment distributions have come to contribute 36 percent of University revenue: a higher proportion than a decade ago, while expenditures grew \$1.8 billion (58 percent).

A *capital* campaign is somewhat of a misnomer. Through fiscal 2017, with more than \$8 billion in gifts and pledges, Harvard's campaign had raised more for current use (\$2.4 billion, largely spent as received) than for endowment (\$2.3 billion)—and other proceeds are also either spent (sponsored research) or *increase* operating costs (buildings). Thus, even after FAS has raised more than \$3 billion, with the distribution held flat during the year just ended, the faculty finds itself again expecting a deficit, and resorting to financial engineering and additional borrowing to sustain House renewal. N. P. Narvekar, HMC's president and CEO since late 2016, is overhauling the organization and assets, but projects a five-year transition to sounder results.

All this points to continuing items on the agenda of Harvard's twenty-ninth president, Lawrence S. Bacow. The treasurer, CFO, and new president will pay close attention to HMC's progress from their perch on its board. Friends of the University can expect to hear about opportunities to support the nascent research initiatives and bolster



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and the University aimed to raise the \$1 billion or so required to rehouse about half of the expanding school faculty in its new Allston research and teaching complex. That destination was itself a campaign surprise; under the 2012 refreshed master plan for Allston, the facility was still designated for health and life sciences—until the provost in the 2013 spring semester told the faculty that a redesigned, somewhat smaller project would accommodate the burgeoning SEAS: the anchor for an “innovation” district near new entrepreneurship centers, and across the street from the business school's budding CEOs. (No naming campaign gift for the building has been disclosed, so the construction presumably proceeds using University funds and fresh borrowing.)

Still, for all the dollars raised and buildings built or spiffed up, the campaign may be defined less by new academic programs or faculty expansion than by its role in repairing the University's balance sheet. Raising more than \$1 billion to endow financial aid, for instance, made it easier to fulfill prior promises and to cope with escalating costs; that gives deans leeway to use future tuition revenue to invest in emerging research. Similarly, as FAS sought half a billion dollars for research, graduate fellowships, and professorships, nearly all the latter were to endow *existing* positions—again, freeing resources as new academic priorities arise. House renewal

“At Harvard...”: launching the campaign, and a memorable tag line, September 21, 2013

Faust and her deans deserve plenty of credit for committing themselves to paying for past promises, righting the institution at a dire moment, and helping to defend Harvard against new uncertainties.

biomedical research and neuroscience, renovate the economists' outmoded quarters, repurpose the buildings SEAS will vacate, and so on. And talk about constraining costs can be expected to persist—perhaps the biggest shift from the Harvard culture Faust inherited.

The Crowded Agenda

THE FINANCIAL CRISIS in 2008 forced the president and her administration, the deans, and their schools to make wholesale changes in policies, operations, and expectations. Nor were those the only alterations in the agenda she outlined in 2007; in conversation, Faust alluded to the sheer number of challenges that demanded attention, almost daily. Among the myriad priorities that emerged during her tenure, these stand out:

- **The U.S. policy prohibiting military service by openly gay personnel** (“don’t ask, don’t tell”) was repealed in late 2010. The following March, Faust announced that Harvard would welcome the Naval Reserve Officers Training Corps back to campus, the first such program to be formally recognized in nearly 40 years. The annual officers’ commissioning ceremony on May 25, 2011, with four cadets, was the first following the restoration of recognized status.

- **Sustainability.** Like other universities, Harvard has made extensive commitments to control its contribution to global warming. The initial goal—reducing emissions 30 percent from a 2006 baseline, taking campus growth into account—was realized in 2016; the new goal is to be fossil-fuel-free by 2050. Those programs attracted broad support.

But student and faculty advocacy for divestment from investments in fossil-fuel companies prompted sharp disagreement, locally and on other campuses. When student activists surprised Faust with questions about the issue in Harvard Yard in 2014, she objected to their edited presentation of her views, and denounced their subsequent blockade of Mass Hall. At the next FAS meeting, she said would engage with faculty members on the issue on a basis of “reason, rigor, respect, and truth.” The Corporation held to its social-investing guidelines, refusing to embrace divestment—most directly in the form of correspondence on the subject from senior fellow William F. Lee.

A “climate-change solutions fund” has, so far, provided \$4 million in grants (a favorite Faust-era tool in lieu of permanent, fixed-cost investments) to 31 faculty teams for everything from policy research to fossil-free fiction.

- **Sexual assault.** Rising concern among students, and society at large (underscored by survey evidence of extensive harassment, assault, and inappropriate behavior), and new requirements under Title IX disseminated by President Barack Obama’s Department of Education, led Harvard and other schools to increase education, encourage incident reporting, and adopt new procedures for hearing cases. The 2016 news that the men’s soccer team had evaluated women players in explicitly sexual terms revealed the breadth of such attitudes, and the need to sustain efforts to improve behavior; the team’s season was suspended as it prepared to compete for an Ivy League championship. News accounts of apparently persistent sexual harassment

by a tenured professor, resulting in the imposition of administrative leave by FAS and his subsequent decision to retire this spring, underscored the deeply rooted, continuing challenges of limiting harassment and assault.

- **Academic misconduct.** The 2012 news that dozens of students had, deliberately or inadvertently, violated rules on collaborating on a take-home final exam prompted extensive FAS debate: about how technology is changing coursework; professors’ guidance on academic expectations; and evolving student norms. Faust largely devolved the issue to the College and faculty, albeit continuing to comment in FAS meetings and allude to academic integrity in formal addresses to incoming freshmen, for example. (When the news broke, an administration official privately pointed to the prevalence of cheating on other campuses—something of a diversion from the standards to which Harvard presumably holds its elite students.) The faculty encouraged teachers to be explicit about the rules for their courses, and ultimately instituted a formal honor code—with cases of alleged misconduct to be heard by a separate honor council, apart from the general disciplinary process overseen by the Administrative Board. Those instruments are not infallible, of course, as a recent recurrence of cases arising from the most popular computer science course attests. An unexpected casualty of the controversy was College dean Evelyn Hammonds,



Acknowledging a slave-owning past: with William F. Lee and Representative John R. Lewis, April 6, 2016

who pursued news leaks about the investigation by authorizing examination of email traffic from certain House officers; her departure was announced just before Commencement 2013.

The faculty’s sharp reaction to the disclosure prompted Faust to institute new University standards for the privacy and security of electronic communications.

- **Slave connections.** As student and faculty researchers probed Harvard’s history, they uncovered multiple ties to slavery. Faust, an historian of the American South and Civil War, underwrote pub-

Faculty members have been invited to enhance their pedagogies by engaging with the Harvard Initiative for Learning and Teaching.

lication of their findings. She then focused community attention on this chapter of the University's past at an April 6, 2016, event—featuring U.S. Representative John R. Lewis, LL.D. '12, the civil-rights leader—at which a plaque acknowledging the enslaved members of the households of presidents Benjamin Wadsworth and Edward Holyoke was affixed to Wadsworth House. She has supported further focus on the topic, including a 2017 Radcliffe conference. Faust has highlighted her personal concern about the continuing legacy of slavery and racial division by talking about her undergraduate decision to participate in the second march from Selma to Montgomery, Alabama (Lewis had been grievously injured in the original march); returning for the fiftieth-anniversary observance of those pivotal demonstrations; and inviting Lewis to be the guest speaker at Commencement this May—her last as president.

• *Academics I: General Education.* One priority on Faust's 2007 list was to work with Michael Smith in implementing the new Gen Ed curriculum, enacted during the Bok interim year, after protracted faculty debate. In hindsight, the faculty concluded during its 2015–2016 review that the rollout of the program (the principal requirement imposed on undergraduates, intended to be the broadening keystone of liberal arts at Harvard) had been muffled. During the straitened years at the end

engineering, and applied sciences (258). A decade later, the proportions were, respectively, 27.2 percent, 32.9 percent, and 39.9 percent of a slightly larger cohort (738). Those proportions understate the largest shift: SEAS's ranks are up nearly 30 percent since it became a school in Faust's inaugural fall. (Smith noted that computer science is much stronger, thanks to a campaign gift. Consistent with the arts initiative, the music faculty has added a trio of performance professors, a departure from Harvard's tradition, Faust joked, of being a place where “music is seen but not heard.”) Some of the professors have reached worldwide “classrooms” through HarvardX and the edX online-learning collaboration with MIT; and almost all have been invited to enhance their pedagogies by engaging with the campaign-funded Harvard Initiative for Learning and Teaching.

The bigger shift has come from students. Led by the stampede into computer science and applied math, the number of undergraduate SEAS concentrators has more than *tripled*, from 291 (6 percent of declared concentrators) in the school's founding academic year to 1,013 now (*one-fifth* of the total). Harvard has encouraged the shift with its embrace of an innovation mantra, the iLab and its funding competitions for winning entrepreneurs, pertinent College courses, and more. The symbolic apotheosis of this shift was, perhaps, the honorary degree conferred on Facebook founder and CEO Mark Zuckerberg '07, the guest Commencement speaker last year.

The slight decline in arts and humanities faculty positions during Faust's presidency explains some of the anxieties afflicting those fields—a sense of angst she has acknowledged, even as all concerned wonder what to do about it. The tectonic change in student interests perhaps weighs even more heavily. In her April 14 Harvard Campaign address, she reprised her theme on the enduring importance of the humanities and, alluding to the reassessment of Facebook and other social media since Zuckerberg's speech, observed that “We have seen in the press in recent weeks vivid examples of how the remarkable breakthroughs of science and technology require us to ask broader questions about society, culture, and the responsibilities of government. Privacy issues raised by the digital revolution cannot be answered by technology alone.”

• *The policy context.* The nation's political environment has become more threatening to private higher education and universities, with wide public doubt about their cost and value. Faust and peers have fought hard, with success, to sustain the flow of federal research dollars. But the new excise tax on endowments was a major defeat—a sign of partisan hostility to elite schools. That, and politicking about undocumented students, immigration, foreign students' access to U.S. institutions, financial aid, and affirmative action and admissions (the subject of continuing litigation), have made the president a frequent flier to Washington, D.C., added plenty to the general counsel's workload, and pushed legislative briefings to the top of Faust's remarks at many recent faculty meetings. So serious are these concerns that they featured prominently in the announcement last February of Bacow's selection to succeed Faust and in the president-elect's own speech (see “Continuity and Change,” May-June, page 14).

• *Culture high and low.* Withal, Faust has indulged in a bit of fun, exercising her prerogative to loosen up Harvard's tone through her



STEPHANIE MITCHELL/HARVARD PUBLIC AFFAIRS AND COMMUNICATIONS

of the prior decade, course development lagged, and hundreds of departmental classes were granted Gen Ed credit, diluting its meaning to the vanishing point. Gen Ed 2.0, adopted in 2016, halves the number of courses, adds a distribution requirement, and envisions a new “working with data” class. Implementation is now scheduled for 2019—a decade and a half after the Core Curriculum was declared obsolete—and so will await a successor president, FAS dean, and dean of undergraduate education.

• *Academics II: Shifting student and faculty interests.* Although Harvard's intellectual capital has not grown substantially of late when judged by its *number* of professors, it is not the *same* faculty that was in place when Faust took office. On September 1, 2007, of 709 FAS ladder-faculty members, 29.3 percent were in arts and humanities (208), 34.3 percent in social sciences (243), and 36.4 percent in sciences,

Showing the flag: the “Your Harvard” campaign event in Mexico City, October 21, 2014

choice of guests for the formal occasion of Commencement—while affirming her commitment to diversity and indulging her taste for popular culture. (She has confessed to loving *Breaking Bad*, and became a *West Wing* devotee as a source of relief from financial-crisis tensions.) Besides the boyish social-media billionaire, her honorand-speakers have included J.K. Rowling, Oprah Winfrey, and Steven Spielberg. Commencement-morning throngs have come to expect edutainment interludes: trumpeter Wynton Marsalis tooting his own horn (2009); tenor Plácido Domingo serenading opera buff and Supreme Court justice Ruth Bader Ginsburg (2011); and others. (Marsalis became a Harvard fixture, lecturing and performing on campus; he and Arts First impresario John Lithgow '67, Ar.D. '05, are headlining a celebration of Faust's presidency on June 28 in Sanders Theatre.)

The Arc of Harvard History

CLEARLY, a defining characteristic of leading the modern university is the sheer *muchness* of the role: what Faust, considering the violent financial and political volatility of her presidency, summed up as “What next?” But above and beyond the incessant dailiness of the demands, during a recent conversation she conjured three narratives woven throughout her administration—not necessarily in the order that would occur to an outside observer.

- “The ‘One Harvard’ theme is first,” Faust pronounced. That elaboration of the first priority in her 2007 notebook gained unexpected emphasis after the financial crisis, she said, as the University’s famously independent schools and affiliates realized they were *interdependent* “in ways maybe we hadn’t recognized before.”

Administrative necessities aside, academic connections have proliferated and strengthened. Undergraduates now have access to an architecture-studies track (with the Graduate School of Design, GSD), a secondary field in global health and health policy (with the medical, public-health, and other faculties), and, debuting this fall, a secondary in educational studies (with the Graduate School of Education, HGSE).

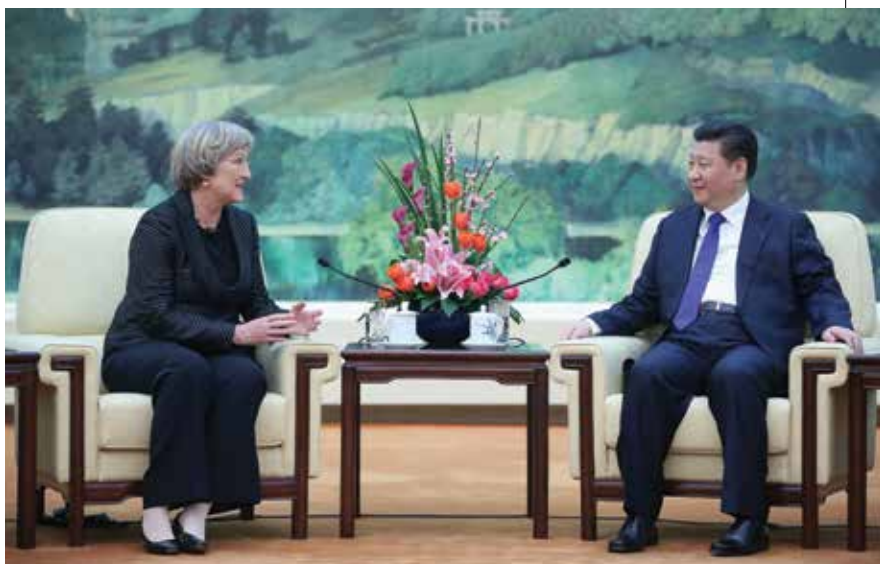
Faust pointed out new ties between the Divinity School, FAS, the medical school (end-of-life issues), and even the Kennedy School (peace studies). Programs like the data-sciences initiative and the biologically inspired engineering institute deliberately cross disciplines and schools. Professorial appointments in multiple units are increasingly common. And HarvardX and the learning and teaching initiative were both conceived as University-wide ventures.

