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A Note to Our Readers

This issue of your magazine was laid out on March 16—the day after undergraduates able to leave by the College’s Sunday deadline had departed; the day most University staff members began working remotely; and two days before scholars were told to suspend or conduct noncritical research remotely for at least six to eight weeks. Thus, apart from a report on page 14, the contents reflect Harvard BC (before coronavirus); professors reexamining U.S. history and vexing policy problems; alumni leading in the arts and letters.

Although profoundly affected, the University remains a preeminent teaching and research institution, and those roles, when fully resumed, will be more critical than ever. Meanwhile, its biomedical experts are focused on critical work on coronavirus, and its affiliated hospitals’ staffs are fully engaged in caring for COVID-19 patients.

As we all enter uncharted territory, we will do our best to keep you informed by continuing to produce and deliver this magazine to you in a timely way. We will report University news online (www.harvardmagazine.com) and cover important biomedical developments as they arise. We ask for your understanding if we encounter glitches along the way. Please support our work to keep you connected to the University and each other (donate.harvardmagazine.com)—and we hope you will also support our advertising partners, when possible, in these challenging times for them and their employees.

Above all, we wish you, your colleagues, and your loved ones safety and health.

—Irina Kuksin, Publisher, and the staff of Harvard Magazine

HEALTHY EATING

I was pleased to see the work Frank Hu and his team did in creating the Healthy Plate—it’s really wonderful to have our dietary recommendations based on scientific rather than corporate priorities (“Healthy Plate, Healthy Planet,” March-April, page 34). I was, however, surprised at the inclusion of tea and coffee as default beverage choices. Sleep disturbances and deficiencies can contribute to ill-health, in particular to the sorts of chronic diseases the Healthy Plate is intended to prevent. Encouraging people to consume sleep-unfriendly caffeine as part of their meals seems counterproductive.

Rama Kocherlakota, Ph.D. ’89
Burlington, Vt.

AUTHORITARIANISM

Pippa Norris proffers a socio-psychological explanation—no doubt backed by substantial empirical data—for the rise of populist authoritarianism around the world: insecure traditionalists, feeling threatened by the inevitable spread of socially liberal ideas, seek authoritarian leaders to push back the tide of history (“The Authoritarian Reflex,” March-April, page 40). It apparently does not occur to her to seek a deeper cause—perhaps in liberalism itself.

It is common today to equate liberalism with good government. But historically, authoritarianism has surfaced precisely at moments of liberal failure. The reactionary European Restoration was prompted by the disastrous consequences of the liberal revolution in France. Challenges from both left-wing and right-wing totalitarianism thrived on the economic crisis of liberal capitalism in the 1930s. Today’s populist authoritarianism responds to liberalism’s sociopolitical as well as economic and political failures.

Cambridge 02138

Authoritarianism, labor law, climate change
Greetings from Elmwood

This is the first of my letters written from home. Right now, Adele and I are suffering through what we hope will be the worst of our COVID-19 symptoms—something that feels a lot like the flu, not fun but also not life threatening. We feel fortunate. Many others are suffering far more. My home office overlooks our front yard, which, in the absence of regular comings and goings by people, has been commandeered by about a dozen wild turkeys. I find myself envying both their lack of social distance and their ignorance of the pandemic.

Throughout my career in higher education, I have had to deal with my share of crises, but none of them compares to the scope and scale of COVID-19. In early March, it became increasingly clear that the spread of the novel coronavirus at Harvard could have dire consequences. I sought the guidance of faculty experts in infectious disease, epidemiology, virology, and public health as my team considered a variety of options. Our students were on the verge of dispersing for Spring Recess, potentially traveling to places where they were likely to become infected and carry the virus back to campus. If we could send most of them home instead, we could both thin out our densely populated dorms to permit social distancing and protect those members of our community who might be more at risk than otherwise-healthy college students.

I knew at the time that we would be accused of acting prematurely, but I also knew that the cost of being wrong was asymmetric. If, with the benefit of hindsight, we acted too soon, we would inconvenience many people and waste a lot of money. If, however, we failed to act and we were wrong, people might die. Making the decision was not difficult. Implementing it was.

On March 10, I announced three major changes intended to limit exposure to the disease among members of our community. Students were asked not to return to campus after Spring Recess, giving them less than a week to pack and to travel home or elsewhere if at all possible; faculty were directed to begin planning for a complete transition to virtual instruction; everyone on campus was urged to limit gatherings to no more than 25 people—a laudable imperative that today seems almost laughable.

The anticipated response was swift: Why now? It was a question time answered. By the end of the month, the United States surpassed all nations in the total number of cases. Schools closed; non-essential businesses shuttered; people stayed home or, in some cases, obeyed orders to shelter in place. Every aspect of day-to-day life changed profoundly.

Meanwhile, Harvard students, faculty, and staff adapted quickly. On the first day of remote learning, 57,500 students participated via Zoom in 5,800 classes or meetings—only six of which had technical issues. Feats of bandwidth were surpassed only by the willingness of faculty across Harvard to adapt to new ways of presenting material and engaging with students. As they ventured into the digital wilderness, professors shared with one another techniques and approaches that will undoubtedly shape their pedagogy going forward, an unexpected upside to working in exile.

I am confident that we made the right decisions, but one decision still stings. It was obvious that postponing commencement was the only choice given the rapid spread of COVID-19, but I was deeply saddened to share the news with members of the Harvard Class of 2020. We will convene online in May to confer degrees, and we will gather in the future for a proper celebration. Our graduates will have a chance to stand shoulder to shoulder with friends and classmates, to see their families and loved ones brimming with pride, and to revel in the applause and cheers of a community that will embrace them always. Being awarded a degree is the heart of the ceremony but not its soul.

To the outside observer, it may look like COVID-19 scattered the Harvard community across the globe, but, in the ways that matter most, it has drawn all of us together, focusing our attention at a time unlike any other in University history. We will come through on the other side stronger and wiser for it. In the meantime, take care and stay healthy.

Sincerely,
No one, including Norris, seems to be able to identify the roots of those failures—or even to search for them. Instead, they reassert the superiority of liberalism and try to diagnose its detractors’ wrongheadedness. Could it be that liberalism is inherently flawed? Could it be that one cannot build a state or society upon the necessary but insufficient principle of individual liberty? Perhaps Harvard’s professors can answer that question—assuming they have the intellectual humility to ask it.

Andrew Sorokowski, A.M. ’75
Rockville, Md.

We live in an increasingly tribal world where it seems that everything is black or white. That makes it much easier for authoritarians, left or right, to unilaterally do whatever it takes to advance their agenda.

There is nothing new or unusual about authoritarianism. Leaders—whether the chairperson of a con- do association, the sheriff of Maricopa County, or the president of the United States—are often prone to authori- tarianism if they can get away with it. Unfortunately, there are at least two trends that facilitate authoritarianism at the national level.

First, Congress has ceded everything from the declaration of war to control over a wide swath of our society to the execu- tive branch. Members of the supposedly co-equal legislative branch of government seem satisfied either to cheer on or to attempt to obstruct whoever is in power. We should not forget that President Obama was actually applauded by many of those charged with checking and balancing his power when he said that he would act unilaterally if Congress didn’t do what he wanted, and Donald Trump, of course, is going to build his wall one way or another.

Second, social media make it much easier for authoritarians to communicate directly to their supporters and to “Corker” those tribal members who question them. Our next leader will almost certainly behave more presidentially than President Trump but will also almost certainly govern authoritarianly; and their tribe will cheer them on. It is much easier, at least in the short term, to deride those with whom we disagree than it is to engage with them in good faith.

Interestingly, Norris’s conclusion actually illustrates the problem by attributing our authoritarian president and our divide to those who can best be labeled and dismissed as “traditionalists who feel threatened, marginalized, and left behind.”

Howard Landis, M.B.A. ’78
Naples, Fla.

**LABOR LAW**

“Reworking the Workplace” (March-April, page 18) is, in my view, a high- ly partisan, one-sided depiction of Ameri- can labor law and labor markets. As Gener- al Electric’s chief labor negotiator in many national-level bargaining sessions, I recog- nized that there were consequential issues of inequality and power in both our company and our country that needed attention and improvement. But Sharon Block’s and Ben- jamin Sachs’s sweeping prescriptions are insuf- ficiently refined or nuanced; they are the essence of wishful thinking that will not ad- vance us to a useful resolution.

Admittedly, they do their Clean Slate best “to shift power from corporations to work- ers.” They also engage in gratuitous calumny of a sometimes-flawed Trump administra- tion. Yes, the independent-contractor des- ignation is abused, but giving “workers,” however defined, 40 percent representation on corporate boards is knee-jerk nonsense. I am not holding my breath awaiting your coverage of a similar screed from some arch- apologist for corporate rapacity. Your readers would be much better served by your report- ing on the thoughtful comments of someone like Tom Kochan or Bob McKersie at MIT.

Dennis J. Rocheleau, J.D. ’67
Waupeca, Wis.

**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.
What Counts

Two sets of figures: 179-20 and 130-90. The first was the February 4 Faculty of Arts and Sciences (FAS) vote to adopt a faculty-initiated motion calling on the Corporation to alter investment policy for the endowment (to divest investments in fossil-fuel production and “decarbonize” assets overall). The second was the November 7, 2017, tally by which the FAS rejected another faculty-crafted motion, intended to block a presidential and decanal initiative to sanction student membership in unrecognized single-gender social clubs (USGSOs: the final clubs, fraternities, and sororities).

By conventional scorekeeping, the administration lost one and won one: the president and Corporation have opposed divestment, whereas the Corporation voted to put the USGSO sanctions in place and so advised the faculty at its December 2017 meeting, and the College proceeded to implement them.

But there are more important ways of taking stock.

In a longer perspective, the outcomes of those votes remain uncertain. As President Lawrence S. Bacow told the faculty on February 4, he will report back to the Corporation, and share the outcome of its deliberations with FAS. On the social front, the number of USGSOs has shrunk; the College’s policy is being challenged in court; and undergraduate social life (whether tainted or enriched by single-gender organizations) continues to, well, evolve.

And there is perhaps a meta-perspective, even more consequential for Harvard, to keep in mind. So, a few more data: 870 and 882. Those were the numbers of FAS faculty members eligible to vote, respectively, this February 4 and at the November 2017 meeting. On the USGSOs—fiercely debated during several faculty meetings, and framed either as a matter of faculty prerogative being eroded or of gross social inequities being rectified—25 percent of those eligible showed up to vote. On divestment—one possible element of the University’s response to climate change, which all sides agree is an existential threat—23 percent cast ballots. (This year’s outcome was never in doubt, so showing up didn’t much matter.)

Bacow closed the February meeting by thanking the assembled professors for participating in this “important process of faculty governance.” Yet, measured by turnout (many attendees—department chairs, House faculty deans, and so on—are required to attend), FAS’s pulse is feebly. Exiting University Hall after a faculty meeting some years ago, a high administrator noted with pleasure that it had gone off without a hitch: no untoward questions from the floor, nothing debated beyond the docketed agenda items—and those exchanges all routine and formulaic. He seemed startled when an observer said that perhaps the placidity meant the faculty had disengaged from its own presumed business.

Part of the problem is that the meetings are largely routine and formulaic. The registrar, say, presents the courses on offer, and the faculty approves them. Committees report. New degrees are presented for consideration, with impressive paperwork, or programs or departments seek a new name, defended with comparable documentation—and those present assent.

But the larger concern is substantive. Faculty meetings remain the formal way for the FAS to say what it is about, and the principal forum for doing so as a whole. To borrow the economists’ term, there are opportunity costs associated with what transpires there—and what does not. During the most half-decade, a disproportionate share of meeting time has been consumed by the USGSO and divestment debates. There have also been repeated briefings on course scheduling to accommodate classes in Allston and better use of instructional space overall, and on shopping week and registration: all necessary and to the good. But little has been heard about the content of the new undergraduate Gen Ed curriculum (surely important, after nearly 15 years of tinkering); or rising enrollment in applied fields and collapsing arts and humanities concentrations; or changes in pedagogy.

Much of the faculty’s real work is done elsewhere, of course. But out of sight and hearing is also out of mind. Absent full-FAS discourse, younger professors fail to hear their elders’ perspectives—and vice versa. In a place that honors discovery and the creation of knowledge, but anchors their pursuit in traditional values and institutional norms, that is a nontrivial loss.

Not long ago, FAS deans wrote extensive annual reports detailing academic priorities and updating colleagues on the progress and challenges of each of its units and operations. A resources committee of professors explained how much things cost, how they were being paid for, the sum and perceived value (or lack thereof) of University assessments, and fundraising plans. Governance may have been messier, but the inefficiencies were offset by gains in faculty ownership of their academic work together at Harvard.

Nowadays, the dean’s report is radically pared down and its presentation relatively perfunctory—limiting any chance to convey, or receive, a coherent picture of the enterprise. That’s unfortunate, given the inherent complexity of FAS, driven by the multiplicity of disciplines its members embrace. It may be understandable, from the University Hall perspective, given the sheer demands inherent in trying to lead and manage the place, with all its departments, units, budget lines—and the wonderful, exasperating individuality of the scholars themselves. Or it may be that the erosion of common vision and faculty-wide pursuits arises from the professors themselves—busy with their research, teaching, committee service, and hellish commutes.

Must FAS’s affairs tend this way? Do faculty members—fierce advocates of their intellectual prerogatives—wish to see their common business as divorced from the academic work of the place as it has been lately, and to cede agency over their institutional affairs to whoever else chooses to attend the monthly meetings?

These appear to be matters of choice, not the result of inexorable, external forces. Perhaps unexamined habits formed in the first decades of this new millennium—during a short-lived, combative Harvard presidency, and then under the truly frightening weight of the 2008-2009 financial crisis—have become ingrained, explaining why no one has articulated a University agenda for research and teaching on climate change, for instance, or why Harvard’s neuroscience ambitions exist mostly on paper.

Perhaps the next capital campaign will prompt faculty members, with their leadership, to define not only areas for investment in personnel, intellectual pursuits, and academic infrastructure, but also a long-term vision of the place and its future—and to expose their ideas to colleagues’ critique. But thus far in the 2000s, the hallowed principle of faculty governance has been hollowed out. Time for FAS members to ask themselves whether they’re comfortable with forgoing more unidentified opportunities, whatever the cost.

~John S. Rosenberg, Editor

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Right Now
The expanding Harvard universe

SUN-SHUNNING
Butterfly Wings in a New Light

To hold a delicate butterfly harmlessly, conventional wisdom advises, softly pinch its wings together. Because butterflies depend on taste receptors on their feet to find food and a suitable nest for their eggs, it’s wiser, the theory goes, to handle appendages that are only as alive as toenails or hair.

But the story is not that simple. Far from inert membranes, butterfly wings hold intricate networks of veins, sensory cells, and often scent pads for releasing and spreading mating pheromones. This winter, a collaboration between Harvard and Columbia researchers revealed just how alive these wings really are—including heat-sensing cells and tiny “wing hearts” that pump fluids through their delicate veins. And the fact that butterflies seem to use the heat sensors, and microscopic structures on their wings that reflect and radiate infrared light, to stay cool, demonstrates that much of the world a butterfly experiences involves light beyond the visible spectrum.

Hessel professor of biology Naomi Pierce, who is Harvard’s curator for Lepidoptera (moths and butterflies), met Nanfang Yu when the latter, then a postdoc, contacted her with an unusual research proposal. Yu was studying electrical engineering with Wallace professor of applied physics Federico Capasso, and had noticed that moths’ feathery antennae bore an uncanny resemblance to structures for guiding infrared light, suggesting that moths might use them to “see” light outside the visible spectrum, perhaps for finding food or mates.

Despite some intriguing initial results (moth antennae do seem sensitive to infrared light, though whether moths react to that signal remains unclear), that initial collaboration proved less fruitful than the partnership it seeded. Ever since, Yu and Pierce have been probing how Lepidoptera sense and use light in wavelengths invisible to humans, as bees, for example, use ultraviolet patterns to pick out favorite flowers, or pit

Butterflies of six different species, photographed in infrared wavelengths, reveal patterns unseen in visible light.
“This is for sure an exciting, interesting, and important book to read. This life of his that stands as such a towering positive example of what one good person can accomplish. This special book presents an outstanding learning experience for all of us.”
—John H. McArthur, Dean Emeritus, Harvard Business School

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—Midwest Book Review

“One of the finest books I’ve read in 2019....”
—MAAI (Independent Music and Arts, Inc.)
vipers use infrared wavelengths to track prey heat signatures. Yu and Pierce quickly noticed that scientists have categorized and scrutinized the patterns humans can see on butterfly wings for centuries, but surprisingly little research had examined those patterns using light outside the visible spectrum—even though there is no reason to expect butterfly patterns evolved for human eyes.

One reason for the patterns, they reasoned, could be to aid butterflies’ reactions to radiant heat: the infrared light we can feel in sunlight. Butterflies, it seems, sense heat in much the same way, carefully moving their wings to avoid overheating. In experiments, the authors observed captive butterflies taking many different steps—leaning away, side-stepping, and turning to minimize their shadows—to absorb as little radiant heat as possible.

This effect, Pierce says, is particularly pronounced in the genus Lycaena: “If you pull up images of Lycaena on the Internet, you can see every time there’s sunshine, the butterfly is minimizing its shadow. All of a sudden you start seeing things that you didn’t see before, when you think about it in terms of temperature.”

Microscopic imagery of living butterfly wings revealed one reason why they may be so sensitive to heat. The pheromone-secreting “scent pads” and sensory cells draw oxygen and nutrients from two sets of vessels carrying air and blood-like hemolymph to the wings. But where some insects make do with one tubular heart in their thorax, the hemolymph appears to need an extra push to suffuse large butterfly wings. The authors observed the regular beating of what they call a “wing heart”—often on the perimeter of the scent pad—pumping hemolymph through the veins on the wing.

To understand how the wings interact with infrared light, the Pierce and Yu labs used an infrared imager developed by Yu’s graduate student Cheng-Chia Tsai to “photograph” butterfly specimens from the Museum of Comparative Zoology in infrared wavelengths. This revealed dramatic, previously invisible patterns of infrared reflection in the scales covering the wings. Microscopic images of the most reflective wing scales revealed tubes thinner than a strand of hair...that shed excess heat as infrared light...

Microscopic images of the most reflective wing scales revealed tubes thinner than a strand of hair...that shed excess heat as infrared light....

red light, and thus stay far cooler than they would otherwise. These parts of the wings, says Pierce, seem to correspond with the most “alive” parts—the scent pads, veins, and wing heart—suggesting that their high reflectance, and butterflies’ heat-avoiding behaviors, are dedicated to keeping sensitive organs cool.

It’s a result that shows that living systems can prove far more complex than what can be revealed by examining dead or “fixed” tissue, said Nipam Patel, a lepidopterist at the Marine Biological Laboratory in Woods Hole who was not involved in the study. “We always thought of these structures as passive,” he said. “We come to reasonable assumptions...but when we look at living cells, we’re often surprised.”

~BENNETT MCINTOSH

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INFLAMMATION’S ORIGINS

Linking Lifestyle to Stem Cells

SLEEP, DIET, EXERCISE, and stress: these are factors known to change a person’s risk of developing numerous non-communicable diseases. Such lifestyle impacts on health—beneficial or harmful—exert much of their influence via inflammation. About 10 years ago, Matthias Nahrendorf began wondering just how inflammation and lifestyle might be linked biologically, and started thinking about how to pinpoint the mechanism in the cardinal process of wound healing. To understand how the body responds to injury, Nahrendorf uses equipment like this PET/CT imaging scanner to study the role of white blood cells in inflammation.
A person’s level of inflammation can easily be measured with a simple white blood cell test. White blood cells fight off bacterial invasions and repair damaged tissues, but they can also damage healthy tissue when they become too abundant. “You can find them in atherosclerotic plaques, and you can find them in acute infarcts,” says Nahrendorf, a professor of radiology who conducts high-resolution imaging research at Massachusetts General Hospital. “You can find them in failing hearts and the brain,” where they increase the risk of stroke.

When Nahrendorf learned that the most potent, toxic, and pro-inflammatory white blood cells live only a few hours, or at most a day, he immediately realized that the paramount questions—given that they die off quickly yet remain abundant in the blood—are, where and why are they produced? What is their source? Perhaps, he hypothesized, lifestyle factors regulate hematopoiesis (blood production).

To test this idea, he decided to study the effects of exercise on the production of these leukocytes in healthy mice. First, though, he consulted the scientific literature on exercise in mice. Previous researchers, he learned, had found that exercise increases production of inflammatory immune cells—“which I thought was counterintuitive,” Nahrendorf recalls. When he looked more carefully, he discovered that the type of exercise used in the studies was “forced” and thus “possibly stressful” because it was induced by electric shocks. He therefore decided to test only voluntary exercise. He and his colleagues put a wheel in each mouse’s cage, so the animals could “choose to run if they were interested.”

The mice never ran during the day. “That is when they rest,” Nahrendorf explains. But in the dark, they ran a lot, averaging “six to seven miles every night.” After three weeks, the exercising mice had measurably lower levels of circulating white blood cells. Exercise, he found, had pushed their blood stem cells (cells that can produce all the different types of blood cells) into a state of quiescence: a kind of dormancy in which they generate fewer pro-inflammatory white blood cells and platelets, without decreasing the number of oxygen-carrying red blood cells. Soon the exercising mice had fewer circulating white blood cells than their sedentary counterparts, dampening inflammation—an effect that persisted for weeks.
By linking exercise to reduced white blood cell production, Nahrendorf shows how a lifestyle factor can modulate cardiovascular risk.
be protected from potential child abuse, but may keep them from contributing positively to a democratic society.

“We have an essentially unregulated regime in the area of homeschooling,” Bartholet asserts. All 50 states have laws that make education compulsory, and state constitutions ensure a right to education, “but if you look at the legal regime governing homeschooling, there are very few requirements that parents do anything.” Even apparent requirements such as submitting curricula, or providing evidence that teaching and learning are taking place, she says, aren’t necessarily enforced. Only about a dozen states have rules about the level of education needed by parents who homeschool, she adds. “That means, effectively, that people can homeschool who’ve never gone to school themselves, who don’t read or write themselves.” In another handful of states, parents are not required to register their children as homeschooled; they can simply keep their kids at home.

This practice, Bartholet says, can isolate children. She argues that one benefit of sending children to school at age four or five is that teachers are “mandated reporters,” required to alert authorities to evidence of child abuse or neglect. “Teachers and other school personnel constitute the largest percentage of people who report to Child Protective Services,” she explains, whereas not one of the 50 states requires that homeschooling parents be checked for prior reports of child abuse. Even those convicted of child abuse, she adds, could “still just decide, ‘I’m going to take my kids out of school and keep them at home.’” As an example, she points to the memoir Educated, by Tara Westover, the daughter of Idaho survivalists who never sent their children to school. Although Westover learned to read, she writes that she received no other formal education at home, but instead spent her teenage years working in her father’s scrap business, where severe injuries were common, and endured abuse by an older brother. Bartholet doesn’t see the book as an isolated case of a family that slipped through the cracks: “That’s what can happen under the system in effect in most of the nation.”

In a paper published recently in the Arizona Law Review, she notes that parents choose homeschooling for an array of reasons. Some find local schools lacking or want to protect their child from bullying. Others do it to give their children the flexibility to pursue sports or other activities at a high level. But
surveys of homeschoolers show that a majority of such families (by some estimates, up to 90 percent) are driven by conservative Christian beliefs, and seek to remove their children from mainstream culture. Bartholet notes that some of these parents are “extreme religious ideologues” who question science and promote female subservience and white supremacy.

She views the absence of regulations ensuring that homeschooled children receive a meaningful education equivalent to that required in public schools as a threat to U.S. democracy. “From the beginning of compulsory education in this country, we have thought of the government as having some right to educate children so that they become active, productive participants in the larger society,” she says. This involves in part giving children the knowledge to eventually get jobs and support themselves. “But it’s also important that children grow up exposed to community values, social values, democratic values, ideas about nondiscrimination and tolerance of other people’s viewpoints,” she says, noting that European countries such as France require home visits and annual tests.

Children should “grow up exposed to...democratic values, ideas about nondiscrimination and tolerance of other people’s viewpoints.”