Perhaps the marquee demonstration of being what Faust recently called, with amusement, “One-Harvardy,” has arisen virtually so far, but will soon be physically present on either side of Western Avenue. Business School (HBS) dean Nitin Nohria and SEAS dean Francis J. Doyle III, who met while the latter was being recruited to Cambridge, began bringing their faculties together in 2016 to explore common research and teaching interests. In June 2017, as steelworkers began assembling the frame of SEAS’s Allston quarters, the deans unveiled a joint M.B.A.-engineering sciences degree; its first class enrolls this fall. (In 2015, Doyle and GSD dean Mohsen Mostafavi created a separate master’s degree in design engineering, which began in the fall of 2016.)

Putting resources behind these commitments, it was business-school alumnus John A. Paulson, M.B.A. ’80, whom Nohria guided toward the \$400-million naming gift to SEAS: the essential endowment upon which Doyle can build his young school’s future, and its natural partnership with HBS. (One of HBS’s leading fundraising professionals also did double duty during the campaign, helping HGSE’s then-new dean James Ryan fulfill his ambitious goals. One Harvard indeed.)

Not quite *e pluribus unum* yet, but Harvard clearly is more connected, in ways that count for students and scholars alike, than its past reputation suggests.

- Faust listed “inclusion and belonging” next—broadening the cohort of students and faculty members “that make this wonderful stew of difference and learning” and ensuring that once they are present, “their voices matter.”



**Global reach: confer-
ring on climate change
with President Xi
Jinping in Beijing,
March 16, 2015**

By the numbers, Harvard is clearly more diverse. Applicants granted admission to the College class of 2022 were reported as 22.7 percent Asian-Americans, 15.5 percent African-Americans, 12.2 percent Latinos, 2 percent Native Americans, and 0.4 percent Native Hawaiians.

First-generation students represent 17.3 percent of those admitted; and 20.3 percent of those admitted are eligible for federal Pell Grants, a common proxy for low-income status: the highest share of such students to date.

Perhaps more impressive has been the changing composition of parts of the faculty—particularly difficult to effect in an era of limited growth, given low turnover and no mandated retirement age. Within FAS, as more senior professors (historically, more white males) have responded to retirement incentives, and as searches are more carefully conducted to draw on larger candidate pools and to guard against implicit biases, the faculty ranks are clearly changing (see “Faculty Diversity,” page 35, for the latest data). That has been a focus of Smith’s deanship, for which Faust saluted him this spring when discussing the news of his plan to step down.

Her appointments have broadened the possibilities Harvard might imagine, as well. Katie Lapp succeeded Forst as executive vice president. Jane Mendillo was HMC’s first woman president and CEO. Diverse deans include Nohria (a native of India) and Mostafavi (an Iranian American). Faust’s recent appointees led to a woman

dean of public health (Michelle Williams) and, in her last semester, upheld the tradition of a woman at Radcliffe's helm (Tomiko Brown-Nagin) and another at HGSE (Bridget Terry Long; see page 32); all three are African American. The Corporation's senior fellow is a Chinese American, and members apart from Faust have included four women and two African-American men (see page 29). Within FAS, Smith had an African-American woman dean of the College (Hammonds), succeeded by an Indian American (Rakesh Khurana), and a woman leader for SEAS (Cherry Murray).

Faust has also spoken about diversity and inclusion repeatedly—at Morning Prayers, during addresses to freshmen, and on other official occasions. She and Khurana invested enormous political capital from early 2016 through last winter in a procedurally divisive push to sanction student membership in unrecognized single-gender social organizations (the final clubs and fraternities and sororities)—a measure finally put into effect by a Corporation vote. Of late, Faust's commitments to diversity have extended to advocating for undocumented students and for the right of transgendered persons to serve in the military. Her interests in history and in diversity combined in the recognition of Harvard's past engagement with slavery.

Despite these tangible and symbolic acts, building community does not always proceed smoothly: witness the 2014 "I, Too, Am Harvard" campaign by black students; law students' successful

Boston has granted regulatory approval (also to be privately developed on leased Harvard property). Though there are, at present, no further known public designs for academic facilities, the University has indicated an interest in a "Gateway" academic building at North Harvard Street, and has reserved space south of the SEAS complex, on the unused portion of the huge, original foundations, for more science labs. Stay tuned.

Faust recalled freezing construction during the depths of the financial crisis as especially painful, because Allston had been held up as "such a signal of Harvard's success and future." Now, as her presidency was ending and the SEAS relocation in 2020 neared, it was finally possible to envision a future with "one campus with a river running through it."

THIS MAGAZINE titled its pre-presidential profile of Drew Gilpin Faust "A Scholar in the House." Upon assuming her new responsibilities in 2007, just after completing her book on death in the Civil War, *This Republic of Suffering*, she indicated that her life as a practicing historian had come to its end. But now, after planning to luxuriate in the first fall season she has ever been able to spend on Cape Cod with her husband, historian of science Charles Rosenberg, Faust admitted that she has some research projects in mind, and hopes to deploy her scholarly skills anew.

After the financial crisis, Faust said, the University's famously independent schools and affiliates realized they were *interdependent* "in ways maybe we hadn't recognized before."

campaign to jettison their school's shield, associated with a slaveowner; and recent, identity-focused LatinX graduation and Black Commencement ceremonies.

Reflecting the work still to be done, Faust chartered a University task force on inclusion and belonging (co-led by Danielle Allen, the first African-American woman to hold a University Professorship; see harvardmag.com/diversity-report-18). It recommended in March that Harvard undertake initiatives ranging from creating new research centers and investing an additional \$10 million in faculty diversity to adopting a new last line for "Fair Harvard," as sung at this year's Commencement (farewell, "Puritans": see *The College Pump*, July-August 2017, 68, and this issue, page 76).

Harking back to her installation guests in 2007, Faust's choice of John Lewis as speaker this year, at this moment in the nation's history, is an unmistakable sign of a commitment that has animated her from her girlhood in segregated Virginia, through her Bryn Mawr years in the tumultuous 1960s, and from the first moments of her presidency to its last.

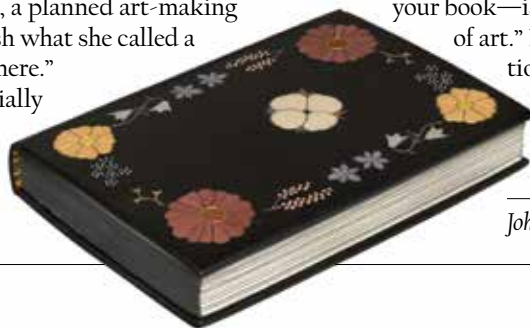
• Third, Faust named the frontier south of the Charles and HBS: "I feel great about getting Allston in a place where it's just going to take off," focused on "creativity and inventiveness"—SEAS near HBS and the three entrepreneurship labs, a planned art-making space, and more. They collectively establish what she called a presence for "the makers and doers over there."

Other signs of progress are a commercially developed residential and retail complex, built on land leased from Harvard, and the proposed "enterprise research campus," to the east of the SEAS complex, for which

Perhaps some of the colleagues who have worked most closely with her during the past 11 years knew, even better than she knew herself, that her inner historian has only been hibernating. Saluting her on May 1, at her last regular FAS faculty meeting, Michael Smith said, "Over the past 11 years, President Faust has been steadfast in her commitment to helping us advance our mission of excellence in teaching and research. We couldn't have asked for a stronger champion for our faculty and students, or a greater advocate for the value of the liberal arts and sciences....[B]ecause of her leadership, Harvard today is a better place to pursue impactful, cutting-edge research; to study and grow intellectually, socially, and personally; and to feel a part of an inclusive community."

He then presented her with the faculty's gift: a copy of *This Republic of Suffering* hand bound by Harvard Library's preservation-services team, as designed by conservation technician Katherine Westermann Gray: in black leather, signifying mourning dress; with a motif of pressed flowers, "a not uncommon hobby of the time"; and a central cotton blossom, itself representing the Civil War, with four petals symbolizing the four years of conflict.

"Fittingly," Smith concluded, "for all you have done to bring together art-making and scholarship these past 11 years, this book—your book—is now both deep scholarship and a piece of art." He then read the accompanying inscription; it concludes, "Whether considering the legacies of our past or the promise of our future, you have inspired us to always pursue the truth." ▢



John S. Rosenberg is editor of Harvard Magazine.



WRITING CRIME INTO RACE

Historian Khalil Muhammad studies one of the most powerful ideas in the American imagination.

by **LydiaLyle Gibson**

“YOU SHOULD HAVE A RECORD.” That sentence dropped like a hammer inside the meeting room where Khalil Gibran Muhammad, then 21 years old, was sitting across the table from a Philadelphia police-union lawyer, answering questions about the day he’d briefly been arrested.

This was late May 1993. Several weeks earlier, Muhammad and a few other University of Pennsylvania students had organized a demonstration, with plans to seize copies of the student newspaper from distribution boxes: a last-ditch protest against a series of racially provocative op-eds that had roiled the campus for much of the school year. When Muhammad, dressed all in black, began

stuffing newspapers into a trash bag a few minutes after six in the morning, he was cuffed and taken to a police station in the back of a patrol car. A couple of hours later, the police figured out what was going on (“There were reports of students running around with newspapers all over campus,” Muhammad says), and he and the others were released without charges. But because an officer had hit him on the legs with a baton during the arrest, and he was a student, a disciplinary process lurched into motion, to determine if the officer had overreacted. The final step was the meeting with the police-union attorney.

Penn’s general counsel, representing Muhammad, had warned

him not to lose his cool: don't show any emotion, don't react, just tell your story. So that's what he did, he says, "And it drove the other lawyer bananas." Finally, in frustration, the man banged his fist on the table and said, "You should have a record." It felt like a mask had slipped. Muhammad was a recent graduate of an Ivy League university. He'd just started a job at the accounting firm Deloitte & Touche. He was well-spoken and self-assured and steady and genial. And also, he was black. "And it just hit me in that moment," he says, "what he was really saying."

The "Public Transcript" of Urban America

THE LINK between race and crime is one of the most potent and enduring ideas in the modern American imagination. It shapes public policies and social attitudes; it affects what Americans see when they look at one other. In education, housing, jobs, recreation, and other realms of city life, the idea of black criminality has altered what Muhammad—now professor of history, race, and public policy at the Harvard Kennedy School (HKS) and Murray professor at the Radcliffe Institute—calls the "public transcript" of the modern urban world.

But it is not eternal. It can be traced to a particular moment in history, and in *The Condemnation of Blackness: Race, Crime, and the Making of Modern America*, the 2010 book that made his name as a historian, Muhammad traced the idea of black criminality to the late nineteenth and early twentieth centuries, a period of enormous, rapid social change in the United States. Slavery had ended, legally transforming a population of four million from property into people, and segregation was taking hold. Northern cities—for *Condemnation* is a Northern story—were industrializing and expanding, absorbing vast waves of immigrants from Europe and, starting in the 1910s, an increasing

Black criminality became a widely accepted justification for prejudice, discrimination, and "racial violence as an instrument of public safety."

kind of citizens and neighbors these formerly enslaved people might become. They found it, Muhammad says, in the 1890 census, the first to measure African-American demographics a full generation after the Civil War. Although blacks were 12 percent of the country's population, they accounted for 30 percent of its prison inmates. Racially motivated policing and surveillance were common by the 1890s, but white social scientists took the raw data as objective and incontrovertible. For years, "race experts" like Harvard scientist Nathaniel Shaler had warned of the havoc African Americans would wreak on society. The 1890 census seemed to prove them right. "From this moment forward," Muhammad wrote, "notions about blacks as criminals materialized in national debates about the fundamental racial and cultural differences" between blacks and whites. Black criminality became a widely accepted justification for prejudice, discrimination, and "racial violence as an instrument of public safety."

This was a groundbreaking finding. It had long been thought that the 1960s, the decade that produced Daniel Patrick Moynihan's *The Negro Family*, was the moment when America's statistical discourse about black dysfunctionality took root. "When *Condemnation* came out, it was huge," says Elizabeth Hinton, assistant professor in history and Af-

frican and African American studies (see Harvard Portrait, March-April 2017, page 19). Muhammad's book arrived amid a surge of new scholarship on race, crime, and mass incarceration—most famously Michelle Alexander's *The New Jim Crow*—that has altered the national conversation. But most of those books were written by sociologists and legal scholars. "Khalil's book was really the first by a historian that opened up these questions about the criminalization of people of color in the United States, and about how these disparate rates of incarceration should be understood," says Hinton, whose own book, *From the War on Poverty to the War on Crime*, picks up the story a few decades after *Condemnation* leaves off. "You can't really write about crime in the United States now without citing Khalil's book or engaging with the ideas in it."

Condemnation appeared three months after *The New Jim Crow*. Michelle Alexander remembers reading it and recognizing a kindred scholar on a similar path—and realizing that the path stretched back much further than she'd known. "In my work, I was trying to demonstrate that our nation has this pattern, this habit of re-birthing these monstrous systems of racial and social control and trotting out the same racial stereotypes to rationalize each one," Alexander says. "Khalil showed that we've been having those same debates since Reconstruction." She adds, "I wish I'd had the benefit of his work when I wrote my own."

For white immigrants, however, history unfolded differently. This is the devastating contrast at the heart of *Condemnation*. Like the African Americans arriving in cities such as Chicago, Philadelphia, and New York, newcomers from Italy, Ireland, and other parts

Student hit by U. officer in 'DP' theft U. investigating incident

By CHARLES ORNSTEIN
Daily Pennsylvanian Staff Writer

A University Police officer was accused Friday of striking a male student twice with a nightstick following the student's detainment Thursday for allegedly stealing some copies of *The Daily Pennsylvanian*. The student is believed to be part of a group calling itself "The Black Community," which took credit for the theft of nearly 14,000 DPs on Thursday.

Other students involved in the newspaper removal were handcuffed Thursday morning and detained by University Police following the thefts of the DP, a statement issued by President Sheldon Hackney Friday said.

The student was allegedly struck in the arm and the leg with a mini-baton after resisting arrest, said Bill Kane, a University Police officer and president of the University's chapter of the Fraternal Order of Police. The student was treated later in the morning at the Hospital of the University of Pennsylvania.

Administrators said last week that they would investigate the allegations of "undue, physical restraint."

Vice Provost for University Life Kim Morrison said yesterday that the incident is going to be evaluated by an independent inquiry board and the larger topic of police procedure.

Please see U. Police, page 4

The Daily Pennsylvanian account of the incident that led to Muhammad's meeting with a police lawyer.

THE DAILY PENNSYLVANIAN

of Europe were mostly poor and illiterate, discriminated against and labeled as dangerous. And like African Americans, they also had disproportionately high rates of disease, suicide—and crime. But Progressive era reformers, Muhammad wrote, interpreted immigrants' dire statistics as consequences of industrialization and structural inequalities, rather than a fixed, congenital fault. In black neighborhoods, where residents were left to solve social ills largely on their own, violence beget more violence. But in immigrant neighborhoods, violence beget settlement houses, recreation centers, libraries, and playgrounds, as reformers strove to open pathways of rehabilitation and upward mobility.

In the preface to a 1903 study of immigrant life in Boston, Harvard economist William Ripley described the “horde” landing on New England’s shores as ignorant, lawless, and prone to crime—but hampered by nurture, not nature. “They are fellow passengers on our ship of state,” he wrote. In 1909, Ripley cautioned against tarring whole immigrant groups with the moral failures of individuals: do “not allow the crime of one Italian...to weigh for any more than the crime of an American.” African Americans were not part of his formulation.

That same racial calculus drove pioneering statistician Frederick L. Hoffman, a fascinating and malign character who looms large in *Condemnation* and whose effect on the country’s race debate remains profound. His 1896 book *Race Traits and Tendencies of the American Negro*, the first full-length analysis of the 1890 census, presented black criminality as immune to improvement. In *Condemnation*, Muhammad stated, “Hoffman wrote crime into race.”

The book ends in the 1930s, when the annual federal Uniform Crime Reports began to standardize arrest statistics. Muhammad chronicled the sustained efforts of scholars and activists like W.E.B. Du Bois, A.B. 1890, Ph.D. ’95, and Ida B. Wells—and the generation of black social scientists who followed them, plus a few prominent white experts and blue-ribbon commission reports—to challenge the authority of racial crime statistics. In fact, from the earliest days of Hoffman’s obsession with race data, other voices pushed back against his conclusions. One was M.V. Ball, a prison doctor in 1890s Philadelphia who saw impoverished childhoods and hard living conditions, not racial degeneracy, in elevated African-American crime and disease rates. Hoffman, Ball said, had neglected the “sociologic factor.”

“But Hoffman hardly looked back,” Muhammad wrote. And by and large, the country went with him.

“A Robust Sense of Historical Literacy”

THE SUCCESS of *Condemnation* was immediate and intense. The book won the 2011 John Hope Franklin Publication Prize, awarded each year to the best book in American studies, and Muhammad, then a history professor at Indiana University, suddenly found himself sought after as a public speaker and writer. In op-eds for *The New York Times*, *The Guardian*, *The Nation*, *Newsweek*, National Public Radio, and other outlets, he discusses present-day mass incarceration and criminal justice, police violence, the Black Lives Matter movement, the racial implications of Donald Trump’s ascendancy, the rhetorical sleight of hand in decrying “black-on-black crime.” During a 2012 interview with public television’s Bill Moyers, Muhammad declared New York City’s stop-and-frisk policy—then still in its heyday—a form of racial surveillance and control whose roots reached back to the “black codes” of a century ago: “It allows law enforcement, in

Muhammad sees stop-and-frisk policies as a form of racial control rooted in the Southern “black codes” that restricted African Americans’ freedom after the Civil War.

this city—just like it did in the 1870s in Alabama—to have the widest berth of discretion to challenge a person, a black male on the streets, to ask them, ‘Where are you going? And do you belong here?’”

Now 46, slim and square-shouldered, Muhammad exudes a perpetual low-key intensity, like an engine always in gear. Candid—sometimes blunt—and carefully precise, he is also

warm and funny, with a cagey smile that can make a listener feel simultaneously embraced and examined. In 2016, he came to Harvard, the historian’s first foray into teaching policy. “If we’re sending people out into the world in a deliberate and intentional way, to be servants of change, to have the charge of governing a social compact of civic engagement and civic responsibility,” he explains, “then how could I not want to touch these people?” It’s important, he adds, for HKS graduates to be able to bring “a robust sense of historical literacy” to their work.

After a year’s sabbatical, he taught his first class last fall, “Race, Inequality, and American Democracy.” The students seemed hungry for the subject, he says. In fact, demand was so high that enrollment, originally capped at 30, had to be doubled, and for three months, students crammed into a Brattle Street classroom for discussions on education, economics, American values, criminal justice, urban policy. Roughly half the students were nonwhite—“The highest diversity you’ll see in a class at HKS,” says Matt McDole, one enrollee—and discussions were spirited and emotional, rigorous and sometimes raw. Students asked searching questions and wrestled with knotty, complex readings. They drew arguments from their own lives and work experiences. Late in the semester, one student, a police officer, raised his hand and hesitantly recited the murder rates among African Americans in several cities. The numbers were ghastly. Tugging the brim of his baseball cap and hardening his voice, he confessed unease about the contrast between what the course was teaching and what he saw on the streets: law enforcement couldn’t simply ignore those statistics, could it? “And I’m black,” he added. “Trust me, I don’t want these numbers to be true.”

Muhammad opened the floor to classmate responses, and the



MARK BONIFACIO/DAILY NEWS VIA GETTY IMAGES



The 1992 acquittal of four Los Angeles police officers in the Rodney King beating sparked protests at the University of Pennsylvania, and Muhammad recalls being harassed by white students as he and others gathered to march.

conversation ranged widely from there. But if the historian had been answering his student himself, he said later, he would have pointed, in part, to the early twentieth century, when violence in immigrant and white communities prompted not only

playgrounds and settlement houses, but police reforms that made law enforcement more like social work. All this, he says, amounted to an anti-violence strategy focused on including white immigrants in American society and encouraging their belief in the social contract. Meanwhile, African Americans faced much of the same violence, but “those strategies for investment in the African American community to be part of America, to be part of what would become the New Deal, to be subject to the same kind of police reform that whites had—that did not happen.” Policing in black neighborhoods remained harsh, often abusive, and alienating, he says. In many instances, up to the present day, he adds, police became “the light that lights the powder keg of racial violence.”

Throughout the semester, as the class took on contemporary social problems, Muhammad kept nudging the students back toward the history they were learning, and its ability to broaden their imaginations beyond the limits of their empirical experience. On the last day of class, amid a discussion about desegregation in schools and policing, he gave them one more push. “Why would we retreat into the immediacy of today, when a wider set of choices informed by a sense of history is always there for us?” he said. “It’s always right there.” In a truly integrated education system, he said, it becomes impossible to choose one school over another as “more deserving” of public investment; desegregated policing means one set of practices for both white and black neighborhoods. That’s what policy should reach for, he said—“That’s what desegregation means.” It was striking how radical the idea sounded when he said it out loud. “This is the difficulty you all face,” he continued. “You will work in systems and institutions, and those systems and institutions are built to do what they do,” which perpetuates the status quo. “And the question is, can they be fundamentally changed to do something else?”

A month later, Shaniqua McClendon was still thinking about that last day of class, and how Muhammad had warned them not to suppose that the hard, complicated work of reimagining whole systems and institutions was someone else’s responsibility. One such institution, McClendon says, is HKS, which has struggled to increase diversity in its ranks. As one of only two tenured African American professors, and only the third in HKS history, Muhammad has been a vocal advocate—especially after the recent departure of three black administrators—for hiring and retaining faculty and administrators of color. He is also a magnet for nonwhite students, says McClendon, who is president of the Black Student Union. “He’s been very generous with his time,” she says. “When you’re faculty or staff of any marginalized community, the students who identify with you flock to you.” Tanisha Ford and Carl Suddler, two former graduate students at Indiana, where Muhammad taught and lived from 2005 to 2011, tell a similar story, about how he and his wife, Stephanie Lawson-Muhammad—and their three children, Gibran, Jordan, and Justice—took time outside the classroom to make the very white Midwestern town of Bloomington feel less foreign to black students who were often far from home.

“Correct Your Mistake”

IN BIOGRAPHICAL NOTES about Muhammad, two facts always come up: that he is a native of Chicago’s South Side, and that he is a great-grandson of Elijah Muhammad. The Nation of Islam leader died when Muhammad was two years old, and his parents divorced not long afterward, so he wasn’t raised as a Muslim, as his father had been. Instead, his experience of his great-grandfather came mostly through extended family—aunts, uncles, cousins, his grandmother. And through his father, Ozier Muhammad, who worked as a photojournalist for *Ebony*, *Jet*, *Newsday* (where he won a

Pulitzer Prize), and *The New York Times* and sometimes took his son on assignments. “He had grown up with this very rich nationalist tradition of celebrating black people,” Muhammad says, “and I got a lot of that from him, and a lot of curiosity about African-American history.”

Muhammad’s mother, Kimberly Muhammad, was a teacher, and then an administrator, in the Chicago public schools, where her specialty, she says, was “unusual projects.” One year it was bringing order to a homeless shelter for families that had been overrun with prostitution and

drugs; another year, raising attendance in violent neighborhoods with a program that recruited parents to walk their children to school—it worked because the gang members shooting at each other were also children of those same parents. In the mid 1970s, she

“Why would we retreat to the immediacy of today, when a wider set of choices informed by a sense of history is always there for us?”

and Muhammad came close to integrating a white school. Among the first generation of black teachers sent into classrooms in the mostly white neighborhoods of the city's North Side, she had obtained special permission to enroll her son in kindergarten at the school where she taught. It didn't last long. "I showed up one day and all hell broke loose," Muhammad says. His mother remembers the community delivering a three-word ultimatum to the school's principal: "Correct your mistake." Her son would be in seventh grade before he attended an integrated school.

And yet the neighborhoods where he grew up were, for the most part, less segregated than the rest of the city, a mix of working class and middle-income families, populated by African-American professionals—doctors, dentists, lawyers. The Nation of Islam has a large presence in the Chatham neighborhood, and Hyde Park, about 20 blocks north, is home to the University of Chicago. "Hyde Park was, then and now, a kind of relative racial utopia, as much as we can imagine racial utopias exist, which is complicated," Muhammad says. "But it was not a big thing to be a black kid with white friends or vice versa" (although looking back on it, he remembered that when the police stopped him and his white friends out after curfew, it was always *his ID* they wanted to see). His closest friend was a white classmate named Ben Austen, now an author and magazine writer in Chicago, and through junior high and high school, the two worked together at a neighborhood computer store, where by age 15, Muhammad was the de facto assistant manager, closing out receipts, making bank deposits, doing payroll. When he left for college, he thought he was heading toward a career in business.

But Muhammad arrived at Penn during the 1980s culture wars, when universities across the country were implementing affirmative action programs against intense opposition, and early programs for racial diversity and inclusion were just launching. He remembers celebrating Martin Luther King Day for the first time ever his freshman year. "Everything was brand new," he says.

African-American students, then about 5 percent of Penn's student body, ate together in the cafeteria and hung out together in the quads. Some lived in a residence hall named for DuBois, who had done field studies for *The Philadelphia Negro* as a Penn sociology researcher in the late 1890s. Because African American students were vastly outnumbered in classrooms, "All these other social spaces became very robust cultural sites, for you to feel like you belonged," Muhammad says, not only in the African-American community, but at the wider university. And he did feel like he belonged. "Until one day, I didn't."

A series of racially charged run-ins on campus made his last couple of years at college unexpectedly tumultuous. In the spring of his junior year, four Los Angeles police officers were acquitted in the beating of motorist Rodney King, and a spontaneous protest coalesced at Penn. As the demonstrators assembled outside the DuBois House to march to City Hall, white students opened their windows and dropped eggs and shouted "racial things," Muhammad recalls. Another incident took place the following year, in 1993. A group of black sorority sisters—one of them Muhammad's then-girlfriend—were holding an outdoor event when a student shouted at

them from a nearby dorm window, "Shut up, you water buffalo!" The women, and Muhammad, took the term as a racial slur; the student, who was Jewish, later insisted it was harmless Hebrew slang. The sorority sisters filed a racial harassment complaint, and the ensuing clash made international news.

In Hyde Park, "Khalil moved easily with everyone," Austen says. "And to suddenly be in a place where racism was overt—I think that really shocked him." In his last semester in college, a conflict erupted between Muhammad and a conservative columnist for the student paper, *The Daily Pennsylvanian*, who wrote that affirmative action had lowered the university's admission standards and denounced Martin Luther King, calling the holiday in his name "wrongheaded." The columns outraged Muhammad. He lodged a formal complaint with Penn's administration, and when that process began to drag, he and 200 others published a sharply worded letter to the editor. To further the protest, the Black Student Union planned to seize copies of the newspaper and replace them with placards explaining their grievance. In the aftermath of his resulting arrest, when the police lawyer lost control, something in Muhammad finally, fully shifted: "It just circled back to everything: the Rodney King march, the climate on campus, the police investigation, the whole thing."

"Blacks Somehow Corrupted Justice?"

HE STARTED GRADUATE SCHOOL at Rutgers just as O.J. Simpson was about to go on trial for murder. That first year, he roomed with a Dutch student who was already deep into his philosophy dissertation, but spent long lunch breaks watching the trial on television. Muhammad sometimes watched with him. "I had no investment in O.J. Simpson," he says. "He was just a guy jumping over chairs in Hertz commercials when I was a kid." But the spectacle was interesting.

Then came the verdict, and the uproar. Amid the cries for criminal-justice reform and overhauling jury selection and the wildly divergent reactions among whites and blacks, Muhammad couldn't help but think back to the Rodney King acquittal—"a motorist pulled over and damn near beat to

(please turn to page 82)



White Americans' reaction to the O.J. Simpson verdict became a turning point for Muhammad's research.