In the United States, Bartholet says, state legislators have been hesitant to restrict the practice because of the Home Schooling Legal Defense Association, a conservative Christian homeschool advocacy group, which she describes as small, well-organized, and “overwhelmingly powerful politically.” During the last 30 years, activists have worked to dismantle many states’ homeschooling restrictions and have opposed new regulatory efforts. “There’s really no organized political opposition, so they basically get their way,” Bartholet says. A central tenet of this lobby is that parents have absolute rights that prevent the state from intervening to try to safeguard the child’s right to education and protection.

Bartholet maintains that parents should have “very significant rights to raise their children with the beliefs and religious convictions that the parents hold.” But requiring children to attend schools outside the home for six or seven hours a day, she argues, does not unduly limit parents’ influence on a child’s views and ideas. “The issue is, do we think that parents should have 24/7, essentially authoritarian control over their children from ages zero to 18? I think that’s dangerous,” Bartholet says. “I think it’s always dangerous to put powerful people in charge of the powerless, and to give the powerful ones total authority.”

She concedes that in some situations, homeschooling may be justified and effective. “No doubt there are some parents who are motivated and capable of giving an education that’s of a higher quality and as broad in scope as what’s happening in the public school,” she says. But Bartholet believes that if parents want permission to opt out of schools, the burden of proving that their case is justified should fall on parents.

“I think an overwhelming majority of legislators and American people, if they looked at the situation,” Bartholet says, “would conclude that something ought to be done.” —ERIN O’DONNELL

FRONTIERS...

Fractal Physiology

Wearable technologies that track physical activity are ubiquitous. But using them to generate medically useful information, such as predicting an elderly person’s risk of falling, is not straightforward: daily changes in schedules and weather alter activity. Associate professor of medicine Kun Hu, instructor in medicine Peng Li, and their colleagues, writing in Science, overcome this limitation using fractals: patterns that repeat themselves at different scales. They followed 1,275 patients, 56 to 100 years old, for as long as 13 years, and found that such patterns (with similar temporal, structural, and statistical properties) are “stable within individuals, and sensitive to pathological conditions” despite variations in average levels of physical activity. Specifically, they found that increased random fluctuations in activity, at timescales from about a minute to more than two hours, were associated with a higher risk of frailty, disability, and death for study participants, and might help spot people who could benefit from earlier intervention. The team previously showed that fractal fluctuations in activity could help predict a likely risk of Alzheimer’s years in advance.

Powering Coastal China

Electricity derived from land-based wind power instead of fossil fuels is often cheaper. Now, offshore wind farms are becoming cost-effective sources, too. In a recent Science Advances paper, researchers with the Harvard-China Project on Energy, Economy, and Environment note that much of China’s wind-power capacity is 1,000 miles from the coastal provinces that use 80 percent of the nation’s electricity—while meteorological data from 1980 to 2018 indicate that its offshore wind potential exceeds those provinces’ current demand more than fivefold. Senior author Michael McElroy, Butler professor of environmental studies, says much of that power can be developed “at costs competitive with existing coal-fired power plants.”
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I2B Extracurriculars
Online ventures in learning and wellness amid COVID-19

I2J The Museum of Work & Culture
Woonsocket, Rhode Island’s French-Canadian community

I2L Mining history
Picturing the California Gold Rush, Peabody Essex

I2Q Conferring Degrees, 2020
A virtual Commencement

I2R Returning to Restaurants...
When circumstances permit

I2H Historic Threads
Tracing America’s industrial roots in the Blackstone River Valley
Extracurriculars

During these unprecedented days of social distancing, countless organizations and individuals have put their services to use online to console, strengthen, and stimulate the brain and body—at home. One of them is Om Namo Center, in Cambridge. “As a yoga and movement studio, this was a way we could continue offering ways to help people cope with stress and emotions during this time,” says Tom Hogan, yoga teacher and studio manager. Waiting and worrying about news—from the government, virus testing, and friends and family members—can keep anyone in a helpless holding pattern. But contemplative activities can raise awareness of the choices and agency that we do have, Hogan adds, particularly about what to eat and how to care for our bodies; when to watch screens—and when to shut them down; and whom to best connect with, and how. “Not every day is sunny,” says Hogan, “and when it’s raining, there are still ways to help ourselves. We can get an umbrella!”

From left: House dancer and teacher Sean Bjerke takes it one step at a time; pianist Charlie Albright ’11 plays a segment from Robert Schumann’s “Widmung,” from the Office for the Arts at Harvard; Om Namo Center offers a variety of online yoga and movement classes.

From left: COURTESY OF SEAN BJERKE; COURTESY OF THE OFFICE FOR THE ARTS AT HARVARD; COURTESY OF OM NAMO CENTER

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- **46%** of Americans believe meeting someone through online dating is not safe.

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Classes offered through Zoom include vinyasa and restorative yoga, NIA dance, and meditation. Check out the dynamic slow-flow session taught by Alecia Dayger, and

The dynamic “Open World: Video Games & Contemporary Art,” scheduled to be at the Currier Museum of Art through June 28, highlights artists who have incorporated gaming themes and culture into their work. Organized by the Akron Art Museum, the exhibit doubly employs the term “open world,” which describes not only players’ ability to choose among scenarios and objects (as opposed to more structured video-gaming parameters), but also the artistic choices on display: from traditional paintings and sculptures to reconceptualized games. Cory Arcangel’s 1 Shot Andy Warhol (2002) is a hacked cartridge of the 1984 Nintendo game Hogan’s Alley, in which the “gangsters” and “innocents” are replaced with iconic images of Warhol, Flavor Flav, and Colonel Sanders, among others. The elegiac Epiphany (a digital representation of Cloudscape, a 2013 installation by artist Hannah Claus) comes from TimeTraveler™, the 2008-13 series by the artist known as Skawennati. Like video games themselves, the exhibit serves to mirror, extend, or mutate culture and to play with continuing questions about the role of virtual reality in “real” reality—and its still-untold influence on our lives and imaginations.

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other classes led by long-time Cambridge instructor Dan Boyne, M.Ed. ’98, director of recreational rowing at Harvard.

**Sean Bjerke**
seanbjerke.net

The extraordinarily fleet-footed—and patient—Bjerke normally teaches House dance at Cambridge’s Dance Complex; now he offers free and fee-based classes online. House dance features elements of breakin’, jazz, hiphop, and African dance, along with martial-arts moves. It’s nearly as energizing to watch as to do, and to maximize the fun, try Bjerke’s classes with your children. Kids from ages three to 18 can also join classes through The School of Classical Ballet (modern, tap, and jazz styles are offered, too).

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Historic Threads

Tracing America’s industrial roots in the Blackstone River Valley

by nell porter brown

By the time the talented and shrewd Samuel Slater arrived in Pawtucket, Rhode Island, in 1790, the race to mechanize was on. Groups of carpenters and mechanics, funded by businessmen, were urgently trying to move beyond hand- and animal-power—to catch up with water-fueled, industrialized England. Some even sent scouts “to try and get a glimpse of what was going on over there,” says Lori Urso, executive director of the Old Slater Mill Association, steward of the Pawtucket site where America’s industrial revolution officially began.

Slater had worked at a state-of-the-art cotton mill in England for seven years, starting at the age of 14, and brought with him both the secrets of its patented machinery’s inner workings and, more importantly, a keen sense of their systematic coordination, required for successful, large-scale production. Convinced that England’s textile industry was overextended, he aimed to leverage his knowledge abroad. “Like so many others, he came to the New World for opportunity,” says Urso, “and he must have known what he was doing, taking the information out of England, because

Clockwise from top left: Old Slater Mill site; paddling the waterway; Captain Wilbur Kelly House Transportation Museum; Sylvanus Brown House interior; River Bend Farm Visitor Center, Blackstone River and Canal Heritage State Park; Rhode Island greenway; early mill machinery; and the 1810 Wilkinson Mill

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he didn't tell anyone else—not even his mother—that he was leaving. So, over there, he is ‘Slater the traitor,’ and here he is ‘the father of American manufactures.’”

Visitors to the Old Slater Mill National Historic Landmark also learn that, contrary to popular myth, he didn’t accomplish that alone. The Blackstone River, which runs 48 miles from Worcester, Massachusetts, through Pawtucket, ultimately emptying into Narragansett Bay, was already powering valley farms, cottage industries, and artisans’ workshops during the colonial era.

Landing in New York in 1789, Slater heard about promising efforts in Pawtucket (a hub for the region’s best ironworkers, mechanics, and carpenters) to advance existing spinning jennies; he traveled there to meet prominent Quaker and businessman Moses Brown, and quickly

La Survivance
Preserving French-Canadian history in Woonsocket, Rhode Island

The Museum of Work & Culture tells the story of French-Canadian immigrants who worked in Woonsocket, a bustling Rhode Island hub of industrial mills. By 1920, the community made up 70 percent of the city’s population, and had developed its own churches, parochial schools, shops, and newspapers. “I’ve heard people say that their parents were born here and lived here and never spoke English,” says museum director Anne Conway, “because their entire lives could be conducted in French.”

The museum, operated by the Rhode Island Historical Society, is housed in a former textile mill dating to 1914, and makes use of that architecture in a simple replica of a factory floor. Lifelike statues are bent over looms and mule spinners as the roar of machinery, via audio recordings, fills the room. “The noise was sometimes unbearable, people became deaf,” says Conway. “They developed diseases from breathing the constant fabric and cotton fibers flying through the air. Opening windows was never an option because they didn’t want to dry out the thread; it might break.” Recorded stories from former workers also address the awful heat, filth, and sweat, long work hours with no breaks, and constant rushing to keep pace with, fix—or clean—the dangerous machinery. On a Monday morning, “You’d press the buttons to start the machine and hear ‘clk, clk, clk,’” recounts one person. A rat caught in the machine. “You’d see the blood come out. You’d have to clean the whole machine down now.” Displays also help explain the textile-production process and pay rates, and invite children to test their fine-motor skills to see how well they would have performed as machine laborers.

Another exhibit, honoring the community’s first Roman Catholic church, features a partial scaled replica of the 1870s Victorian-Gothic Precious Blood Church and its chapel. Upstairs, a recreated school classroom, circa 1928, features figures of a nun and priest, and highlights efforts to preserve French-language parochial education.

Local life revolved around the mills and the churches. Conway notes, extending even to recreation and entertainment. Company picnics and competitions among mill baseball teams were hugely popular, and

Woonsocket even produced National Baseball Hall of Fame Major League player Napoleon “Nap” Lajoie, nicknamed “The Frenchman,” active from 1896 to 1916.

Upstairs, see the museum’s replicated façade of an iconic New England triple-decker and its 1930s parlor, where families might have gathered around the radio for news from President Franklin Delano Roosevelt, A.B. ’04, LL.D. ’29. Ring the doorbell to hear recorded oral histories from Woonsocket residents; one woman describes large families with scant income and Saturday night quadrilles (traditional French dances, precursors to square dancing), followed by gatherings at her family’s home for coffee and cake. Nearby, an interactive digitized table map lets visitors track former Woonsocket mills, which peppered the community, and hear more archival stories that are continually collected through a relatively new project: the digital Mill Memory Bank.

Many contributors are the descendants of the estimated 900,000 people who migrated from Quebec between 1840 and 1930, and formed “Little Canadas” in Woonsocket—but also in Lewiston, Maine, Manchester, New Hampshire, and Lowell, Massachusetts. By keeping this Woonsocket history alive, the museum evokes a time of both immigrant struggle and community development, alongside the newcomers’ efforts to adapt to and expand into the mainstream American culture. In reflecting these endeavors, the museum speaks effectively not only to La Survivance, a traditional expression reflecting French Canadians’ fight to preserve their language, faith, and culture amid a disparate migration, but to the wider immigrant stories still heard today.

~ NELL PORTER BROWN

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went to work with the machinist and brilliant inventor David Wilkinson and woodworker Sylvanus Brown, among others. Nearly a year later, guided by Slater’s specifications for new parts, the group had built the nation’s first successful water-powered cotton-spinning machine. Other preparatory machines followed, to break down the bales of raw cotton sent north from slave plantations, and then clean, fluff, and entwine strands (a process called roving) tightly enough to feed them into the spinner, according to Urso. Prior to mechanization, all that work was done by hand, she reiterates: “it could take a year for a mother to make a dress for her daughter.” The new mill, built and owned by the Almy, Brown & Slater Company, opened in 1793 with nine employees, all younger than 12. That practice was common in English factories, partly, Urso reports, because children were nimble and energetic and their “quick little hands” could better accommodate machinery’s moving parts. American child labor laws would not exist for another century.