VINCE BUCCI/AP/GETTY IMAGES

death.” In class he was learning about the “absolute racial terror” that had unfolded a century earlier in the American South, where black people could not even testify in their own defense. “How do you square that with the idea that maybe one black man *did* get away with murder—and now the entire criminal-justice system needs to be reformed? Because blacks somehow corrupted justice?” Muhammad’s face flattens into a tight smile. “I mean, that *really* struck me.”

But the history of the South didn’t fully explain what he was seeing televised from Los Angeles. It didn’t explain the Rodney King beating and the officers’ acquittal and the lack of outrage *that* verdict had generated among white Americans across the country. What was missing, he realized, was a chronicle of the *North*. He began to wonder: what happened to black people when they moved to places like Chicago, New York, Philadelphia, and even Los Angeles? What were their experiences in these relatively liberal cities where criminal justice was supposedly free of the racial bias that defined the South?

In the archives, he found a vast literature about the lives of European immigrants in big cities: “And the story was mostly the same: these people came here with expectations of a better life for themselves, of finding the streets paved with gold, but instead they found slums and ghettos and tenements, and they had to do all the paving themselves.” In these narratives, crime became a way of life, a way to survive and to make sense of their alienation, until they were incorporated into society and Americanized.

But the archives were mostly silent about *black* people in those same big cities, the migrants who had fled Jim Crow. “They too wanted jobs and to work and to have a better life for themselves,” Muhammad says. “They too were ghettoized and alienated. Why wouldn’t the same ideas apply?” As he began to write his dissertation, which led eventually to *Condemnation*, it became clear to Muhammad that “the stakes for understanding this early history were incredibly high, in order to change the discourse about black pathology and the prevailing thesis of cultural poverty and personal responsibility.... That’s kind of what Rodney King and O.J. Simpson broke open: the pos-

sibility for seeing things differently.”

A few months after *Condemnation* came out, he received a call from the Schomburg Center for Research in Black Culture, which was searching for a new director. A part of the New York Public Library system and a neighborhood fixture in Harlem, the center is a deep repository whose genealogy he recites with obvious pride: the place Du Bois and Paul Robeson turned to as a resource for their scholarship and artistry, where the painter Jacob Lawrence took history lessons as a teenager from Ella Baker, who became godmother to the Student Nonviolent Coordinating Committee. As adolescents, Harry Belafonte, Ruby Dee, Ossie Davis, and Sidney Poitier took acting lessons together in the basement—then called the American Negro Theatre, that stage launched their careers. “Langston Hughes walked through the Schomburg’s doors in the 1920s and didn’t leave for four decades,” Muhammad says. In the early 1990s, Hughes’s ashes returned, to be buried in the main floor.

At Indiana, Muhammad had come to believe there was a wide gap between public debate and the work of scholars in Ameri-

“The story of black people in this country is... the story of the expansion of the possibility of democracy.”

can and African American history. “The Schomburg was built to close that gap.” As director, he raised the center’s attendance and launched renovations. He added more educational programs for adults and convened public talks that compelled academics to translate their work to general audiences. “I wanted to build on the black public sphere that is embedded in the DNA of that institution, and to build on it in ways that would scale up to every kind of American, every kind of immigrant, every kind of person who could learn about these stories that

have been systematically erased or denied or silenced,” he explains. “We learn a lot about a country by how you treat ‘the least of these.’ And the story of black people in this country is in many ways the story of the expansion of the possibility of democracy. I mean, you don’t get birthright citizenship without the Fourteenth Amendment,” which granted citizenship to former slaves. The expansion of democracy is “undeniably, inextricably linked to the great turmoil of black life in the nineteenth century.”

“Statistical White Flight”

MUHAMMAD’S CURRENT book project, tentatively titled “Erasure,” tells *Condemnation*’s mirror story: how white criminality became invisible in the popular imagination. At a talk last fall at Boston College, he posed a challenge to his audience. “How many Italian Americans committed armed robbery last quarter, or Irish Americans committed murders?” he asked. “I’ll give \$100,000 to anyone who answers that question.” A burst of laughter rose, and quickly fell. “Why can’t you answer that?” he continued. “Because we stopped keeping track of what Italian-American or Irish-American criminals were doing a long time ago.” By the 1930s, arrest records no longer noted whether a white perpetrator was foreign-born, or his or her ethnicity. Muhammad calls this “statistical white flight.”

He is still working out the arguments that will frame the book, but its narrative will build toward the current opioid crisis. He notes how differently politicians and police treat the mostly white Americans caught up in the epidemic of opioid addiction, as compared to the harshly punitive reaction during the 1980s crack-cocaine epidemic, which affected mostly African Americans. But Muhammad also reminded his audience that black heroin users were “public enemy number one” in Richard Nixon’s America—and pointed out that even though researchers had been studying white opioid use since World War I, Southern blacks at the time bore the primary stigma for an addiction that, even then, evidence showed was majority white.

An important part of the story is the Baumes Laws, short-lived and shockingly brutal statutes from the 1920s. A precursor to current three-strikes laws, the Baumes statutes sent those with four felony convictions

to prison for life, without the possibility of parole. Intended to catch big-time gangsters during Prohibition, the laws ended up ensnaring mostly petty criminals—almost all of them white. Within a few years, judges and prosecutors revolted; juries began refusing to convict. The former warden at Sing Sing Prison spoke out against the laws. Then-governor Franklin D. Roosevelt, A.B. 1904, LL.D. 1929, fought for and won their repeal on the eve of his presidential inauguration. “And so there was what I would call the first moment for the possibility of mass incarceration,” Muhammad says. “And the whole thing unravels, really quickly.”

The story he’s still investigating involves the middle decades of the twentieth century: “What happens in post-World War II America in these imagined utopias of white suburbs?” In cities and towns where the police blotter, like the population, is mostly white, he says, crime reporting doesn’t lead to moral panics and questions about broken culture. “If a critical mass of your white population is engaged in criminality, whether it is violence or nonviolence, drugs or non-drug-related, then the solution cannot be law enforcement as the blunt instrument of social control,” he says. “There’s a tipping point, where if this many white people are engaged in criminal activity, it can’t be them. It’s got to be something wrong in society. That’s what happened during Prohibition, and that’s what’s happening in the opioid crisis.”

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LAST OCTOBER, Muhammad sat down at HKS with Derek Black, a former white nationalist whose defection from the movement made news during the run-up to the 2016 presidential election. Black and Muhammad talked about the alt-right rally in Charlottesville, Black Lives Matter versus Blue Lives Matter, dog whistles, racial violence, failures in education, and the ideological conversion that began for Black in college. His father, Don Black, founded the website Stormfront, and at one point Derek Black warned the audience, “There’s nothing about white liberals that makes them immune to white supremacy”—an assertion that echoed Muhammad’s findings that both liberals and conservatives participated in casting blacks as criminals during the Progressive Era. Black marveled at how the white-nationalist talking points he once used to try to recruit newcomers had become mainstream political com-

mentary. “And the main part of that,” he said, “is ‘Black people are more criminal.’”

The conversation seemed to affect Muhammad deeply—in the days and weeks that followed he kept bringing it up in other forums. After the event ended that evening, he shook Black’s hand and walked back to his office in the falling dark, full of thoughts. He recalled something Black had said about the difficulty and discomfort of anti-racism work, how it cannot be passive or partial. In class, Muhammad was teaching a parallel idea, about the inadequacy of merely tinkering with racially unequal systems, and how history both demonstrates the need for deeper, more arduous change and opens the space that makes that change possible.

On stage, Muhammad had shared a story about a trip in 2015 to Germany, where incarceration and crime are both low. He was part of a delegation of U.S. prison commissioners, governors, reformers, scholars, and a former inmate, whose purpose was to gather lessons to help reshape the American prison system. The trip was organized by the Vera Institute, a criminal-justice reform organization, where Muhammad completed a two-year fellowship immediately after graduate school (and on whose board he now serves), and the group toured several German prisons. Sentences there are dramatically shorter, wardens are often trained psychologists, and the focus of imprisonment is on rehabilitation and re-socialization. Inmates often cook their own meals and wear their own clothes; furloughs allow them to spend time with family before they’re released. “It’s more professional in every way,” Muhammad told the HKS audience,



WILLIE ANDERSON/IVY DAILY NEWS VIA GETTY IMAGES



SPENCER PLATT/GETTY IMAGES

Police responses to the 1980s crack-cocaine epidemic (above), as opposed to the opioid crisis today, show the difference between black and white, Muhammad argues.

especially “in shielding from the politics of vengeance, which very much animate the United States.” And the rights of Germany’s incarcerated are guaranteed by a constitution that the United States helped write.

After the flight home, Muhammad was flagged in customs and sent for additional screening, unlike his colleagues, almost all of whom were white. When the customs agent asked why he’d been in Germany, Muhammad said he was there to study how and why the German prison system does a better job than the American at looking after its incarcerated population.

“I can tell you why,” the customs agent said. “They don’t have as many black people.” ▢

LydiaLyle Gibson profiled Tom Nichols in “The Mirage of Knowledge,” published in the March-April issue.

Montage

Art, books, diverse creations



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Tom Morello at a 2016 show in Inglewood, California

behind legendary hip-hop groups Cypress Hill and Public Enemy, respectively)—to propose a collaboration. Their previous projects were all expressly political; by performing those songs again, Morello hypothesized, perhaps they could alert audiences to the dangers they perceived in a possible Trump presidency. And so the all-star touring machine Prophets of Rage was born.

Morello doesn't identify with the president's particular brand of populism, but he does have a window into its appeal. He grew up in Libertyville, Illinois, a town near the Wisconsin border that he morosely describes as Trump Country. He remembers "feeling totally politically impotent in a small town where the options were trying out for the wrestling team or working at Dairy Queen—all while apartheid raged in South Africa and government death squads killed nuns in Central America." Music was "a tether," something that "made me feel like I wasn't alone in my worldview or in my small town." By the end of high school, Morello, then a self-described "Spandex-wearing metalhead," had developed both a love for the guitar

Rage, Reborn

The latest act of rock guitarist Tom Morello '86

by MAX SUECHTING

GUITARIST Tom Morello '86 was watching CNN one day in 2016 when a peculiar headline caught his eye: "Donald Trump Rages Against the Machine."

The chyron cheekily referenced Rage Against the Machine, the 1990s rock band whose pioneering synthesis of hip-hop's rhythmic lyricism and heavy metal's guitar-driven pyrotechnics Morello helped to define on Rage's airwaves-incinerating first

record in 1992. Morello was furious at the comparison drawn between the Republican candidate's pledge to "drain the swamp" and Rage's anti-authoritarian and socialist ideals. So, he says, "I did what any self-respecting pissed-off person would do: I wrote a snarky tweet about it."

Then he called some friends—his former Rage bandmates Brad Wilk (drums) and Tim Commerford (bass), as well as emcees B-Real and Chuck D (the vocalists

and what he describes as “a great revolutionary fervor” to raise awareness of distant social problems and arm people with both the desire and knowledge necessary to make change.

At Harvard, this passion led him to concentrate in social studies—an honors program that he didn’t initially realize required significant academic effort. Balancing schoolwork and mastering an instrument posed “serious time-management challenges.” He often wondered if he was “wasting my time in the stacks of Widener Library when I should be spreading the message, playing barrooms across Ohio.”

Gradually, however, this contradiction began to appear more like a harmony. Music, Morello felt, was a natural vehicle for the political ideas he was honing in class. As he devoted long hours to the guitar—polishing

At Harvard, Morello wondered if he was “wasting my time in the stacks of Widener Library when I should be spreading the message, playing barrooms across Ohio.”

his technique, gigging with cover bands, and beginning to write songs—academic work felt less like a distraction than “a way to arm myself intellectually.” Now, he chuckles at the memory of “practicing guitar for four hours a day in a stairwell, trying to read Max Weber at the same time.”

After graduating, Morello headed for Los Angeles, where he played in several bands and worked in the offices of U.S. senator Alan Cranston before forming Rage Against the Machine with Wilk, Commerford, and vocalist Zack de la Rocha in 1991. His adopted hometown has played a huge role in his work. Both *Rage* and *Prophets* are, by his account, “bands that could only happen in Los Angeles.... The music sounds like the city: there’s hip-hop, punk rock, hard rock—all of which are huge cultural components of Los Angeles’s music history. But you can also hear

O P E N B O O K

We Would Have Known

Facebook’s recent admission that tens of millions of users’ personal information had been repurposed for political ends dramatizes concerns about digital-era privacy. But long before the Internet, “privacy was the language of choice for addressing the ways that U.S. citizens were—progressively and, some would say, relentlessly—rendered knowable by virtue of living in a modern industrial society,” writes Sarah E. Igo ’91, in *The Known Citizen: A History of Privacy in Modern America* (Harvard, \$35). Igo, associate professor of history (and of political science and sociology and law) at Vanderbilt, uses all those disciplines in a sweeping overview that manages, fortuitously, to be especially timely and engagingly written, as the introduction, excerpted here, attests.



Sarah E. Igo

In a sardonic poem of 1940, composed just after his migration to the United States from Great Britain, W. H. Auden memorialized an “Unknown Citizen.” Written in the form of an epitaph for an “unknown” and yet all-too-knowable citizen, the poem offers a capsule biography of an unnamed individual from the point of view of the social agencies charged with tracking and ordering his affairs. The citizen...is identified by a string of code similar to a U.S. Social Security number...and his life amounts to a compendium of details gleaned by employers, hospitals, schools, psychologists, market researchers, insurers, journalists, and state bureaus. The poem’s final lines point simultaneously to the hubris and the limits of society’s knowledge of this man. “Was he free? Was he happy? The question is absurd: Had anything been wrong, we should certainly have heard.”

If seldom as eloquently as Auden, contemporary Americans raised similar questions about those who sought to know them, whether for the purpose of governance or profit, security or

convenience, social welfare, or scholarly research. Indeed, the proper threshold for “knowing” a citizen in a democratic, capitalist nation would become in the twentieth century one of Americans’ most enduring debates. How much should a society be able to glean about the lives of its own members, and how much of oneself should one willingly reveal? What aspects of a person were worth knowing—and to whom—and which parts were truly one’s own? Where and when could an individual’s privacy be guaranteed? As the century advanced, the

questions became more insistent. Were private spaces and thoughts, undiscovered by others, even possible under the conditions of modern life? What would an ever more knowing society mean for the people caught in its net—and for the individual liberties that Americans supposedly prized? To wit: Could known citizens be happy? Were they, in fact, free?

This book borrows the poet’s questions to pry open the contentious career of privacy in the modern United States.



W.H. Auden

LIBRARY OF CONGRESS

a class tension in the music, where you see Lamborghinis rolling by homeless encampments on Sunset Strip.”

Morello’s ability to channel that tension into his guitar work is a large part of what keeps Prophets of Rage from becoming, in his words, “a nostalgia act.” *Prophets of Rage*, the album of original material the band released last fall, sounds less like a truly new work than a synthesis of the members’ previous groups: Rage Against the Machine’s raw heavy-metal power; the contemplative melancholia of its successor, Audioslave (which Morello, Wilk, and Commerford formed in 2001 with Soundgarden singer Chris Cornell); Public Enemy’s machine-gun lyricism; Cypress Hill’s

dark, slinky funk. The songs mix hip-hop’s grooving tempos and syncopated backbeats with the simple harmonies and overdriven crunch of heavy metal, with Chuck D and B-Real delivering plenty of timely political observations (reflecting on LA’s homelessness epidemic, B-Real raps, “Living on the 110, four sharing one tent / Can’t afford no rent, forgotten by the government”). But although the album features somewhat less of Morello’s signature FX-driven experimentalism, his guitar is its strongest aesthetic anchor. The rhythmic swagger of “Strength in Numbers”—a paean to working-class solidarity—and the slithering, metallic anti-nationalist anthem “Who Owns Who” keep easy pace with his fiery performances

on older tracks like Rage’s “Vietnow” and Audioslave’s “Set it Off.”

The smile is almost audible in Morello’s voice as he happily reports that a large percentage of their audience is too young to have been original Rage fans; he is excited to be attracting and, he hopes, converting a new generation of listeners. But more broadly, he continues, he thinks of the album as addressed to...well, everyone. “I hope the album is a clarion call to those who know in their hearts that the world is not owned and run by people who deserve to be owning and running it—and that there is a better way, a different way, to achieve a more decent and humane planet. And if you take that to heart, you can be the David to any Goliath.”



Madelyn Ho during a playful moment in *Esplanade*, one of choreographer Paul Taylor’s most famous works, and (right) in his balletic *Mercuric Tidings*, set to music by Franz Schubert

entwined with one in medicine. After graduating with a degree in chemical and physical biology and a serious love of dance, she joined Paul Taylor’s smaller company, Taylor 2, right out of college. In 2012, having auditioned for the main company twice without success, and feeling she’d learned all she could, she moved back to Boston to start at Harvard Medical School (HMS). Three years in, while looking up PTDC’s performance dates, she spotted an audition notice. She decided she’d try out a third time.

“It was this sort of immediate gut reaction,” she said. Until that point, she’d figured she was done with dancing. But she couldn’t pass up the opportunity to audition, just to see what would happen. She thought the outcome would give her some closure—a final confirmation that her dance career was in fact behind her. “I just didn’t have any expectations,” she said, “and so I felt like I was able to, in some ways, be freer.”

Ho made the main company. She broke her lease and started dancing full time in the spring of 2015, squeezing her fourth-year medical requirements into her professional schedule. Her schedule changed by the day, but in general, time off from rehearsals meant a full day in a clinic or hospital as part of her rotations, or work on her research project about the history of dance medicine. Sometimes she skipped company class to spend the morning on rotation, then joined her fellow dancers at noon for a

Next Steps

A dancer’s dual life

by SAMANTHA MALDONADO

ON A Wednesday afternoon in April, members of the Paul Taylor Dance Company rehearsed *Esplanade* in their sunny, Lower East Side studio. Eight dancers leapt and crawled, paired up and drifted apart, and

walked, ran, and slid across the floor—pedestrian movements made elegant.

As the smallest dancer, barely skimming five feet, Madelyn Ho ’08 stood out among her taller counterparts. She wore a green leotard with purple legwarmers pulled up over her knees and an unwavering smile—a resting grin face—that she made disappear only with seeming effort during darker, moodier parts of the choreography. Her steps were precise yet energetic.

Ho also stands out in her company for another reason: her dance career has been



WHITNEY BROWNE

“Right now, I see the comings and goings as the natural progression of things. There’s that initial bittersweet moment, but then with change comes a new opportunity.”

sive, in which dancers are cast as humans, never swans—invites her to engage emotionally, based on her personal experiences. Her interpretations of *Esplanade* in particular change constantly. “Right now, I see the comings and goings as the natural progression of things,” she said. “There’s that initial bittersweet moment, but then with change comes a new opportunity.”

That also reflects her stance in anticipation of her May graduation from HMS (see page 20). For now, Ho intends to continue her career with PTDC, holding off on taking up her medical residency for the foresee-

able future. Eventually, she wants to pursue dance medicine, an interest sparked by her recognition of the unique demands dance places on the body and her experience of suffering a dance injury as an undergraduate. In the meantime, she’s figuring out how to continue studying medicine outside medical school—perhaps by spending more time at the Harkness Center for Dance Injuries at NYU Langone Medical Center, where she completed a clinical rotation earlier this year.

“I’m at a place right now where I’m really growing and happy where I am dancing,” she said. “I’ll see where it takes me.”

five-hour rehearsal: running through pieces, learning repertory from videos, or creating new work with an outside choreographer. Then Ho would complete a kettlebell workout—“I call them ‘my moves!’”—as part of her cross-training. On the commute to her Upper East Side apartment, she’d start her homework: reviewing her choreography and reading medical articles to answer questions from the previous day’s clinical round and in preparation for the next one.

Finding the balance has been taxing, but the pursuits have been complementary. “The body is our instrument, and medicine is just understanding the body better,” said Andy LeBeau, the assistant artistic director at Taylor. “Madelyn’s become very vital to a lot of the dancers. Her nickname’s Dr. Ho, and everybody asks her questions.”

Ho’s willingness to chart her path by following her passions mimics how she’s developed as a performer. She trained as a ballerina throughout high school; when she first started as a modern dancer in college, she focused on nailing the technical movements. This tendency carried over to Taylor 2, where LeBeau noticed her determination to be perfect and worried that she might have trouble finding the artistry in the movements, or allowing herself to have fun. Now he sometimes jokes with Ho during the more intense moments of practice that it’s dance, not brain surgery. “She’s grown intelligent enough to realize that it’s about the intention,” he said. “It’s not about the actual step, and that step can change as long as the intention maintains its integrity.”

Ho has embraced the way Taylor’s choreography—at once athletic and expres-

Not “Mickey Mousing”

The rigors of accompanying silent films

by SOPHIA NGUYEN

A HUNDRED YEARS AGO, a night at the movies meant live music. Even low-end joints had at least a violinist and pianist; grander establishments employed 50-piece orchestras (some of which, by the 1920s, were replaced by massive Wurlitzer organs that supplied surround-sound audio with less manpower). These days, most theaters up-sell their couch-coddled viewers with whiz-bang visuals (IMAX and 3-D)

Robert Humphreville, a frequent Harvard Film Archive accompanist, says he’s mostly asked to play comedies, especially from “the big three”: Charlie Chaplin, Harold Lloyd, and Buster Keaton. (A scene from Keaton’s *Sherlock Jr.* appears over his shoulder.)

and amenities fit for imperial Romans (dinner delivered to XXL reclining seats). Sound seems like nothing special.

But decades after the talkie invasion



Off the Shelf

Recent books with Harvard connections

Summer brings thoughts of seashores and sailing. For landlubbers, some beach reading. **Barons of the Sea**, by Steven Ujifusa '01 (Simon & Schuster, \$29.99), chronicles an age of technological innovation, sharp competition, and the rise of new fortunes: the nineteenth-century scrum to build and deploy the fastest clipper ships for the (you guessed it) China trade. In **A World of Empires: The Russian Voyage of the Frigate Pallada**, by Edyta M. Bojanowska, Ph.D. '02 (Harvard, \$35), a Yale professor of Slavic languages and literatures harvests a novelistic account of the Russian mission, hard on the heels of Commodore Matthew Perry, to open trade with Japan, vividly illuminating a world of commerce half way around the world from Ujifusa's barons.

With statecraft and statesmanship currently in short supply, biographies can be a useful reminder of what's missing. **Zbigniew Brzezinski: America's Grand Strategist**, by Justin Vaïsse (Harvard, \$35), accounts for the life and work of the late national security adviser, Ph.D. '53 (an immigrant who did rather well), who engaged with all the major issues from the Cold War and the Middle East through the rise of China. From a different era, **The Reformer**, by Stephen F. Williams, J.D. '61 (Encounter Books, \$29.99), brings back the struggle

of Vasily Maklakov, a lawyer and Duma member, who tried to effect liberal reforms as authoritarians of the right and left (tsarists and Leninists) set Russia's course in the early twentieth century. The author, on the U.S. Court of Appeals for the D.C.

Circuit, is well placed to appreciate the rule of law.

Calculated Values: Finance, Politics, and the Quantitative Age, by William Deringer '06 (Harvard, \$45). "We live in a quantitative age," writes the author, an historian of science perched at MIT—you know, if it can be counted, it counts. But how did this come to be so? Digging into the England of the late 1600s and early 1700s, he reveals the sharp political calculations, alongside advances in natural history and finance, that changed the vocabulary of public, and other, discourse.

Moving toward Integration: The Past and Future of Fair Housing, by Richard H. Sander '78, Yana A. Kucheva, and Jonathan M. Zasloff, Ph.D. '00 (Harvard, \$39.95). Why the vast inequality between American whites and blacks? "There are many small answers," three scholars write, "but we believe there is one giant answer: housing segregation." Melding economics, law, sociology, and history, the authors (including Sander, a critic of affirmative action in university admissions) probe the persistence of residential segregation a half-century after the Civil Rights Act of 1968 made "fair housing" national policy. Diving deep into the data, they believe even the most highly segregated metropolitan areas can be made less so, and "more easily than most observers might imagine."

Brown (Knopf, \$27), the eleventh poetry collection by Kevin Young '92, interleaves reference-rich tributes to the Harlem Globetrotters and Trayvon Martin with tender lines about his young son. In **Wade in the Water** (Graywolf, \$24), fellow Dark Room Collective member Tracy K. Smith '94 surveys America's sins with piercing clarity, from the historical (borrowing text from Civil War documents) to the contemporary: "Everyone I knew was living/The same desolate luxury,/Each ashamed of the same things:/Innocence and privacy."

Rebel Talent, by Francesca Gino, Tandon Family professor of business administration (Dey Street/Morrow, \$27.99), makes the case for those who "break the rules at work and in life." In other words, there is a scholarly basis for being disruptive (within bounds!) to effect change in organizations. Lest those who think rebelling is all fun and games celebrate, the chapter on "Becoming a Rebel Leader" suggests a weightier fate. A more sober take on a related subject is **How Change Happens: Why Some Social Movements Succeed While Others Don't**, by Leslie R. Crutchfield '91, M.B.A. '01 (Wiley, \$30), now at Georgetown's business school. She studies movements from marriage equity to gun-rights expansion to tease out the changes in social attitudes, grass-roots organizing, and other elements essential to effecting change.

The second novel by professor of the practice of literary criticism and *New Yorker* book critic James Wood follows a family of Anglo intellectuals **Upstate** (Farrar, Straus and Giroux, \$26), to check in on a depressed adult daughter. In alert and halting prose, Wood channels the Querrys' loving anxiety—and also the paper-thin tranquility of their surroundings: Saratoga Springs in late winter, and America in pre-recession 2007, with a young Senator Barack Obama on the rise.

When sail was swift. Left: Pallada in Nagasaki (1854; no artist given), from A World of Empires. Right: Clipper Ship American Eagle (1856; oil on canvas), by G. Dell



PAUL FERNALD/ALAMY STOCK PHOTO

BRIDGEMAN IMAGES

WOLTER LASKI/GETTY IMAGES



The Chernobyl nuclear power plant a few weeks after the disaster. In many respects, the fallout lingers.

Chernobyl: The History of a Nuclear Catastrophe, by Serhii Plokhii, Hrushevs'kyi professor of Ukrainian history (Basic, \$32). An accessible account of the disaster (one of many, from before World War II through the present tense military skirmishes) visited on Ukraine. The author, who was a student there at the time, weaves together personal stories, the Communist institutional context, and the fallout, literal and metaphorical, from April 26, 1986.

Unequal and Unrepresented: Political Inequality and the People's Voice in the New Gilded Age, by Kay Lehman Schlozman, Henry E. Brady, and Sidney Verba, Pforzheimer University Professor emeritus (Princeton, \$29.95). Prompted by a chance observation that the Hearst Castle in San Simeon dated from one Gilded Era, and the recent ex-crescence of megamansions from a new, continuing one, the authors joined forces anew to build upon their two prior landmark books on the direct connections between income and wealth disparities and rising inequalities in political voice (driven, of course, by rich people's application of their wealth to the conduct of the public's business).

If writing, rather than reading, is your summer thing, **Chance Particulars**, by Sara Mansfield Taber, Ed.D. '87 (Johns Hopkins, \$19.95 paper), is a "writer's field notebook" to guide and structure your observations before you get back inside, to the drudgery of drafting and revising.

and the mass die-off of silent movies, there are niches where the art of film accompaniment survives. In the Boston area, for example, these movies are shown at university art-houses like the Harvard Film Archive (HFA), or in special screenings at independent theaters. But they're also shown in retirement homes and town halls and other unexpected corners: for customers at the Aeronaut Brewing Company, silent films

are served alongside IPAs as a hipster novelty; for members of the New England Vintage Society, watching a Harold Lloyd classic after their annual Jazz Age ball, they're a portal to a more graceful era. The silent-movie scene is a surprisingly diverse ecosystem, and its members aren't shy about approaching the accompanist afterward to say the music was too loud, or off-cue, or contained an anachronistic melody.

Martin Marks '71, Ph.D. '90, might have had this in mind when, at the HFA last summer, he introduced his piano performance for Ernst Lubitsch's *The Young Prince in Old Heidelberg* with an apology. The first half of his score had been carefully prepared, he said: "The second half is *molto improvviso*, and hopefully there are not too many disasters of forgetting what's coming up next."

Marks's painstaking approach is an outgrowth of his scholarship: now a musicologist at MIT who has published widely on film music and contributed to DVD anthologies of classic movies, he started accompanying film while in graduate school, when the HFA's first curator asked him to supply music for Lubitsch's *Lady Windemere's Fan*. Marks likes to pair a film with its original score whenever possible. But at other times, much like the theater musicians of yore, he draws from his extensive repertoire of "incidental music" (short pieces whose titles range from "Andante Agitato, Number 23" to "At the Rodeo"), filling in a "cue sheet" of scenes and music that guides him through the film.