That mill, and the larger White Mill that Slater built separately with Wilkinson across the river in 1797—which instead of filling custom orders pumped out cotton thread continuously, the system Slater envisioned, and split with Almy and Brown to pursue—became the model for more than a hundred other mills built in Rhode Island by 1815.

“The inventions and technology that first came out of that little Pawtucket building changed this entire valley landscape from farms into mills, and then into mill and factory complexes,” says ranger and historian Kevin Klyberg, of the Blackstone River Valley National Historical Park. “And then that, of course, just got duplicated and expanded all over New England and the Northeast.” Industrialization and the economic booms that followed—the massive mid-nineteenth-century factory complexes in Lawrence and Lowell, Massachusetts, and Manchester, New Hampshire—irrevocably shaped core aspects of the emerging nation’s character, and the lives of its people. “Mechanization determined where and how people worked and lived, and even how they thought about their own identities,” adds Klyberg; especially dramatic, and ultimately (so far) irreversible, was the shift from value, earnings, and trades derived from products grown and made by families, to “an hourly wage for the amount of time people spent with a machine.”
That race to catch up and compete with England—price wars raged for decades as the nations vied to produce and sell the most goods—also coincided with the seminal debate between Thomas Jefferson and Alexander Hamilton over which governing and economic engines would prevail in the new country, and America's push for independent commerce and trade. Definitions and measures of “progress” and “success,” for both individuals and the nation, began to be standardized and, literally, weighed and clocked by the wealth-holders: the new textile-manufacturing and other producers who increasingly controlled workplace conditions and the demand for labor. Over time, Klyberg notes, that also led to the influx of immigrant workers, the rise of labor unions, widespread railroad infrastructure, and even corporate-like business structures: “So much of what we consider modern America starts in the stories of these little valley towns and villages along the Blackstone River.”

Waves of industrial activity through the nineteenth century, he explains, resulted in “almost constant innovation, change, and expansion.” During the first half of the 1800s, fights over water rights accounted for a third of the lawsuits filed in Rhode Island, according to Klyberg. Farms and food production also evolved fairly quickly, growing from subsistence farming to production levels that fed valley neighbors now working in the mills. The advent of rail lines and travel to the Midwest “meant that grains and meats could be produced more cheaply out there and shipped east,” he adds, “so local farms went to eggs, dairy, and vegetables—perishables that don't travel well.” Worcester and Pawtucket became the commercial hubs, but mills and factories sprouted up along the river and its tributaries. Industrialization, like the crucial power looms manufactured in Hopkinton, Massachusetts, at the Draper Corporation (once one of the world’s largest producers), spread beyond textiles to hundreds of different products: rubber, wire, tools, steam engines, toys, and paper. Production peaked in the post-Civil War era, in the age of steam, roughly between 1870 and 1920. But the majority of enterprises were shuttered before, or by, the Great Depression.

Efforts to highlight and preserve the tangible aspects of this early history led to the 1986 designation of the Blackstone River Valley National Heritage Corridor, which covers 25 communities within the watershed, each with its own self-guided tours. The Blackstone River Valley National Historical Park, established in 2014, encompasses six non-contiguous sites within that corridor: the Old Slater Mill complex, Captain Wilbur Kelly House Transportation Museum/Blackstone River State Park, Ashton, and Slatersville (in Rhode Island), plus the Massachusetts communities of Whitinsville and Hopedale.

Of the national park venues, the Old Slater Mill landmark site—which includes the 1810 Wilkinson Mill and machine shop and the 1758 artisan’s cottage once lived in by Sylvanus Brown—and the Kelly House Transportation Museum, offer exhibits, events, lectures, and guided tours from early spring through October. Klyberg reports that the innova-
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Harvard Squared

tions at the Slater and White Mills were followed by “this wildcat phase from about 1810 to 1815 where—almost like the tech boom of the 1990s, when everyone’s saying ‘Hey, I got this computer in my basement, let’s make a billion dollars!’—local valley farmers are saying, ‘Hey, I’ve got six machines and a farm, let’s go make a textile mill!’” That’s what happened six miles upriver from Pawtucket, in Lincoln, Rhode Island, across from what’s now the Kelly House. Local farmers opened a small mill in 1810, which struggled and ultimately failed. Retired sea captain Wilbur Kelly bought it in 1823, and essentially “personifies the change from a merchant economy to a full-scale industrial economy in Rhode Island, with the infrastructure to support it,” according to Klyberg.

Besides the mill, Kelly bought a swath of riverfront property, and then parlayed his connections to shipping magnates and his assets into partnerships in four major valley mills. Adjacent to one that no longer exists, he built a modest clapboard house in 1835 for his son, a mill supervisor.

Now a museum, the Kelly House’s exhibits and tours chronicle the valley’s “transportation transformation,” as Klyberg puts it—from traditional Native American paths and horse-and-cart trails through construction of the Blackstone Canal and the Providence and Worcester Railroad, and the advent of street cars. The Kelly era, he says, reflects bigger investors entering the industrial arena—envisioning far more than simply textile production. Horse carts and wagons had transported valley commercial goods, but Kelly and others, inspired by the Erie Canal, pushed for a valley canal, which operated from 1828 to 1848, transporting food, commercial goods, and even passengers. Photographs and a video help illustrate the massive, three-year, primarily hand-dug effort, at its peak employing more than 1,000 laborers—African Americans and Irish immigrants, among others—wielding picks, shovels, and wheelbarrows to create the roughly eight-foot trenches and fortified banks. The lock systems alone required skilled quarrymen, carpenters, masons, and blacksmiths to construct manual and mechanical systems.

In time, though, the canal was supplanted by railroads, just as steam had replaced water as the source of factory power by the late 1830s.

The Kelly House sits on a lovely spot, with picnic tables and benches, between the river and canal, and along the scenic 11.5-mile Blackstone River State Park Bikeway, which
FIRST CHILDREN: CAROLINE AND JOHN JR. IN THE KENNEDY WHITE HOUSE

COming SoOn

Experience the White House through a child’s eyes in this never-before-seen exhibition at the John F. Kennedy Presidential Library.

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The national park is gathering oral histories from families whose relatives worked in the Ashton mill, which was last owned by Owens Corning and produced fiberglass until 1983. It has since been converted into private apartments, but duck into the lobby to get a sense of the scale and architecture of the original operations. Then head farther down the road to check out the original mill workers’ homes. All but one remain, and have been rehabbed for subsidized housing.

The Ashton Mill was originally a full-service operation, turning raw cotton into sheeting/cloth that was transported south to the company’s Lonsdale Mill bleachery and dye house. In countless places, the valley landscape and Blackstone River were reengineered to benefit industrial operations during more than a century; the companies also produced grievous water and air pollution, even into the 1960s. Federal mandates starting in the 1970s, however, forced clean-up efforts that would enable the area to start shifting “from being an industrial sewer to being a park land,” Klyberg reports, “and that is really the current chapter of the Blackstone River: looking at it as a recreational resource, whether it’s paddling or going on the bike path or coming out with a park ranger to take a walk and learn some of the stories of what’s gone on here.”

The Blackstone River State Park Bikeway, currently connecting Cumberland and Woonsocket, Rhode Island, is a terrific way to explore the region. Stop at the Woonsocket end of the bikeway to visit the Museum of Work & Culture, located in a 1809 woolen mill, the precursor to other mill complexes, like the Stanley Woolen Mill that anchors the state park’s southern entrance. That 1850 brick structure now houses the multi-dealer Stanley Mill Antiques, good for relaxed indoor meanderings—and hunts for purchasable industrial artifacts—including the Millville Lock and the Blackstone Gorge. These tours help highlight just how prevalent relics and other vestiges of this history are in the valley, hundreds unmarked and unheralded. Visitors might also take the Uxbridge self-guided tour that outlines the town’s textile history, dating to an 1809 woolen mill, the precursor to other mill complexes, like the Stanley Woolen Mill that anchors the state park’s southern entrance. That 1850 brick structure now houses the multi-dealer Stanley Mill Antiques, good for relaxed indoor meanderings—and hunts for purchasable industrial artifacts—after the nature trails.

Wherever visitors choose to go in the valley, they will find evidence of American industry and Samuel Slater’s legacy. He died in 1835, having played a role in developing multiple mill communities, including Webster, Massachusetts, where his grave at Mount Zion Cemetery is marked by a simple granite obelisk. “If we think of that mechanical history as a pebble thrown into a pond,” Klyberg notes, “then all the ripples coming off it are what really makes this a rich story. And here we are, more than 150 years later, with people still living and working here—so they did something right!”
Conferring Degrees, 2020

As the coronavirus pandemic spread, Harvard announced on March 20 that it would postpone (but not permanently cancel) the in-person 369th Commencement and alumni reunion activities (see page 14 and harvardmag.com/comm-postponed-20). The annual weeklong celebration of Harvard’s students and its worldwide community draws tens of thousands of people to campus—including a crowd, soon-to-be-graduates among them, of 30,000-plus for the Morning Exercises in Tercentenary Theatre—along with faculty members and a host of guest speakers. But not this year.

“No virtual gathering can possibly match the splendor of our usual festivities,” President Lawrence S. Bacow wrote, “but we will come together online on Thursday, May 28, to award degrees so that everyone will graduate as expected. Each school at Harvard will also host its own special online event and afterwards deliver diplomas through the mail.” Harvard Magazine will cover these virtual Commencement activities (visit www.harvardmagazine.com), and, of course, the news and events of the real-time, real-people, exercises and reunions, when rescheduled. In the meantime, we might all stand and applaud, in spirit, the endeavors—now and in the future—of the University’s growing community.

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Returning to Celebrate, and Eat

Restaurants, new and old, for families and friends to enjoy when back on campus
by JACOB SWEET

Even though Commencement Week has been postponed, there will come a time when alumni can once again gather on campus for past-due celebrations. It’s nice, then, that Boston and Cambridge are home to many restaurants that make great places to gather and eat—all a relatively short trip from campus. From experimental American to classic French, the numerous options mean everyone can find someplace special.

Approaching Talulla, in Cambridge’s Observatory Hill section, you might wonder if you’ve received defective directions: the intimate, white-tablecloth restaurant shares an entrance with the nylon-capped Monica’s Hair Salon. But the dining room’s refined yet relaxed atmosphere puts you immediately at ease. Pictures of the two owners and their young daughter—the restaurant’s eponym—line the walls, and the warmly lit 28-seat dining room with a view of the kitchen makes it feel as though you’re being treated to a comforting meal at the home of a family friend. And the food shines.

For starters, try the strikingly fresh, refreshingly twangy Hamachi Crudo ($18), garnished with miso-pickled vegetables or the rich, but delicate, turnip soup with fresh scallops and cocoa nibs ($17). For mains, the chestnut agnolotti ($27)—perfectly al dente pasta with a sweet, delicate filling—delights. As does the “Rohan Duck” ($34), which hits in waves of flavor, starting with a crisp umami char and finishing with a juicy sweetness pro-
vided by the rye berries, carrots, and shallot confit. The simply titled “Chocolate” (s13) off the dessert menu (a sampling of dulce de leche, chili crémeux, chocolate cake, and Mexican chocolate ice cream) is rich and varied enough for two. The real pleasure of Talulla lies in the details: homemade sour-dough bread, tiny post-meal cookies, and a slew of fresh ingredients. A $60 three-course prix-fixe menu is more than plenty for one, and those looking for more can try a seven-course tasting menu for $115, with wine pairings available for each.

Not far away, the relatively new Colette Wine Bistro—located in the Porter Square Hotel—serves as an excellent stop for a French breakfast, brunch, lunch, or dinner. The lustrous interior retains a vintage feel, with natural light shining in through floor-to-ceiling glass windows. The food shares the same experimental-but-familiar ethos seen at Talulla, with modern takes on classics like steak frites (s32) and chicken leg coq au vin (s25) for dinner, or lighter options like the sweet potato and mushroom risotto (s32) or fennel-braised haddock with roasted butternut squash and blood orange-hibiscus cream (s23). Weekend brunch is also quite popular, with the weightier “Chef Cyrille’s Duck Waffle” (s46)—it’s filled with duck confit—sharing menu space with fish, charcuterie, and zesty cocktails.