Robert Humphreville '80, also a regular HFA accompanist (and a professional freelance pianist, organist, composer, and conductor), does comparatively little prep. For his own Lubitsch performance, *The Oyster Princess*, he watched a screener, taking notes about the plot and finding period-appropriate melodies for the fox-

trot scene in the middle, something peppy. He landed on a mix of "Ain't She Sweet" and "Hello, My Baby." "It was very 1920s," he muses in retrospect. "Almost a Charleston." In terms of hours worked, these performances are "wonderful distractions," he says. (Such gigs pay between \$250 and \$350.) Even then, he plays so many that he doesn't get attached to any particular film: "I don't develop a real fondness. They sort of come and go pretty fast." Still he, too, is strict about being historically correct. "Nothing—to me at least—is more distracting than somebody who all of a sudden takes some, you know, Beatles theme and sticks it into a silent movie."

Jeff Rapsis takes an entirely different approach to his accompaniments at the HFA and elsewhere: rather than the traditional piano, he usually plays a "just barely por-



COURTESY OF MARTIN MARKS

When he started graduate school, Martin Marks thought he would study Beethoven or Schubert ("my first loves in classical music"), but quickly got hooked on silent-film scores.

table" 75-pound synthesizer. He likes having more sonic tools within reach. With a delicate chime of bells or a deep, thrumming bass, a film "can be such an event," he says. "You can feel what's happening." At the same time, he tries to avoid being too illustrative or onomatopoeic. "If you do it too much, it's called 'Mickey-Mousing,'" he says, "It's considered bad form for an accompanist just to do that. But a little of



When performing, Jeff Rapsis generally prefers to play his synthesizer (on the “world music setting”), though he’s recently gained facility with theater organs.

the mind off the action and timing. “The scene changes suddenly—you have to be ready for that,” he says. “You also have to know when the movie starts and the movie ends. If you don’t know when that will be, you can get caught flat-footed.” Rapsis jokingly

CHERYL SENTER

it is really important.”

If interpretation is an art, playing for a film’s entire running time is an endurance sport. Humphreville reports that after a particularly long film, he feels the strain less in the fingers than in the neck, which gets sore from being craned toward the screen. “The last thing you want to do when you’re playing is look at the clock,” he cautions: it takes

ly compares the experience to flying a plane. “You can’t start thinking about the noise of the engine and where you are in relation to the ground. You have to stay in that zone until you come in for the landing.” When “The End” flashes on the screen, “I can finally taxi to the gate and take a break.”

Silent motion pictures can look baffling today. They seem to operate with an entire-

ly different syntax of gesture and facial expression, antic physicality and sly suggestion. The jumps from scenes to intertitles, and the lack of synced, continuous dialogue, require viewers to exert their imaginations differently. Musical accompaniment, says Rapsis, can help viewers “read” these films. Still, he believes that people intuitively take to Buster Keaton’s melancholic humor, or the almost operatic “Love with a capital L” emotions of silent melodramas. The audience isn’t aging out, in his view: “If anything, it’s getting younger.” (And as *New York Times* writer Amanda Hess has pointed out, today’s audience is continually awash in silent short films—in the form of the GIFs and memes eddying on the Internet.)

Marks advocates for silent film as a distinct art form: with it, “You can create an emotional depth and a rhythmic depth, and a feeling of life, really, and a sense of movement, a sense of time passing.” His music does not aim to *translate* that feeling for viewers; he wants to *transport* them. “Some scores tell you, you are here,” he says. “But others tell you, you are there. They try to put you back there in that world.”

Cold Comforts

Returning to Russia in A Terrible Country

by MAGGIE DOHERTY

PERUSING SOCIAL MEDIA in recent months, you get the sense that Russia once again looms as America’s great antagonist. Russians are meddling in our election and colluding with our president. The KGB is stealing our private data and spreading “fake news.” Anyone who says something controversial on social media can scapegoat a Russian bot. The Cold War is back, this time as farce: rather than a global contest between workers and capitalists, there are oligarchs and thugs on all sides.

In this moment of high-pitched, heated commentary, *A Terrible Country*, Keith Gessen’s second novel, arrives like a cold, welcome wind. Gessen ’97 packs his book with observations about contemporary Russian life. The liberal radio station, Echo, criticizes Putin freely; the trains still run every two minutes, but they are horribly overcrowded;

only older cars, usually driven by Chechen men, pick up passengers on the street.

But *A Terrible Country* is less a travelogue, or a guide to post-Soviet Russia, than it is a novel about life under neoliberalism—a political ideology that dictates that the market, not the state, rules the citizenry. Under neoliberalism, citizens identify primarily as consumers, and competition—for housing, healthcare, employment, even for affection and care—becomes a feature of daily life. Neoliberalism manifests differently in different countries, and Gessen takes care to describe the forms of political and economic oppression specific to the novel’s setting. Nevertheless, to an American reader, life in Putin’s Russia looks more familiar than she might expect.

To show the continuity between these former Cold War enemies, Gessen deploys an ideal narrator: Andrei Kaplan, a Rus-

sian-born American academic, who observes Moscow with a useful combination of knowledge and naïveté. Preparing for his trip, Andrei expects to encounter a country in turmoil. “I had half expected to be arrested at the airport! I thought I’d be robbed on the train.” But when he arrives, he is struck by how copacetic he finds the country, and by how much has changed since he visited as a college student in the late nineties. Russia “had become rich,” he muses. “Looking out the window, it was hard to square all the talk of bloody dictatorship with all the people in expensive suits, getting into Audis, talking on their cell phones. ...For me—and not just for me, I think—Soviet oppression and Soviet poverty had always been inextricably intertwined.” But laissez-faire economics don’t benefit everyone. *A Terrible Country* aims to show how oppression and luxury coexist.

GESSEN, who immigrated to America with his family in 1981, when he was six, has written elsewhere about the country of his birth. A founding editor of the leftist liter-

A Terrible Country,
by Keith Gessen ’97
(Viking, \$26)

ary magazine *n+1* (and the younger brother of activist and journalist Masha Gessen), he has written frequently in its pages about Russian literature and politics. In his journalism, Gessen follows the Marxist theorist Fredric Jameson's dictum: "Everything in the last analysis is political." "Moscow, August 2013," an autobiographical essay, describes protest under Putin; even an essay about Moscow's infamously bad traffic, for a 2010 issue of *The New Yorker*, contains a critique of capitalism.

Such political analysis is trickier to accomplish in fiction. Some writers stage debates in their fiction; others write satire, and still others produce novels of ideas. Gessen tries to make politics a primary concern of his characters. In his 2008 novel, *All the Sad Young Literary Men*, politics most often served as material for a character's creative or intellectual work. One protagonist is more interested in dating than in finishing his dissertation about the Russian Revolution. Another plans to write a "great Zionist epic," but cares more about the number of hits his name gets on Google than about the history of Israeli-Palestinian conflict.

In his second novel, Gessen takes politics more seriously. *A Terrible Country* is a more mature work, written in pared-down prose noticeably different from the headlong style of the first novel. The sentences are simple and direct, as if subordinate clauses were the stuff of youth. The book is funny, but darkly so—many of the best jokes are about the protagonist's disappointment in himself and in others. If that earlier work sometimes presented political consciousness as simply part of one's personal style, this novel describes what it means to live politically, with all the excitement and hazard that accompany such a life.

A TERRIBLE COUNTRY opens in the summer of 2008, just a few months shy of the global financial crisis. A scholar of Russian literature and history, Andrei has failed to find a tenure-track position and has been reduced to teaching online sections for a New York university's "paid massive online

open course," or PMOOC. It's a dismal job, and he can no longer afford New York City. When his older brother, Dima, offers him the chance to move to Moscow and tend to their 89-year-old grandmother, Andrei jumps at it. Baba Seva, a Ukrainian-born Jewish woman who became a lecturer at Moscow State, lives in a centrally located apartment, gifted to her by none other than Stalin himself. Andrei plans to interview his grandmother about all she has witnessed in her long, difficult life—the war, the purges, the rise of Stalin and the fall of communism—and shape an academic article out of her remembrances. Drunk at a farewell party, he contemplates the "glamor that might attend spending time in an increasingly violent and dictatorial Russia."

But his life there is decidedly unglamorous. The apartment is old and small; the sheets are scratchy; the plumbing fails. Baba Seva's memory is going; she can barely re-

and useless here as he did back in New York. He spends his days in the only coffee shop he can afford, downloading student emails and blog posts, and his nights trying to find a pickup hockey game (the sport features often in the novel) and failing to make friends. His life in Moscow changes, and the pace of the novel picks up, when two fortuitous events coincide: he finds a game and he meets a girl. Hockey helps him assimilate and teaches him to curse liberally, like a Russian. Yulia, a girl with big eyes and bad teeth, helps him become politically conscious. She invites Andrei to speak at a public discussion about neoliberalism in higher education where, to his surprise, a hockey teammate is also speaking. Sergei—who is also an underemployed academic—proceeds to offer an incisive account of how the "dictatorship of the market" has replaced the dictatorship of Stalin. Andrei is stunned, not only



member who Andrei is, let alone provide an oral history. She is preoccupied with her dead friends, her dead daughter (Andrei's mother), and her lack of a dacha. Though Andrei is stunned by the wealth he sees all around him, Baba Seva barely registers it. She instead asks Andrei repeatedly why he has come to this "terrible country."

It's a good question: Andrei feels as poor

by what his teammate knows but also by how he came to know it. "You didn't have to go and read a thousand books," Andrei thinks. "You just had to stay where you were and look around."

Inspired, Andrei joins Sergei and Yulia's socialist organizing group, October. The activists protest against fascism and collectively read Marx. They even organize a

demonstration to prevent the sale of Baba Seva's apartment. Andrei's resulting political revelations are simple but potent: "Cute cafés were not the problem, but they were also not, as I'd once apparently thought, the opposite of the problem. Money was the problem....Private property, possessions, the fact that some people had to suffer so that others could live lives of leisure: that was the problem. And that there were intellectual arguments ardently justifying this—that was a bigger problem still."

Money is a problem, especially in Gessen's fiction. Reading it, you learn exactly how much any commodity costs at a particular moment, whether it's a car ride, a drink on a date, or a cup of coffee. This fixation with money is personal as well as political: Gessen has written openly about the financial challenges he faces as a writer, and in his reflections on teaching undergraduate fiction writers, he has noted, only half-jokingly, that some students fail to imagine how their characters could sur-

The sad young literary men (and women) in *A Terrible Country* don't study Marx, or deliver lectures on neoliberalism, simply to show off for love interests or to earn fame.

vive financially. The members of October are also acutely aware of how much everything costs. They come from families who are "barely hanging on" in capitalist Russia. They are precariously employed and can't afford to live without roommates.

This doesn't mean their present lives are all struggle and disappointment. To the contrary, when Andrei begins dating Yulia, he discovers a new Moscow, one full of affordable cafés, bookstores, critical theory, and romantic intimacy. "It was the Moscow I had once hoped existed but couldn't find," he remarks. "Now here it was." Gessen's achievement is to show, with warmth and humor, how a person's political awakening expands his entire world.

THE SAD YOUNG literary men (and women) in *A Terrible Country* don't study Marx, or deliver lectures on neoliberalism, simply to show off for love interests or to earn fame. (That said, impressing women, or men, is not a bad reason to start organizing—many an activist biography begins with a crush.) They demonstrate true political commitment: several of the characters go to prison for resisting Putin's regime. Gessen also understands how personal affection sustains and informs this commitment. He portrays the relationships within October as of a piece with the group's organizing, rather than as peripheral to it. The novel assumes that political solidarity is, at its base, simply caring deeply for other people, those you know intimately and those you don't.

And so, all at once, Andrei falls in love with a woman, a country, and a political cause. But Gessen, unlike Andrei, is no naïf. No political revolution has ever come about easily, or without great personal sacrifice. Andrei makes a miscalculation at a protest that has drastic consequences for his friends. Shortly afterward, a job at Columbia University and a subsidized apartment in New York magically materialize. (The novel's representation of academic life occasionally beggars belief.) Now benefiting from the same job market that nearly destroyed him, he writes op-eds on behalf of Russia's political dissidents and delivers public lectures while his friends suffer in labor colonies.

One can hardly fault Andrei for choosing a comfortable life in New York over a difficult life in Moscow. And yet, like Andrei himself, one is left with admiration for uncompromising activists who live their politics and suffer as they do so. *A Terrible Country* is not exactly a hopeful book about political protest, but neither it is a fatalistic one. Instead, it suggests what resistance might mean, not as a slogan, but as a life. ▢

Maggie Doherty, Ph.D. '15, teaches in the Expository Writing Program at Harvard. Her first book, *The Equivalents*, will be published by Knopf.

Chapter & Verse

Correspondence on not-so-famous lost words

Sarah Jaquay recalls her parents joking about a quip made during the lengthy negotiations in Paris to end the Vietnam War. The delegates quibbled about everything from the shape of the table to the refreshments, and a humorist suggested that if the talks were being held in Akron (or some other Ohio city), the war would end quickly. ("Perhaps a savvy diplomat remembered this quote," she adds, "because the Dayton Accords—negotiated at Wright-Patterson Air Force Base—ended the war in Bosnia much more expeditiously.") She asks if anyone can identify the humorist (possibly Art Buchwald), and specify what was said.

Ken Agran seeks the source of "She burned too bright [or "brightly"] for this world." Online searches suggest Emily Brontë's *Wuthering Heights*—the sentence, he reports, is sometimes linked to another, "She was a wild, wicked slip of a girl..." from that novel's fifth chapter—but a keyword search fails to find the

"burned too bright..." description anywhere in the full text.

Le Corbusier on "democracy" (May-June). Dan Rosenberg cites "Corbu," a Sky Line article by Brendan Gill in the May 9, 1988, *New Yorker*, that includes "an extremely (perhaps implausibly) long quotation" from the architect and occasional Corbusier collaborator Max Abramovitz ending: "In so many ways, Corbu was all but impossible to deal with, but at least he had a sense of humor. I remember his saying to me once, in French, 'Ah, yes, democracy is a fine thing as long as you have a dictator at the top!'" Rosenberg adds, "But we should keep in mind that in the segue from 'sense of humor,' Abramovitz was signaling that Corbusier might have said this at least partly tongue-in-cheek."

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

Amory, Francis, Sandi, and Alex Blake pause briefly for a family portrait, while their herd of Red Angus cattle grazes (below) with the Crazy Mountains as a distant backdrop.