A short walk down Massachusetts Avenue, Ittoku is a semi-hidden gem nestled in the downstairs food court of Lesley University’s Porter Exchange building, which brims with delicious and relatively inexpensive Asian restaurants. At Ittoku, order small plates, like beef tongue ($14.50), and crunchy, gooey crab croquette ($12), or opt for sushi combos and udon specials that impress fans of Japanese cuisine and the pickiest of eaters. Guests can treat themselves to a peek at the restaurant’s TV screen, which shows the kitchen chefs hard at work. Although it’s a bit more casual than Talulla and Colette, Ittoku’s food merits a trip.

Head to Inman Square newcomer Corazón de Frida Mexican Cantina for an array of sumptuous, traditional Mexican dishes. The place is also packed with decorative art, large and small, including a cluster of nine colorful portraits and a massive painted mural of Frida Kahlo (who serves as the inspiration for the restaurant, and for the “authentic and patriot pride” it is meant to evoke). Start with fresh guacamole (market price), which is not only homemade, but prepared right at your table—a cheery touch. Note: portions are massive, and the food generally falls on the heavier side. Look for unique items like the chipotle lobster burrito (market price), filled with creamy lobster, shrimp, and mango pico, but don’t feel guilty about going with the classics, like the tender, smoky carne asada (s23) or the juicy poblano veggie fajitas, stuffed with zucchini, corn, mushrooms, onions, and peppers ($21). Or the margaritas, either.

Around the corner, Oleana, a longtime Cambridge favorite, provides gourmet Turkish and Middle Eastern food with locally sourced meats and fish, artisanal wines, and produce from the owner’s Siena Farm. The award-winning restaurant, with indoor and outdoor seating, has a moderate-sized menu filled with dishes that draw inspiration from chef/owner Ana Sortun’s travels. Frequent guests especially recommend the “Warm Buttered Hummus” (s6) and moussaka (s15) from the “Hot Meze” section, along with the baked Alaska (s15) with coconut cream and passion-fruit caramel. The lemon chicken (s27) and lamb and grape leaf Sarma (s29)...

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An excerpt from a letter written by F. Scott Fitzgerald...as appropriate today as it was during the quarantine of 1920

Dear...It was a limpid dreary day, hung as in a basket from a single dull star. I thank you for your letter. Outside, I perceive what may be a collection of fallen leaves tumbling against a trash can. It rings like jazz to my ears. The streets are that empty. It seems as though the bulk of the city has retreated to their quarters, rightfully so. At this time, it seems very poignantly to avoid all public spaces. Even the bars, as I told Hemingway, but to that, he punched me in the stomach, to which I asked if he had washed his hands. He hadn’t. He is much the denier, that one. Why, he considers the virus to be just influenza. I’m curious of his sources.

The officials have alerted us to ensure we have a month’s worth of necessities. Zelda and I have stocked up on red wine, whiskey, rum, vermouth, absinthe, white wine, sherry, gin, and lord, if we need it, brandy. Please pray for us. You should see the square, oh, it is terrible. I weep for the damned eventualities this future brings. The long afternoons rolling forward slowly on the ever-slick bottomless highball. Zelda says it’s no excuse to drink, but I just can’t seem to steady my hand.

In the distance, from my brooding perch, the shoreline is cloaked in a dull haze where I can discern an unremitting penance that has been heading this way for a long, long while. And yet, amongst the cracked cloudline of an evening’s cast, I focus on a single strain of light, calling me forth to believe in a better morrow...

History repeats itself, kindness prevails.

The Charles Hotel will always be here for you.

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are also popular. Speaking of which, Sarma, a related Sortun restaurant in Somerville, has a more open, slightly more casual feel, and dishes out similarly high-quality Mediterranean plates, often to a convivial, latenight dining crowd.

Those venturing into Boston will find that Sportello—a sleek, brightly lit trattoria-inspired spot in the Fort Point Channel District (convenient for anyone arriving at nearby South Station)—is a great place for a small gathering over homemade pastas and creative, locally sourced entrées. The melt-in-your-mouth potato gnocchi ($28) with lobster, mushroom ragu, and peas, is a favorite, and all food can be paired with wines selected from across Italy. A prix-fixe lunch menu (two courses for $32, three for $37) or a three-course family-style dinner ($55 per person, with wine pairings for an additional $35) are pricey, but much praised.

For someone seeking a beautiful view of Boston Harbor, the newly opened Woods Hill Pier 4, has that—along with myriad homemade pastas, fresh vegetables, and seafood. Located beside the Institute for Contemporary Art (well worth a pre-dinner visit), the 186-seat glass-walled restaurant touts its local sourcing and offers complex dishes meant for sharing, like the squid ink casarecce (89) with lobster and crab ragu, and confit tomatoes. The restaurant’s 50-person patio area also makes a perfect late-spring hangout.

Farther from the ocean, but with a lively all-around view of Tremont Street, MIDA, an Italian spot in the South End, has dimmer lighting and lots of seating for a narrow dining room—creating a buzzing, upbeat dining atmosphere. The waiter was quick to recommend the delicate, buttery lobster scampi with linguine, fresh basil, and mascarpone (24)—and happily offered complimentary homemade focaccia (normally 57) when the kitchen ran out of sourdough bread. With friendly service, select house wines, and the creamy tiramisu (80), topped by freshly brewed espresso, MIDA invites lingering.

For rich, classic French fare, try another South End haunt, Bar Lyon, known for its subtle elegance and warmth, both culinary and otherwise. The crisp and tender duck confit appetizer (single 31.95, double 51.95) is popular, as are the light market greens (9.95): pickled beech mushrooms and shaved radishes with a Dijon and herb vinaigrette. “Le Burger” (21.95), featuring pork belly, mushroom duxelles, a farm egg, and dry-aged beef is intense in flavor, and plentiful in fat; some diners claim it’s the top burger in Boston. Mistral, a short walk away, spotlights French-Mediterranean cuisine at a higher price point, in a chic, airy, multi-pillared dining room, detailed with French pottery and arched floor-to-ceiling windows.

Closer to the Charles River, in Boston’s Back Bay, is Rochambeau, a spacious, buzzing spot for French-styled food at any time of day. The multi-level restaurant boasts two bars, two dining rooms, an outdoor patio, and a café. Small and intimate it is not, but that’s not a problem. The coq au vin (25) and roasted half-duck à l’orange (33) are comforting favorites, as is the traditional French onion soup gratinée (12). With its plethora of dining environments and loaded menus, there’s a vibe—and a dish—for everyone.

Whenever you find yourself back in the Greater Boston area, restaurants—old and new, fancy or familiar—beckon. We hope you enjoy.
Harvard Square
Old and New

A Harvard\textsuperscript{2} Local Business Round up

Is there a neighborhood more steeped in personality than Harvard Square? There are legendary landmarks—from Club Passim to Café Pamplona—alongside new destinations like Bon Me, The Sinclair, and Saloniki. Commencement season is a fitting time to honor the old and the new.

And these businesses need your patronage. Having been mostly closed for weeks due to coronavirus, their survival depends on the Harvard community. Our hope is that soon after this issue arrives in your mailbox, the neighborhood will be on its way back to bustling.

In that spirit, begin your next visit or stay by settling in at the Charles Hotel, steps from the Square and fresh off a remodel. Enjoy a sunset drink on the patio at Noir Bar or a lengthier feast at Benedetto, with handmade pasta from Michael Pagliarini, known for Italian gem Giulia in Porter Square. Or check into Hotel Veritas, for a charming mix of modern and traditional. The name is Latin and the exterior looks like a classic New England residence, but inside you’ll find of-the-moment niceties including high-ceilinged rooms with gorgeous balconies that overlook the streetscape and a lounge that serves cheeses and charcuterie from local favorite Formaggio Kitchen.

When it's time for dinner, duck into Parsnip in the much-loved former UpStairs on the Square space. Executive chef—and Bobby Flay...
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protégé—Jeffrey Salazar fuses classic dishes (a double cheeseburger) with global twists (duck spring rolls). Or pay homage to 45-year-old Harvard Square stalwart Harvest for a meal on its welcoming patio. Be sure to order one of executive pastry chef Joshua Livsey’s delicious desserts; you might have seen him on the Food Network’s Best Baker in America championships.

Thus fortified, browse shops familiar and new. Bob Slate celebrates its ninetieth birthday this year and still has the snazziest stationery in town (and ultra-personal service); clothes at the Andover Shop are as preppy as they were back in 1948; and the air at Leavitt & Pierce still swirls with the aroma of potent tobacco, just as it has since 1883.

But the neighborhood is transforming, too, with plenty of new spots worth a look. Get a blowout at Dry Bar before meeting friends; treat yourself, before a night on the town, to artisan jewelry or a new handbag at Motto’s (now on Church Street, instead of Brattle); or wind down with bodywork, Bikram-inspired yoga, or Pilates at Breathe’s calming studios.

Next, begin the day with doughnuts from Blackbird. Rebecca Roth Gullo and her team run shops throughout the Boston area (plus South End destinations like Banyan and the Gallows); their dense, yeasty creations—Boston cream is a must—offer a sugar high to carry you through the day. Flour, Boston’s favorite bakery—founded and run by wunderkind chef Joanne Chang ’91, also has a buzzing Harvard Square branch. Load up on their signature sticky buns, drenched in a smoky, rich caramel.

Then pack a picnic and lounge in the Yard. Your favorites still hum along, from Cardullo’s for gourmet sandwich creations to Savenor’s—Julia Child’s chosen grocer—for deli platters arrayed with unusual cuts.

Kids in tow? Stop into Tasty Burger for chicken nuggets, cheese-drenched tater tots, and a minty Green Monster milkshake.

For a more grown-up interlude, catch a show at the beloved Scullers Jazz Club. They host weekend performances on Friday and Saturday evenings; sip a French 75 with friends and soak up the Charles River views. Or duck into Club Passim, a folk destination since the 1950s. In recent years, they’ve introduced a live-music
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brunch; nibble black-bean eggs Benedict while listening to mellow tunes, from traditional to jazz. Looking for other art forms? Take in a show at Oberon, the American Repertory Theater’s second stage, which continues to produce edgy, original programming—so distinctly Cambridge—from dance parties to open mics. Or spend an afternoon wandering the Harvard Art Museums.

Before leaving, raise a goodbye toast—either over espresso at a sidewalk table at Café Pamplona, the neighborhood’s oldest café, or with a beer on the sunny patio at Grendel’s Den. Relax and watch the parade of local characters stroll by, just as it’s always been.

Except, of course, the neighborhood isn’t as it’s always been. While you’re dreaming about your next trip, you can also show your support right now. Buy a restaurant gift card for yourself or for a friend for future use, shop your favorite virtual boutique, or make an online donation where appropriate. Show these businesses and organizations that you’re with them in spirit, if not in person, until we all meet again in the Square.

～ KARA BASKIN

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If “coronavirus” or “social distancing” becomes the word of the year, Harvard will have had a leg up on the lexicographers.

On February 24, the University announced a $115-million biomedical research partnership with scientists in China to investigate the virus’s biology, diagnostic tools, and development of vaccines and therapies. (See harvardmag.com/sars2fight-20 for an overview of the program, and early research insights from leading Harvard geneticists, epidemiology, and vaccine scientists—including unfortunately prescient warnings about the pandemic to come and its frightening potential.)

On March 6, the College announced that Visitas—the annual weekend during which admitted applicants can visit campus before committing to accept their offer of admission—would be canceled; an online Virtual Visitas was scheduled in place of the April 18-20 gathering.

The following Monday, March 9—in light of the University’s prior decision to eliminate gatherings of more than 100 people (venues such as Sanders Theatre and the forum at the Kennedy School’s Institute of Politics were shuttered, and their programming canceled)—the College declared that Housing Day, scheduled for March 12, when first-year students learn their upper-class residential assignments, would be postponed.

And the next morning, President Lawrence S. Bacow informed the community that instruction in residence would be suspended “until further notice.” Students were directed not to return to campus after spring
An unseasonable move-out: packing up at Eliot House (left) and, in the Yard, a passing farewell to John Harvard

recess, scheduled to begin that Friday afternoon. In the next few days, students scrambled to rearrange their lives, and the institution scrambled to deploy funds for those on financial aid to store or ship belongings home, and to help arrange and pay for travel. Impromptu arrangements were made to house and feed students who could not go home. Community members pitched in. For example, Adams House associate Michael Weishan ’86, executive director of the Franklin Delano Roosevelt Foundation (an evocative name during a grave crisis) reported that an appeal for funds to help students in need yielded $20,000 overnight—promptly disbursed in small grants: $60 for gas so a father could pick up a student, $150 to replace a laptop battery (to be ready for online classes), $90 for airline baggage fees—and money for food for a student without family means.

In rapid succession, Ivy League athletic practices and competitions were ended for the balance of the spring semester (see page 29); the Harvard Art Museums closed; Faculty of Arts and Sciences (FAS) staff members were directed to begin a trial of working from home during the recess week, starting March 16; and scholars and their teams were instructed to “ramp down laboratory research activities by Wednesday, March 18, with the expectation that such a period of suspended lab access will likely last at least six to eight weeks.” Seniors, given a week’s grace period, submitted their theses from home—as PDFs. Professors began learning how to adapt lectures, seminars, and labs to Zoom.

Still, it was sobering on the rainy final March morning before break (Friday the 13th, as it happened) to find Harvard Yard—its turf still wintery-brown, not spring-green—punctuated with traffic cones and directional signs for move-out, two months prematurely. Vehicles with out-of-state license plates and “Harvard Parent” decals drove slowly around the perimeter, then stopped at dormitory entrances so families could collect their still-stocked belongings. In his March 12 update to undergraduates, FAS registrar Mike Burke, doing double duty as co-director of Harvard College Emergency Management, had underscored the urgent situation, writing: “[T]he most important thing to be mindful of right now is the need to de-densify our community. The best way we can help fight the spread of this disease is through smart, social distancing, and that is why you should not wait until the last minute to move out if you are able to do so sooner.”

There were flashes of resistance, and of humor. A midweek-night visitor to campus found students, presumably seniors, not maintaining social distance: partying hard, in the way they might ordinarily do just before getting their diplomas—commemorating, and becoming maudlin about, the friendships made during their heretofore more cheery college years. The wags at Satire V tweeted about Virtual Visitas, with one comment in a mock thread reading, “haha the Stanford virtual weekend is in VR, kinda leaning toward them tbh.” An alumnus of a certain age, and an athletic bent, channeled Tom Lehrer ’47, A.M. ’47, in suggesting that the chief public-health recommendation be emblazoned on posters around campus, urging all to “Wash Fiercely, Harvard!” There were ghoulish reflections on the overnight resolution of Boston’s formerly maddening commutes (offset by the disquieting sensation of empty highways and subway platforms). The persistence of such human spirit, amid the alarming news and social displacement, was perhaps the best medicine of a certain kind.

In purely academic terms, of course, the hard parts were still to come. With students dispersed and public-health experts recommending eight weeks of social separation, could there be a 369th Commencement as scheduled on May 28 (read about the marquees speakers on page 23)? Sadly, prudently, no, as Bacow informed the community in a heartfelt letter on March 20 (see harvardmag.com/comm-postponed-20). Virtual conferral ceremonies will assure that all in line to receive a degree will in fact have it awarded. And the formal exercises are postponed, not canceled, he wrote: the University intends to “host an in-person celebration sometime later, once we know it is safe to bring people together again.” The news, although expected, confirmed the sense of dislocation felt especially acutely by College seniors abruptly separated from friends, with beloved haunts left behind. (To read their reflections, and coverage of remote teaching, see the article links in the box on page 17.)

After what they described as intense preparations, faculty members in all disciplines began teaching remotely on Monday morning, March 23—and students seemed glad to be reconnected to their courses, professors, and peers.

This step toward a new normalcy was in-
terrupted shortly after noon the next day. A new message from Bacow brought the pandemic home: he and his wife, Adele Fleet Bacow, had tested positive for COVID-19, and were isolating at home. (They recovered.)

Affirming how much had changed for the community, on March 27, FAS dean Claudine Gay notified her colleagues that grading for this term will be on an “Emergency Satisfactory/Emergency Unsatisfactory” or “SEM/UEM” basis. She cited the often demanding circumstances in which students found themselves: “Some have seen parent job losses, or have had to take over childcare and other household responsibilities, as healthcare and other essential workers in their families continue to provide critical support or have become ill themselves. Those who relied on the public library for Internet access are struggling to find other ways to join their classmates online, as public buildings are ordered closed. Students in a time zone 12 hours away from us are feeling remote and closed off...by closed borders.”

While these emergency measures were being taken, University leaders also had to begin contending with the inevitable financial fallout from the stunningly swift change from a growing, full-employment economy to a prospectively severe recession. In their messages accompanying Harvard’s fiscal year 2019 annual financial report, released last October, President Bacow and vice president for finance Thomas J. Hollister pointed to the likely imminent end of the record U.S. economic expansion: the recovery dating from the financial crisis and Great Recession more than a decade ago (see harvardmag.com/financial-endowment-reports-19). Bacow has experience with lean times (he led Tufts University through that tumultuous period; see “The Pragmatist,” September-October 2018, page 32), and accordingly directed Crimson administrators and deans to plan warily. Hollister’s organization disseminated a leaned-down “financial resilience” guide, subtitled “A Recession Playbook,” summarizing detailed internal advice on how to incorporate this cautious perspective in plans and operations (https://ofsp.finance.harvard.edu/blog/financial-resilience-harvard)—and increased cash holdings. In a harbinger of things to come, on March 18, Moody’s Investors Service downgraded the entire higher-education sector’s credit outlook to negative, citing higher expenses and constrained revenues.

For Susan Murphy, mathematics was always the place “where everything made sense.” The first woman tenured in Harvard’s statistics department, she fell in love with numbers as a grade-schooler in southern Louisiana, surrounded by chemical plants and antebellum homes. She followed her interest to Louisiana State (“Because, you know, everybody goes to LSU if you’re from Louisiana”) and took every math course offered. In graduate school, she dove into probability and read a paper on martingale theory—“an area that studies how data evolve over time”—that changed her life. “I realized I wanted to solve real problems but use beautiful math to do it,” she says. In 2013 she won a MacArthur Fellowship for work on methodologies for finding therapies to treat chronic or relapsing diseases: depression, schizophrenia, addiction, cancer. “Much of the way we’ve collected data evidence in medicine is via randomized trials that were developed long ago, for settings in which the patient either was cured or died,” Murphy says. “So, you really only got one chance to help.” Today, as diseases wax and wane, clinicians must make a sequence of decisions about care. So, too, must patients, and Murphy’s recent work aims at them: mobile applications that use artificial intelligence to support struggles with alcoholism, smoking, overeating, and other challenges. “The contingencies of the moment conspire against you,” she says. “But a wearable device—a phone, a tracker—can help manage those contingencies with suggestions, advice, support. They can help get you to the next moment.” To clear her mind of professional puzzles (and help with her own contingencies), Murphy plays ice hockey, seriously, five times a week—another unlikely outcome for a Louisiana girl who fell, hard, for mathematics.
Nevertheless, as of late March, it could be said with confidence that compared to the crisis and Great Recession that marked 2008-2009, the University today is prepared for adverse economic circumstances and contingencies with far more liquid financial resources on hand. Moreover, expense growth during the past several years has been relatively restrained compared to the middle of the prior decade (Harvard has banked surpluses since fiscal year 2014). So the inevitable spending adjustments, though perhaps difficult, will come as less of a cultural shock to the institution. Finally, abrupt though the revaluation of investment assets has been during this late winter and early spring, it is—so far—less extreme than the cumulative market collapse that marked the end of the prior decade.

During the last week of March, Hollister noted two immediate consequences of the coronavirus disruptions.

First, “We’ve been writing checks back to people” to refund room and board fees for the duration of the spring semester. And in the meantime, on March 27, the University announced that it would maintain the pay and benefits of administrative and service employees, like dining personnel, and would provide pay and benefit relief for contracted dining, custodial, and security personnel whose work is disrupted—all through May 28.

Second, he noted that revenues expected to be received from in-residence executive and continuing education are obviously at risk for the rest of the spring term, and perhaps beyond. This is a year-round, huge business for Harvard (such revenues totaled a half-billion dollars in fiscal year 2019, with just a fraction delivered online—and those courses may be vulnerable, too). Although Harvard Business School and FAS’s Division of Continuing Education are the largest providers, most schools have some continuing-education courses, most were investing in expansion, and, in aggregate, such instruction has been Harvard’s most consistently growing source of revenues in recent years. The prospective loss of these funds could quickly amount to tens of millions of dollars, if not much more.

Hollister also pointed to likely pressure on individuals’ philanthropy, and on nonfederal sponsored research support ($300 million of revenues in fiscal 2019)—itself reliant on donor institutions’ underlying assets.

That raises the question of Harvard’s endowment—distributions from which are the largest source of revenues for the University’s academic operations (35 percent of the $5.5 billion total in fiscal 2019). Although an illustration of how the endowment might be affected under certain assumptions appears within a larger report on Harvard finances at harvardmag.com/virus-fiscal-hit-20, conditions are obviously very fluid; results will be reported in early autumn.

Endowment distributions are determined by a formula that smooths investment performance in prior years to dampen the effects of extraordinary gains or losses in any one year’s budget. Thus, a double-digit percentage decline in the endowment’s value does not automatically translate into an equivalent reduction in the funds distributed to the faculties in the next fiscal year. For the year beginning this July 1, deans had been expecting a modest increase in the funds distributed. Given recent comments by Hollister ("[W]e expect to see a decline in revenues due to...increased financial-aid needs...and a lower distribution from the endowment, and we will need to adjust our spending accordingly"), it may be time to read the tea leaves. If the endowment’s value indeed declines significantly, the distribution will be adjusted—perhaps sooner rather than later, and in any event, no longer delivering the annual increments in funding to which schools have become accustomed in order to fulfill their academic missions.

Whatever unfolds, the financial administrators’ “ playbook” has a checklist: “identify and anticipate economic exposures,” “divid[e] all programs and activities within categories of investment, maintenance, or reduction/elimination,” “create off-ramp budget flexibility,” “build cash reserves,” and so on. It would be surprising if Harvard officials were not already scrutinizing hiring, expenses, compensation, and more—putting their recession preparations into effect sooner, and more strictly, than the community expected when spring term began—what seems an age ago.

—John S. Rosenberg
Rebooting Online Education

Editor's note: This article was reported before students left campus (see page 14) and the University pivoted to remote teaching, effective with the end of spring recess on March 23 (a huge effort highlighted by President Lawrence S. Bacow: see page 3). That overnight transition was enabled significantly by faculty members' experience in Harvard courses (begun early in the decade); their discussions of pedagogy advanced through the Harvard Initiative on Learning and Teaching; the hundreds of online courses they have offered through the Extension School; the professional schools' growing online executive-education programs; and the expert staff engaged in supporting all these activities. HarvardX, HILT, research, and more come under the umbrella of the Vice Provost for Advances in Learning (VPAL). This report focuses on VPAL's new strategy for “asynchronous” (available any time) online learning of the sort initially developed for HarvardX—not on the shifting of enrolled degree candidates' current classes to live, remote instruction via Zoom and other technological systems.

On May 2, 2012, when Harvard and MIT unveiled edX, their collaboration to create and disseminate classes online, the potential for massive open online courses (MOOCs) to transform learning worldwide seemed limitless. Stanford computer scientists had founded Coursera and Udacity to develop online teaching as a business; edX offered other schools a nonprofit way to explore virtual education for the greater good. All the ventures were motivated by what then-Harvard president Drew Gilpin Faust described as the “unprecedented opportunity to dramatically extend our collective reach by conducting groundbreaking research into effective education and by extending online access to higher quality education” in multiple beneficial ways. This was to be an ambitious experiment: the edX founders each committed $30 million in institutional funds and donor support to underwrite the fledgling enterprise.

The hope was that MOOCs would:
• help educate the unschooled worldwide;
• transform pedagogy on residential institutions' campuses; and
• perhaps, harness technology to make the labor-intensive process of teaching more efficient and cost-effective.

Late this winter, professor of government and deputy provost for advances in learning Dustin Tingley put the outcome in the context of those goals. That edX generation of MOOCs, he said, “was an experiment that in some senses had to happen.” A nonprofit organization was the best way to sample the breadth of the University's instruction online: in the humanities, for example, alongside presumed high-demand computer-science and applied and professional skills. Having led the research to which Faust alluded, Tingley said those courses revealed a lot about how to “embrace the online format for what it is, rather than as a re-creation of what we do residentially but just delivered online”—initially by the taping and passive presentation of lectures.