ALUMNI

A Family Farm

Working a cattle ranch and tree nursery in Big Sky country

by NELL PORTER BROWN

THREE WEEKS before calving season at Keewaydin Ranch, two ranch hands yell and swat at the cows—"Hey! C'mon. Git. Git in there!"—ushering them out of a corral and into a squeeze shoot. The metal compartment holds the 1,200-pound creatures still enough for Alex Blake '96 and his father, Francis Blake '61, to inject a vaccination and mineral supplement.

"They just don't naturally like going into confined spaces, even though they've all been through here before," says Alex, as one red Angus mother-to-be moos and grunts and kicks the bars, making a clanging racket.

"But," adds Francis, refilling the syringes, "it's never very pleasant."

Alex pats the cow's auburn coat and pulls the lever to set her free. She trots past the wooden fence toward the pasture on the far side of the barn, where lush grass grows.

The work is slow. Already, the men have been out for hours under darkening clouds moving east from the snow-capped Crazy Mountains, and have injected only about

half the 110 cows. "Rain's coming in," Francis says. "Hope it doesn't come while we're trying to get this done."

The livestock's health, and the weather, are constant worries at the 5,000-acre ranch, where Francis has been handling cows since he and his wife, Sandi, moved out from Boston in 1973. Alex was a month old and his brother Peter '93 a toddler when the family settled on a dilapidated ranching homestead, seeking what Francis calls a life "connected to the land."

Their spread is six miles from Big Timber, Montana, a town of 1,700 residents. It lies in the valley between Billings and Bozeman, within a 90-minute drive from the

northern entrance to Yellowstone National Park. On a clear day, there's a 50-mile panoramic view from the Blakes' yard across prairie- and rangelands, from the ultra-craggy "Crazies" to the Absaroka and Beartooth Mountains.

"It was a patch of dirt when we arrived," Francis recalls. "An unbelievable mess." A few cottonwoods and willows lent scant shade; the surrounding grounds and riparian zones on Otter Creek, about 75 yards from the house, had been denuded by grazing cattle. Rusting wrecked cars lay about, although several had been put to use supporting a bridge over the creek and fortifying its banks against flooding.

"I had absolutely no idea what we were getting into," Sandi allows, while walking a visitor toward the tree and shrub nursery that the couple started in 1977 for essential income to buffer the cyclicalities of cattle ranching. "And I don't think he did, either."

The winters are brutal. Snow and ice coat the landscape; temperatures easily dip to 20 below. The winds can whip up to 50 miles per hour across the prairie, and typically hold steady at 35 mph through January. Not a place "for the feeble of mind or body," she continues—"and you'd better find something you love to do inside. Here, it's really about being self-sufficient and happy within your own being. People who don't have those inner resources will probably spend a lot of



Photographs by Lynn Donaldson



Sandi and Amory Blake focus primarily on the family's nursery business, which includes retail sales (left) and an orchard (below) along Otter Creek.

time watching TV, and wishing they were somewhere else.”

Big Timber was strictly a ranching community in the 1970s, and that is still a way of life for many, including other Harvardians in the area, such as Horatio Burns ’53 (father of Olympic rower Lindsay Burns Barbier ’87) and Jason Smith ’15, who manages his family’s Twin Forks Ranch. The town is still thriving by rural Montana standards, but today the local economy is also tied to a platinum mine and recreational tourism. Bozeman, a 75-minute drive, has become a booming tech hub: the downtown is packed with restaurants and boutiques, the airport has expanded, and real-estate development contributes to sprawl.

“The wind keeps us from becoming another Bozeman,” Alex sounds relieved to report while talking over tea at his parents’ ranch house. Big Timber itself offers Lucky Lil’s Casino, bars, a bakery, a movie theater, and the restored Grand Hotel, along with taxidermists and tackle shops. “Many people think we’re isolated, but we’re not,” adds Alex. “We’re as connected as we want to be.”

After Harvard, where he studied economics and rowed varsity heavyweight crew (and captained senior year), Alex worked on family farms in Kenya, served four years in the U.S. Marines, seeing combat as an artillery officer in Iraq, and then earned an agricultural economics degree at Texas A&M. He returned to Montana in 2006 to manage operations at a natural-beef company before rejoining his family’s ventures and working for Western Sustainability Exchange, a nonprofit conservation organization focused on improving farming and ranching production practices.

His time abroad and on the East Coast offered “cultural diversity, broader global perspectives, and a better appreciation for my family’s roots,” he says, but they also reinforced his desire to return to rural, small-town life. He and his wife, Abby Nelson,

live in an off-the-grid house he built bordering the nursery’s tree-growing zone. She is a state wildlife biologist and wolf

specialist; during the spring denning season she tracked them, sneaking into the trees. “I howl, and if they howl back, that’s usually confirmation they’re there with their pups.”

Alex shares that closeness to animals, and to “the natural beauty of the place I get to call home.” He, Peter, and Amory ’98 grew up working on the ranch and landscape crews, as well as playing ice hockey on the frozen, spring-fed slough, and tubing on the creek, before heading to New England boarding schools and then Harvard. Peter, who spent 20 years in the Marine Corps as a Harrier jet pilot, then as a squadron commander, retired as a lieutenant colonel and now directs training and support at Aeryon Defense USA, in Denver. But Amory also returned to Montana and, with a degree in horticulture from Montana State University, works closely with Sandi at Blake Nursery. In addition to landscape build-and-design services, the nursery specializes in hardy specimens, from native birch and alders to drought- and deer-resistant grasses and perennials, and plants that provide windscreens and shade on hot prairies—and attract “butterflies, birds, bees, and other critters we depend on for a healthy earth,” says Sandi. “There’s deep satisfaction derived from contributing to the well-being of the environment, including the fact we’re helping Montana continue to look like Montana—instead of Anywhere, U.S.A.”

Skillsets aside, all four Blakes do what’s required for both the ranch and nursery. Knotty dynamics arise, as in any famil-

ial enterprise, yet Alex and Amory never felt pressured to return home, and are eager to apply their “next generation” knowledge to stewarding the land. The businesses are profitable enough for the family to live comfortably, but far from lavishly. “You want to survive, but the business is far from only about making money,” Francis says, speaking for everyone. “Today it seems it’s so important to people to make a large amount of money, yet, how much satisfaction do you really get out of that? I think we all get satisfaction out of working with living things, animals and trees, and how you can see wonderful results through your own physical, hard work.”

At 78, Francis doesn’t sit still for long. He’s racked up more than 13,000 miles on indoor rowing machines, like the one in his study (where his Harvard diploma and an etching of rowers on the Charles River hang; he rowed varsity lightweight); he also founded the Harvard Club of Montana and in 2005 received the College admissions office’s Hiram Hunn Award for his decades of schools and scholarships committee work across the state. A seasoned runner, he’s registered, with Amory, for the Devil’s Backbone, a 50-mile relay race in the Gallatin Mountain Range in July.

Over tea, talk turns to the agricultural industry’s chronic lack of reliable laborers. The Blakes feel lucky to employ a Mexican and two Peruvians—one, now an Ameri-



can citizen, has worked at Keewaydin for 16 years—and five Montanans for the nursery season. Alex cites a local irrigation company that offers high pay, yet can't lure applicants, even though there are able-bodied people around in need of jobs. "But they don't want to work—or they don't want to do that kind of work," he says. They apparently prefer service-industry jobs, or sitting at a computer screen eight hours a day. "I know," Francis pipes in, fresh from a gym workout. "My God, I couldn't stand that for long."

GROWING UP in the then semi-rural Boston suburbs of Weston and Dover in a family whose Harvard roots date to the 1700s, Francis always liked working outdoors and on his grandparents' dairy farms. His multi-talented great-grandfather, also named Francis Blake, was a scientist, inventor, and pioneering photographer. In the late 1800s he invented a carbon microphone, the Blake Transmitter, which made the telephone a viable instrument and became standard equipment for Bell Telephone. He also created the Keewaydin Estate in Weston, a Victorian home and gardens. "I had many good times there," Francis adds. But after much of the land was taken for part of the Mass Pike and the Weston tolls interchange, his father and his siblings sold the place, and it was torn down.

Francis bucked his family's traditional naval service to join the marines after Harvard, then worked briefly in finance in New York City, where he and Sandi, a reporter for *Life* magazine, married. He, more than she, craved rural life, and they moved to the English Cotswolds: he earned a certificate from Royal Agricultural College, and worked on a diversified farm, while she honed gardening skills, and bore Peter. Returning to the United States, they touched down for Alex to be born in Boston, then headed to Big Timber, where they could afford to buy land and a small herd. They fixed up the house enough to live in, carted away the junked vehicles, and Francis fenced off the creek, funneling the cows to water gaps instead, to help restore riparian growth. They also began naturally enriching the topsoil there and in abutting pastures (they avoid synthetic fertilizers and use only minimal herbicides), and have, over the decades, planted at least a hundred trees and shrubs, along with countless other native plants and grasses. The creek banks are now a verdant habitat for herons and migrating pelicans, beavers, and sometimes otters.

Centennial Medalists

THE GRADUATE SCHOOL of Arts and Sciences' Centennial Medal, first awarded in 1989 on the occasion of the school's hundredth anniversary, honors alumni who have made contributions to society that emerged from their graduate studies. It is the highest honor GSAS bestows, and awardees include some of Harvard's most accomplished alumni. The 2018 recipients, announced at a ceremony on May 23, are: Beth Adelson, A.M. '81, Ph.D. '83, a cognitive scientist; Guido Goldman, '59, Ph.D. '70, founding director of Harvard's Center for European Studies; Harold Luft '68, Ph.D. '73, an expert in healthcare economics and policy; and Choon Fong Shih, S.M. '70, Ph.D. '73, an applied mathematician who specializes in fracture mechanics. For more about the honorands, see harvardmag.com/centennial-18.



Graduate School of Arts and Sciences honorands (from left) Choon Fong Shih, Harold Luft, Beth Adelson, and Guido Goldman

The Blakes have always sought to employ simple, sustainable practices, including low-mechanized operations and solar power. One key move, made soon after Alex returned, was to calve not, per tradition, in February and March, but in May and June, when pregnant cows can feed on spring grass instead of expensive winterfeed that adds to their carbon footprint. The off-cycle practice also generates more profit: the calves typically go on sale in January, when fewer animals are available to meet the demands of the winter or early spring commodities market.

Versed in data and debate over the environmental effects of cattle ranching and beef production, Alex recognizes that it's difficult for many ranch operations to make overnight management changes that might mitigate those impacts. "How we adjust to climate change—potentially wetter, and almost certainly warmer in our region—has become an issue of huge interest for many

farmers and ranchers," he explains. "For us, this means reevaluating the utilization of our grass and water resources and ultimately how we design our seasonal grazing model." They have transitioned from an early focus on cattle genetics to managing their forage base, and now seek to manage more of what happens below the soil surface, including microbial activity, water filtration and retention capacity, nutrient availability, and erosion resistance. But Alex is clear that they "disagree with the idea that all beef production is detrimental to the environment. There is plenty of solid evidence that, under good management, livestock can actually be a really great tool for restoring and improving rangelands. In so doing, ranchers can build soil carbon through sequestration and potentially be a significant contribu-



Visit harvardmag.com to view additional photos of the ranch and nursery.

tor in slowing or reversing the impacts of human-caused climate change.”

The Blakes have also instituted shorter-duration, higher-intensity grazing, letting the cows’ hooves and manure do much of the work of tilling and fertilizing the earth. They’ve reduced their use of fossil fuels by eliminating hay production; are developing a new, more effective digital mapping range-monitoring system; and are participating in a pilot carbon-sequestration project. Alex adds that among ranchers he knows and has met through Western Sustainability Exchange, “Members of our generation are

getting excited about new practices, attending trainings and workshops, asking neighbors about what they are trying, and seeing things done differently.” He himself is part of a start-up that raises and sells all-grass-fed beef, and would like to see more of Keewaydin’s own grass-fed and grass-finished beef (cattle raised on a forage diet exclusively) sold directly to customers, so the ranch could get paid a premium for its more sustainable practices and humane treatment of the animals. “We’re not necessarily proponents of the feedlot model,” he says, “but recognize its vital importance in the current system.”

Raising high volumes of grass-finished cattle is not easy in North America because it requires large tracts of land and a longer growing season than exists in most regions. Active debate continues about whether grass-finished cattle can meet current global beef demand, he adds, but plenty of people see the urgent need for finding a better model and are “trying to figure this out.”

MEANWHILE, this spring the Blakes were easily working 11-hour days, immersed in caring for the cows, fixing a break in the corral’s main water line, and figuring out, again,

The 2018 Harvard Medalists

THREE ALUMNI—and surprise honorand Drew Gilpin Faust—received the Harvard Medal for extraordinary service to the University during the Harvard Alumni Association’s annual meeting on the afternoon of Commencement day.

Robert Coles ’50 is a child psychiatrist whose tenure at Harvard spanned from 1963 to 2007, when he retired as the James Agee

professor of social ethics at the Graduate School of Education. Known for his Pulitzer Prize-winning book series *Children of Crisis* and for other influential research, he has also received a MacArthur Award and the Presidential Medal of Freedom.

Eminent psychiatrist, prolific author, and beloved Harvard professor whose work bridges cultural and curricular boundaries, you have exem-

plified the pursuit of Veritas in your lifelong study of morality and the lives of children around the world—cultivating empathy and inspiring generations to heed the call of service through your profound storytelling, your insightful teaching, and your dedicated volunteerism.

Robert N. Shapiro ’72, J.D. ’78, began his career as an attorney at the Boston firm Ropes & Gray, was a partner in the private client group from 1987 to 2016, and is currently CEO at Ropes Wealth Advisors. He is also president of the trustees of the Peabody Essex Museum.

Alumni leader, stalwart volunteer, and trusted advisor with a view of Harvard that spans decades and disciplines, you have strengthened the University through your distinguished service—demonstrating a remarkable breadth and depth of knowledge, a rare combina-

tion of good judgment and good humor, and an enduring commitment to education as a force for positive change.

Alice “Acey” Welch ’53 worked to help launch and lead the Committee for the Equality of Women at Harvard and the Alumnae-i Network for Harvard Women, serving as president of that organization from 2014 to 2016 (for which she received the HAA Outstanding Clubs and SIGs Contribution Award).

With a firm but gentle hand, a bold but inclusive voice, and a resolute but optimistic spirit, you have driven change through your tireless advocacy for gender equity at Harvard and beyond, unifying alumnae and alumni across Schools and class years in common cause—to expand and enhance opportunities for women both on and off campus.