Like most experiments, the initial MOOC enterprises have yielded mixed results.

• Analysis of Harvard’s MOOCs revealed that the vast majority of those who complete courses already have college degrees. Democratizing higher education for many people around the world is not simply a matter of posting a menu of MOOCs: the hurdles of awareness, access to the technology, and teaching largely in English compound the difficulties of limited opportunities and academic preparation.

• Engagement is not automatic. For all the millions of initial course registrants, only a single-digit percentage finish the work. Studying online is “a pretty lonely experience often, and it’s easy to become very passive,” Tingley said—and succumb to the distractions of doing something else online, skimming the text, or half-listening. Students have little patience for 30- or 50-minute units, particularly in the absence of “Nova’s production values,” as he put it.

• Nor is “free” a sustainable business model. HarvardX doesn’t disclose the cost of producing a MOOC (it has released 90-plus unique courses), but the available literature suggests that a high-quality equivalent to a semester offering can cost a quarter-million dollars. Enriching the presentation, and adding interactive tools that demonstrably enhance learning, can add substantially to that cost. The University’s staff of online videographers, data scientists, and others numbers between four and five dozen—excluding their counterparts in the schools. Unsurprisingly, Coursera and Udacity have developed fee-based businesses in corporate and professional training. And edX has asked member universities to allow it to assess user fees (Harvard has declined), and has turned progressively toward charging learners $75 to $750 for tiers of course certification.

• And finally, Tingley said, most online materials to date weren't designed for classroom use, and have proved hard to adapt for that purpose. Harvard Business School (HBS) has recently accommodated overflow demand for a popular negotiation course by allowing students to use the online version, but that is a purpose-built exception that proves the rule. Many campus courses are now “flipped,” with lectures recorded for viewing and class time devoted to problem-solving and discussion of difficult concepts, but such teaching can be effected without engaging the full HarvardX apparatus (see a professor’s account, pre-edX, in “Reinventing the Classroom,” September-October 2012, page 54).

So is the online experiment at a dead end? Hardly, in light of the...
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Yesterday’s News
From the pages of the Harvard Alumni Bulletin and Harvard Magazine

1915 The University's new professor of hygiene institutes precautionary measures in the weekly inspection of milk, butter, and cream supplies in various Harvard dining halls to forestall the 'epidemics and 'flashes' of typhoid which have wrought havoc in other colleges....'

1925 The Massachusetts legislature passes an act to permit construction of a footbridge over the Charles River from the Cambridge side to the site of the Business School's proposed buildings.

1935 President Conant's proposal to eliminate Latin as an entrance requirement for A.B. candidates creates a furor....The Faculty Council decides that knowledge of either Latin or Greek will remain a requirement for the A.B. degree.

1960 The Faculty of Arts and Sciences approves Social Studies as the second interdepartmental honors concentration for undergraduates, almost 60 years after History and Literature became the first.

1965 Chanting 'Raise Cops' Pay,' a shifting group of about 200 undergraduates stage a spring 'riot' on Sunday, May 9, between 10 p.m. and 1 a.m., heading to Radcliffe twice and to Lesley College once for panty raids, largely unmolested by either Cambridge or Harvard police. The outbreak apparently forestalls a planned sit-in at Lamont by a Radcliffe group, WILL (Women to Invade Lamont Library).

Harvard asks the Cambridge City Council for permission to spend $2 million to depress Cambridge Street and build a pedestrian mall over it from Littauer Center and Phillips Brooks House to the fire station.

1985 A small protest fails to keep South Africa's consul general from a Harvard Conservative Club luncheon at Lowell House, and the crowd grows to nearly 200; some block a Harvard police car, others scuffle with a police escort. (The consul leaves via steam tunnel.) The incident prompts the reconvening of the Committee on Rights and Responsibilities (set up in 1969) for the first time in seven years.

2000 A University committee recommends extending job training and health-insurance benefits to almost all University employees, including casual workers and those employed through subcontractors.

Hundreds of students, meanwhile, turn out to hear Matt Damon '92 endorse the living-wage campaign being sponsored by the Progressive Student Labor Movement.

...calling ‘teaching’ a matter of discovery for the student, rather than leading with, ‘This is the thing you should discover.’” Thus, as teachers guide a course, the online platforms can now enable pedagogies that incorporate quick-reaction quizzes and pop-up “cold calls” to stimulate student thinking and expression, plus social-media-like ways of encouraging consultation with other learners online at the same time.

As opposed to long-form, didactic, lecture-based instruction, these features emulate some of the liveliest attributes of the case-method form of instruction pioneered at HBS, which effects “a powerful combination of inductive teaching and peer...[...] a strategy for what does work in online education. Byers professor of business administration Bharat N. Anand, who became vice provost in October 2018, has articulated a strategy focused on:

- emphasizing learning rather than teaching: moving from the broadcast model of disseminating lectures or other classroom teaching toward inductive, problem-solving learning experiences. The technologies now exist to record faculty members' instruction, so they don't need to be available online live, even as their courses engage widely dispersed students in active exercises and peer-to-peer interactions, making for immersive learning at a large scale.

- and being flexible about where learning occurs and in what formats—for example, by creating shorter units rather than semester-length classes; creating foundational modules on basic concepts that might be useful entry points to multiple courses (on campus or online); and addressing prospective learners with diverse needs.

Drawing upon HarvardX, the large extension operation, and the University's schools—including Harvard Business School, where he led development of HBS Online and its pedagogically driven platform—Anand and Tingley are far advanced in developing a new generation of online learning experiences, created and taught by colleagues from across the faculties.

Their common feature, as Tingley put it, is “start[ing] with a learning experience when it is a matter of discovery for the student, rather than leading with, ‘This is the thing you should discover.’” Thus, as teachers guide a course, the online platforms can now enable pedagogies that incorporate quick-reaction quizzes and pop-up “cold calls” to stimulate student thinking and expression, plus social-media-like ways of encouraging consultation with other learners online at the same time.
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learning.” Anand said: students engage with a problem in an area of interest, and discover for themselves, with their peers, underlying explanations and theories of action. (For a sense of how these features work, see harvardmag.com/onramps-19, which details how the HBS Online CORe sequence is used by entering M.B.A. students before they arrive in Allston.)

The multidirectional learning thus enabled—teacher to learners, learners to teachers, learners back to teacher—produces radically higher online engagement and course completion: the fundamental insight from the past several years’ experience. (It can also be scaled up without requiring unlimited access to the instructor, the key to making the entire process feasible.)

That is especially the case when the courses “speak to the problems of our time,” Anand said. Such content lends itself to a curricular model of online coursework focused on the skills required to teach. Over time, courses from individual fields, like health care, accumulated, but they lacked coherent connections or a sense of direction toward a prospective learner’s larger goal. On a liberal-arts campus, where full-time matriculants may choose from among hundreds or even thousands of courses, this cornucopia of choices may be a signal strength. Online, however, the motivation differs.

Given that opportunity, Anand has set the stage for targeted online course series, squarely within Harvard’s focus on educating leaders.

HarvardX will still create stand-alone MOOCs. But its production pipeline now focuses on highly engaging, tiered course sequences for identifiable groups of learners. They are fee-based, at an anticipated cost of as much as $1,500 per course (coupled with financial aid, bundled discounts, and subscriptions—shaped for users’ needs). Among those envisioned are:

- Data and digital readiness: two multi-unit series on data science (led by Tingley) and digital readiness (led by Anand), scheduled to debut this coming winter. Unlike instruction focused on the skills required to program or work as a data engineer, Anand said, these courses are for the much larger set of learners, in all kinds of organizations, who need to “understand the issues, acquire intuitions, develop judgment and critical thinking that enables one to separate hype from hope, understand the privacy issues and ethical context”—and apply what they learn in contexts ranging from business to policymaking and government. To prepare leaders in those realms, he and teaching colleagues will cover strategy, design thinking, execution, organizational change, and technology ethics in a cumulative way. Course leaders identified to date come from statistics, government, engineering and applied sciences, philosophy, medicine, and HBS.

In outline, the data-science series begins with a course titled “Data Science Ready” (covering basics such as prediction, causality, and data privacy) and moves through successors on data science for managers, business contexts for data scientists, machine learning, and more. The series, Tingley said, “depends on a consistent, coherent framework for letting learners know how these classes fit together” in “an actual, integrated curriculum.” When those enrolled want to pursue a topic, he said, “I can tee up, ‘If you want to take a deeper dive, here’s a course for that.’” Teachers know that students will have encountered examples earlier, and in what context. The result, again drawing upon faculty members from across Harvard, should be an intentional, “integrative experience.”

- Healthcare leadership, being developed by David H. Roberts, dean for external education at the Medical School, and Leemore S. Dafny, Rauner professor of business administration. In support of healthcare information and transformation, the series will cover healthcare economics, strategy, patient care, digital system, policy, and technology.

Character Count

It is widely known that Harry Widener (Vita, May-June 2019, page 44) had a memorably unsuccessful experience boating—on the Titanic. Barely known is the role that African-American architect Julian Abele had in creating the eponymous library, in his capacity as chief designer in the Office of Horace Trumbauer, the name architect for the project.

Abele is now getting some overdue credit, thanks to a gemlike display in the dome of the library, assembled by Kate Donovan, associate librarian for public services in Houghton Library and curator of the Widener Memorial Collection. (Kudos to the news office’s senior writer, Colleen Walsh, and photographer, Stephanie B. Mitchell, for bringing the exhibition to the community’s attention.) Beyond rectifying the unjust neglect of Abele’s work, the drawings themselves and their setting (when accessible again) may cause visitors to reinterpret the building itself. Its mass, hunkered down in Harvard Yard, is its overwhelming feature—but inside and out, it is finely and delicately decorated in many pleasing ways.

The front elevation of December 23, 1912, shown here, is not definitively from Abele’s hand. Nonetheless, the detail atop the columns merits amused attention: “INSCRIPTION HERE NOT TO EXCEED FIFTY LETTERS A.D. MCMXII.” As contemporary observers can attest, the stonecutters in the end had to chisel only 44—something anyone passing by can see even while the libraries are closed.
Corporation Headliner
Diana L. Nelson ’84, former vice chair of the executive committee of the Board of Overseers, returns to Harvard service, effective July 1, as a member of the Corporation. Her appointment, announced in February, fills the vacancy created when venture capitalist James Breyer, M.B.A. ’87, stepped down at the end of one six-year term last June. Nelson was a co-chair of The Harvard Campaign (concluded in 2018), and has co-chaired her class reunions since 1994. A fine-arts concentrator, she is now president of the board of the San Francisco Museum of Modern Art. Until last summer, Nelson served as chair of Carlson Inc., the travel-services conglomerate; she will become chair of its parent company, Carlson Holdings, Inc., in May. Read more at harvardmag.com/nelson-corp-20.

Admissions Lawsuit, Round 2
On February 18, Students for Fair Admissions (SFFA) filed its brief appealing the district court ruling in its case alleging that Harvard’s race-conscious, holistic undergraduate admissions policy discriminates against Asian-American students. Judge Allison D. Burroughs ruled in the University’s favor last October, after an extensive trial (see “Harvard’s Admissions Process Upheld,” November-December 2019, page 21). From the outset, the litigation had been seen as an attempt to get a case before the Supreme Court, where the plaintiffs hope to secure a decision outlawing consideration of race in admissions, so the appeal was expected. On February 23, the U.S. Department of Justice filed an amicus brief supporting SFFA, characterizing Harvard’s procedures as “illegal race discrimination.” The University’s response is due by May 14, with oral argument, if granted, and a subsequent appellate decision ensuing several months after.

New University Professor
Oliver Hart, co-winner of the 2016 Nobel Prize in economic sciences, has been appointed Geyser University Professor. A member of the faculty since 1993, he has made contributions in diverse fields ranging from contract theory and corporate finance to law and economics. Announcing the appointment in early March, President Lawrence S. Bacow hailed Hart’s scholarship for having “not only deepened our knowledge of economic theory but also driven its application in a range of contexts.” He succeeds William Julius Wilson, who retired last September.