Drew Gilpin Faust, president of Harvard University since 2007, is set to step down on June 30. Announcement of the award prompted a standing ovation and extended applause.

Esteemed historian with a keen respect for the past and an inspirational vision for the future, you have authored a remarkable chapter in Harvard’s story, leading the University forward with wisdom, courage, and integrity. Pioneering president and global ambassador for higher education, you opened wider the gates of Harvard to students from all backgrounds and deepened Harvard’s engagement with the world beyond. Breaking new ground, literally and figuratively—you revitalized living and learning spaces on both sides of the river and fostered unprecedented cross-disciplinary collaboration between Schools. You promoted experimentation in the arts and sciences—seeding bold discoveries and innovative ventures, and nurturing creative expression and humanistic inquiry. Through change and through storm, you knit together a more inclusive and diverse University community, built on the conviction that every person here should feel that I, too, am Harvard.



Robert Coles



Alice Welch



Robert N. Shapiro



Drew Gilpin Faust

how best to curb industrious beavers. “They burrow under the fences and do a lot of damage to the trees,” Amory says. “But in some ways we love having them around, ’cause their dams slow the water down.”

Spring floods along Otter Creek, which cuts a mile and a half through their acreage, threatened more than usual, given the winter’s snow pack. But flooding is a perennial part of living on the land. In June 1997, “barns were washed away,” Sandi says. “We had just *forests* of huge old cottonwoods crashing down the creek. *That* was scary.”

But on a sunny day, the sky blue for as far as anyone could see, as Alex rode by on his horse, herding the cows out of a pasture by the nursery, over the creek bridge that was once held up by a pile of cars, and off on a two-mile trek to fresh grazing grounds, it was hard to imagine the Blakes’ homestead as anything but blissful. ▽



Evelyn Richmond

The Senior Alumni

EVELYN RICHMOND ’41, of Nashville, Tennessee, and Theodore R. Barnett ’41, of Stowe, Vermont, were the oldest Radcliffe and Harvard alumni present on Commencement Day. For Richmond, 97, it was a distinction she also enjoyed three years ago (see July-August 2015, page 75). She was again accompanied by her son, Clifford Richmond ’75; they have returned for Commencement week in recent years, including for her seventy-fifth reunion in 2016. Barnett, who turns 98 in August, was flanked by his wife, Monique Stirling, and a daughter, Susan Barnett ’82. He’s returned for many reunions while leading a life of various professional and personal

pursuits. A retired county prosecutor, he has delved into land development, the Enneagram of Personality, and graphology. After Harvard, he served in World War II, and then joined his family’s wool-imports company, learning Arabic to work with vendors in the Middle East. “I traveled in the places that are now extremely dangerous to be in, Aleppo and parts of Iraq, and some places that just aren’t there anymore,” he says. “I was very lucky to be able to do that.” The two alumni were publicly honored by Harvard Alumni Association president Susan Morris Novick ’85.



Theodore R. Barnett

New Harvard Overseers and HAA Elected Directors

THE NAMES of the new members of the Board of Overseers and elected directors of the Harvard Alumni Association (HAA) were announced during the HAA’s annual meeting on the afternoon of Commencement Day. Five of the new Overseers were elected for six-year terms. The sixth-place finisher, Diego A. Rodriguez, will serve the final two years of the unexpired term of Jane Lubchenco, who stepped down in light of other professional obligations. The new Overseers were elected from a slate of eight candidates, and the HAA directors from a slate of nine candidates, who were nominated by an HAA committee, as prescribed by the election rules.

Harvard degree-holders cast 26,765 ballots in the Overseers election, and 27,537 ballots in the election for HAA directors.

For Overseer:

Geraldine Acuña-Sunshine ’92, M.P.P. ’96, Manila, Republic of the Philippines, and Boston. President, Sunshine Care Foundation for Neurological Care and Research.

Philip Hart Cullom, M.B.A. ’88, Gaithersburg, Maryland. Vice Admiral (retired), U.S. Navy.

Meredith L. “Max” Hodges ’03, M.B.A. ’10, Boston. Executive director, Boston Ballet.

Marilyn Holifield, J.D. ’72, Miami. Partner, Holland & Knight LLP.

Diego A. Rodriguez, M.B.A. ’01, Palo Alto. Executive vice president, chief product and design officer, Intuit Inc.

Yvette Roubideaux ’85, M.D. ’89, M.P.H. ’97, Washington, D.C. Director, Policy Research Center, National Congress of American Indians.

For elected director (three-year term):

Collette Creppell ’82, M.Arch. ’90, Providence and New Orleans. University architect, Brown University.

Sid Espinosa, M.P.P. ’00, Palo Alto. Director of philanthropy and civic engagement, Microsoft.

Natosha Reid Rice ’93, J.D. ’97, Atlanta. Associate general counsel, real estate and finance, Habitat for Humanity International; associate pastor, historic Ebenezer Baptist Church.

Krishnan Namboodiri Subrahmanian ’03, Minneapolis. Attending pediatrician, Hennepin County Medical Center and the University of Minnesota; maternal child health specialist, Partners In Health (COPE Program).

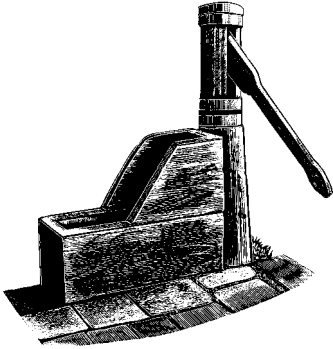
Bella T. Wong ’82, Ed.M. ’91, Weston, Massachusetts. Superintendent/Principal, Lincoln-Sudbury Regional High School.

Rashid Muhammed Yasin, S.B. ’12, Nashville. Ph.D. student, Vanderbilt University.

Cambridge Scholars

FOUR SENIORS have won Harvard Cambridge Scholarships to study at Cambridge University during the 2018-2019 academic year. Farris Peale, of Washington and Quincy House, a social studies concentrator, will be the Lionel De Jersey Harvard Scholar at Emmanuel College; Christian Schatz, of California and Adams House, an environmental science and public policy concentrator, will be the William Shirley Scholar at Pembroke College; Theresa “Tez” Clark, of Tokyo and Adams House, a philosophy concentrator, will be the Charles Henry Fiske III Scholar at Trinity College; and Ellie Lasater-Guttmann, of Virginia and Eliot House, a philosophy and mathematics concentrator, will be the John Eliot Scholar at Jesus College.

Long-Lived University



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

FACULTY of Arts and Sciences memorial minutes recall how departed colleagues loomed large—but few, perhaps, in quite the same way as social psychologist J. Richard Hackman, who untangled how teams of people (orchestras, cockpit crews) work together. "Hackman was a towering figure not only intellectually, but quite literally," the minute, presented at the February 6 FAS meeting, noted. "His 6' 6" frame made him the favorite academic coach of Harvard's women's basketball team, generations of which invited him to sit on their bench."



MUCH is gained in the shift from physical to digital records, but some things are lost, too—witness this note from Penelope Laurans, Ph.D. '75, recently retired head of Yale's Jonathan Edwards College:

"My late husband, Robert Fitzgerald, graduated from Harvard in 1933 and became Boylston professor in 1967. In his class were two others who became Harvard professors: Harry Levin, Babbitt professor of comparative literature, and Henry Hatfield, Francke professor of German art

and culture. Soon after he arrived back at Harvard in 1968, he taught a course that was assigned to Sever and to a dusty room with clanking radiators that he remembered as unchanged from his College days. Before class started, he idly opened a drawer in the desk at the front of the room. Inside he found the class list—from a Latin B class that he, as well as Levin and Hatfield, had all taken in 1929. In nearly 40 years, no one had removed the list from the drawer!"



HARD on the heels of his obituary of Amey Amory DeFriez '49 (*The College Pump*, May-June, page 80), *The Boston Globe's* Bryan Marquard captured another feminist icon from that era. Joan Braverman Pinck '50, RF '69, who died in March, was for a time an assistant dean and lecturer at the Business School. Scholars there nowadays have plumbed rea-

sons for distinguished women's career difficulties; Pinck appears to have nailed it in a 1975 speech, according to the *Globe* excerpt: "Most women who work, married or not, live two lives, one professional and one domestic." Many women who sought management roles, she added, "having been denied access by the front door, have learned how to shinny up the tree, climb on the roof, find their way through the attic to the back rooms in order to end up in the front office. And all

the while keeping their hair combed, their clothes neat and appropriate, and bearing in mind that at the end of the day they were obliged to stop by the market to pick up the

components of a meal which they themselves would prepare and serve, and that before starting out on their day's work they had to be sure the cat was out, the dog in, the check left for the milkman, the laundry arranged for, and the car inspected."



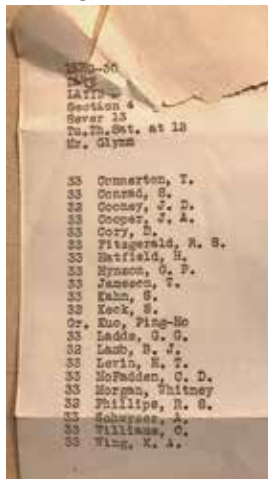
IT IS NOT unknown for aging sports heroes, say, to pick up some needed cash by auctioning off a game ball or World Series ring. The Christie's sale of The Collection of Peggy and David Rockefeller [36, G '37, LL.D. '69] in May differed in intent (proceeds benefit charities and institutions including MoMA and alma mater) and character (few athletes own Ming bowls), but the auctioneer did note that items on offer included Harvard cufflinks and a silver ashtray honoring David Rockefeller's service as an Overseer.



SPEAKING OF alma maters, the new version of "Fair Harvard" was rolled out (and sung out) at this Commencement. The contest previously described in this department ("Puritans' Passé?" July-August 2017, page 68) has resulted in a last-line switcheroo (after "Let not moss-covered Error moor thee at its side,/As the world on Truth's current glides by,/Be the herald of Light, and the bearer of Love,") from "Till the stock of the Puritans die" to "Till the stars in the firmament die."

That solution was successfully advanced by Janet Pascal '84 (see harvardmag.com/pascal-18). It happily suggests, if biologists and astrophysicists are right about their respective realms, that the University's life expectancy is a few billion years longer than previously forecast.

~PRIMUS VI



Gymsuits, Pre-Spandex

Lest young ladies' "tides" be deranged

IN OUR AGE of athleisure, of clothes that contour and compress, of aspiring to a high-performance life—sweatless and chafe-free—it's a jarring sight: the workout wear of a Radcliffe student from the turn of the twentieth century. This particular "gym dress" resides at the Schlesinger Library at the Radcliffe Institute for Advanced Study, and stands on display in "75 Stories, 75 Years" through October. It was donated by Libby Wright Plimpton '29, a

gym teacher and field-hockey player, and belonged to her mother, Edith Hall Plimpton, who graduated in 1896.

At the time, athletics were central to female students' lives, and not just at Radcliffe. Schools such as Smith, Mount Holyoke, and Vassar also encouraged—and even mandated—physical activity. Gymnastics and group calisthenics were popular, as were competitive team sports like

field hockey. In his 1873 bestseller, *Sex in Education*, Harvard Medical School professor Edward H. Clarke had warned that intellectual exertion would damage a young woman's childbearing capacity, "deranging the tides of her organization" by diverting blood-flow to the brain. In response, women's colleges insisted on fitness.

Tennis and golf had long been accepted as genteel co-ed pastimes—occasions for courting, to which women would wear their best and most pleasing clothes. But this two-piece gym dress was in a different league. Made of a hot and heavy wool that was hard to wash, it buttoned from chin to belly, and also around the waistband. The extremities were snugly, demurely cuffed; stockings completed the look. With its puffy sleeves, "It was voluminous," comments curator of manuscripts Kathryn Jacob, who orga-



nized the exhibit. With its "divided skirt," though—implying the legs swamped, somewhere, within—it was scandalous.

The suit was intended for single-sex contexts. Women were expected to don skirts on top for their trips to and from the field. When the basketball team was photographed in their bloomers, the captain was chastised by the College's first dean, Agnes Irwin. By 1898, Radcliffe had built a gymnasium to shield students from view—or protect passersby from the shock of seeing the young ladies tangle for the ball and yell from the sidelines.

With its academics dictated by men, the College cultivated an independent identity through extracurriculars. Two of those activities permitted trousers: theater and sports. When, in 1897, a Radcliffe committee laid down the "bloomer rule" banning male costumes, they did allow gym clothes on stage. "This black wool jumpsuit," says Jacob, "which looks so confining to us, was actually quite liberating."

—SOPHIA NGUYEN



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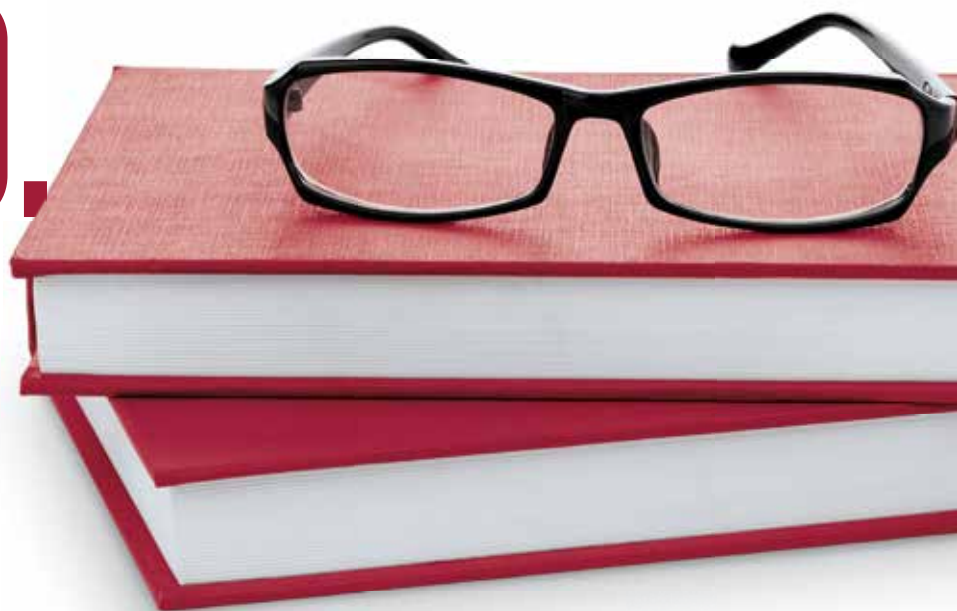
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