Faculty-Dean Departures
With the February announcement that Xander University Professor Douglas Melton and Gail O’Keefe would conclude their service as Eliot House faculty deans at the end of the academic year, Harvard College dean Rakesh Khurana faces searches for successor faculty deans at five of the undergraduate residences. The others are Cabot (from which Khurana and his wife, Stephanie Ralston Khurana, are stepping down), Kirkland, Quincy, and Winthrop Houses.

AI, Ethics, CS
Harvard’s peers are actively pursuing intellectual and practical fields also of lively interest here. Among them, Stanford—intimately associated with Silicon Valley—has launched an Ethics, Society and Technology Integrative Hub to engage all its schools in exploring the ethical challenges (privacy, bias, and so on) associated with innovation. Its Institute for Human-Centered Artificial Intelligence, also new, is addressing these matters in that rapidly developing, but contentious, field as well…The University of California, Berkeley, launching its $6-billion Light the Way campaign on February 29, kick-started the effort by announcing an anonymous $252-million gift—the largest…

WOULD-BE HONORANDS. Before COVID-19 postponed the May 28 Commencement exercises, Harvard announced that its guest speaker, following the morning exercises, would be Martin (“Marty”) Baron, executive editor of The Washington Post since 2013—perhaps the nation’s leading newspaper journalist during an era of traumatic change within the industry and of unprecedented attacks on journalism by leaders here and abroad. See harvardmag.com/baron-comm-speaker-20 to learn more. The following day, the Radcliffe Medal was to be conferred on Melinda Gates, co-founder of the Bill & Melinda Gates Foundation with her husband, Bill Gates ’77, LL.D. ’07 (co-founder of Microsoft). The initial program and honoree details are detailed at harvardmag.com/mgates-radcliffe-20.
in its history, and about half the funding sought to build, staff, and support a “Data Hub,” its new home for its division of computing, data science, and society...Union College, beginning a $300-million capital campaign, announced a $51-million gift, the largest in its history, from graduates Rich and Mary Templeton (he is chairman and CEO of Texas Instruments), to create an eponymous institute for engineering and computer science.

**On Other Campuses**

Stanford alumnus John Arrillaga, a real-estate developer and significant supporter of his alma mater, committed $55 million to its school of medicine. The gift doubles the financial aid available to students with demonstrated need during the next decade, and will be combined with other resources to eliminate medical-school debt for “qualified” incoming students...Yale, in the quiet phases of a capital campaign expected to focus heavily on science, has begun planning a new building devoted to quantum science, engineering, and materials research...The University of Wisconsin-Madison received $70 million from alumni and major donors John and Tashia (Frankwurth) Morgridge (he is the former chairman and CEO of Texas Instruments); it will be used, on a matching basis, to encourage further endowment gifts to support faculty recruitment and retention...Princeton, already building two new residential colleges to expand undergraduate enrollment, has announced plans to construct a new university art museum beginning next spring, and to launch new environmental-sciences and bioengineering facilities the following year—to be followed by renovated quarters for computer science. The capital campaign to pay for everything debuts this fall...The University of Virginia has committed to building 1,000 to 1,500 units of affordable housing during the next 10 years, with development partners, on land it owns in and around Charlottesville.

**Clinical Reach**

Harvard Law School has augmented its roster of 46 legal clinics and student practice organizations, announcing two new ones in February. The Voting Rights Litigation and Advocacy Clinic—focusing on voter suppression and redistricting, plus election administration, campaign finance, ethics, and other pertinent issues—is led by lecturer on law Ruth Greenwood and requires enrollment in “Election Law,” taught by professor of law Nicholas Stephanopoulos, who joined the faculty in January from the University of Chicago. On deck is the Religious Freedom Clinic, dedicated to action on cases involving the rights of vulnerable clients to practice their religion; according to HLS, it is modeled on Stanford’s Religious Liberty Clinic.

**Nota Bene**

**Endowment Taxes.** A February Inside Higher Education report on universities’ assessments for the excise tax on certain endowment investment income, enacted in late 2017, indicated that Stanford’s estimated $42.9 million obligation is roughly comparable to Harvard’s estimated $37 million levy during fiscal year 2019. Among the 15 schools that replied, only a handful could provide estimates (the implementing regulations for the tax are incomplete); most forewore assessments of $1 million plus or minus. Since some of the calculations are based on unrealized investment gains, actual cash payments by Harvard and Stanford, and presumably others, may not be due until future tax years.

**Artists, actor, activist.** Rubén Blades, LLM ’85, the salsa musician who has also acted in movies and television series, and ran for president of Panama in 1994, has been named the 2020 Harvard Arts Medalist. He was scheduled to be honored April 30, at the beginning of the Arts First celebration, now a casualty of coronavirus.

Admissions. The College admitted 1,980 of 40,248 applicants to the class of 2024: 49 percent. And their nominal term bill (before financial aid) will be $72,391—up 4 percent from $69,697 this academic year. Details are available at harvardmag.com/2024admits-20.

**Adams House update.** The renewal of Adams House, complicated by its separate buildings and narrow Cambridge streets, has now been extended. The original schedule called for work to begin in June 2019 and to conclude before classes resume for the fall 2023 semester (see harvardmag.com/adams-renewal-19). Based on the work already under way, and Greater Boston’s tight construction market—workers are in short supply—completion has now been extended to August 2024. The huge Eliot-Kirkland House renewal, an especially complicated and costly undertaking, have not yet been planned or scheduled.
A lifetime of giving, continued. As reported, the sale of collections from the estate of David Rockefeller ’36, G ’37, LL.D. ’69, yielded additional gifts to Harvard, among other beneficiaries (Brevia, May–June 2019, page 30). The Harvard Crimson has now reported, and it has been confirmed, that the proceeds were $50 million or more.

Decanal news. Harvard Business School dean Nitin Nohria, scheduled to step down at the end of the academic year, will remain through 2020, easing search pressures during the coronavirus crisis; see harvardmag.com/nohria-stays-20.... Jones professor of American studies Elizabeth Cohen, the Radcliffe Institute dean emerita, won the Bancroft Prize, the highest honor for American history, for her recent book Saving America’s Cities (reviewed in September–October 2019, page 64); it was her second Bancroft. Read more at harvardmag.com/cohen-bancroft-20.

Miscellany. Harvard University Employees Credit Union president and CEO Gene Foley, who joined the organization in 1979 and has led it for the past quarter-century, will retire in July....Craig Rodgers, a counselor at the Bureau of Study Counsel for nearly two decades, has become program manager for military student services, a new role, within the College’s dean of students office. He is responsible for working with ROTC students and others interested in military service....Knafel professor of music Suzanne Clark is the new director of the Mahindra Humanities Center, succeeding interim director Sunil Amrith, Mehra Family professor of South Asian history....The Harvard Law School Library has begun releasing papers from its Antonin Scalia, L.L.B. ’60, collection. The late Supreme Court justice’s papers will be made available to researchers during the next 40 years. Dean John F. Manning clerked for Scalia in 1988-1989....In a bit of painful timing, the only faculty member appointed to the National Academy of Engineering this year, per its announcement February 6, was Friedman University Professor Charles M. Lieber; as reported (News Briefs, March–April, page 24), he was arrested on January 28 and charged with misleading the U.S. government and Harvard about his work for and compensation by programs in China.

Divestment Digest
As reported, briefly, in the March–April issue, the Faculty of Arts and Sciences (FAS) voted on February 4 in favor of a motion calling on the Corporation to instruct Harvard Management Company to shed investments in future fossil-fuel production and to move toward assets that promote “decarbonization,” as part of the University’s response to climate change. (Find a detailed report at harvardmag.com/fas-divestdebate-feb-20.) Although President Lawrence S. Bacow has not yet reported back to the faculty about the Corporation’s response (only one intervening faculty meeting occurred before this issue went to press, and he had signaled that it would take some time to do so), much activity unfolded on other fronts.
• The demonstration effect. As of the day before the FAS vote, 550 faculty members and associates had signed Harvard Faculty for Divestment’s petition. By mid-February, that roster had essentially doubled, no doubt in part reflecting both publicity about and reaction to the passage of the FAS motion, and Harvard Medical School’s subsequent Faculty Council vote in favor of similar divestment resolutions (directed to the Corporation and to Dean George Q. Daley).
• On other campuses. On February 6, Georgetown’s board of directors decided to divest public fossil-fuel investments within five years, and private ones within a decade. The university “will continue to make investments that target a market rate of return in renewable energy, energy efficiency and related areas while freezing new endowment investments in companies or funds whose primary business is the exploration or extraction of fossil fuels.”

Two weeks later, the University of Michigan regents decided to freeze fossil-fuel investments—not “bring[ing] forward new direct investments” in such companies—while they pursue a thorough review of investment policy for the sector. It is apparently the first Big Ten school to adopt such a pause.

And in a March 4 letter to her commu-
Academic investment managers are scrutinizing climate change—and likely financial returns.

illiquid positions being liquidated—and the fund managers are seeking opportunities to invest in companies that “develop sustainable technologies.” Separately, Brown seeks to eliminate its own carbon emissions by 2040 (Harvard’s target is 2050).

The contested Overseers’ election. On February 18, the Office of the Governing Boards announced that the Harvard Forward slate of five petition candidates for the Board of Overseers had qualified for the ballot (see harvardmag.com/divest-slate-20). They join the eight candidates put forth by the Harvard Alumni Association’s Committee to Nominate Overseers and Elected Directors (see harvardmag.com/haa-slate-process-20). Thus, 13 candidates are seeking election to an anticipated five Overseer openings—five of whom are campaigning on a platform that advocates both divestment from enterprises engaged in fossil-fuel production and broad changes in the policies governing endowment assets generally. See the full roster on page 67, and read the candidates’ profiles at elections.harvard.edu; voting has been postponed to July.

Engagement. Presidents Drew Gilpin Faust and Bacow, and the Corporation on which they both served, have maintained that the University needs to have the capacity to engage with private enterprises involved in fossil-fuel production, rather than proscribing investment in such assets. Divestment advocates have criticized such engagement as ill-defined or feckless.

So it was interesting to learn that Yale’s long-serving chief investment officer, David Swensen, met in February with Yale faculty members, student divestment advocates, and others to explain how he and colleagues have worked to shift its portfolio toward a more sustainable posture. (Swensen is widely considered the pioneer of the diversified endowment investment strategies that Harvard and peers now pursue—in Yale’s case, relying almost exclusively on external investment professionals, and eschewing most publicly traded securities in favor of portfolios heavily committed to private equities, venture capital, hedge funds, real estate, and natural resources.)

Swensen also disseminated a “2020 Update on Climate Change.” Its starting point is that “climate change poses a grave threat to human existence and society must transition to cleaner energy sources”—via “a combination of government policy, technological innovation and changes in individual behavior.” Stressing the academic mission, he continued, “As a premier research institution, Yale will have its greatest impact by doing what it does best: research, scholarship and education.”

Turning to the endowment, he described an engaged process, recalling that in 2014 the investment office asked its external managers to assess the greenhouse-gas (GHG) footprint of possible investments, “the direct costs of the consequences of climate change on expected returns,” and the prospective costs of measures such as carbon taxes on expected returns. They were further expected to discuss with the managements of companies in which they might invest the financial risks of climate change and the financial implications of government policies to reduce GHG emissions. That done, the investment managers were expected to mitigate financial risks, and increase returns, by working with companies to reduce such emissions—and to avoid investing in companies that neither acknowledge the costs (social and financial) of climate change nor take economically sensible steps to mitigate their impact.

Discussions between the investment office staff and Yale’s external managers, he reported, have reviewed “the carbon footprint of various sources of power; the fuel efficiency of companies’ fleets; the energy efficiency of buildings that managers are developing, renovating or leasing up; and the impact of potential sea level rise on a developer’s land bank.” He cited a case where a manager decided against investing in a services provid-

er to the oil-sands industry (which involves particularly carbon-intensive extraction and refining processes). Swensen also cited managers’ reviews that led portfolio companies to reduce packaging waste and adopt energy-management systems, and to engineer a property that greatly reduced energy consumption and generation of waste water. Another manager is deploying a system to account for GHG emissions at its portfolio companies—a step toward reducing the carbon footprint of each.

In adjusting the endowment overall, Swensen wrote, “As these managers incorporate the full costs of climate change into investment choices and, in the cases of corporate investments, engage the management of portfolio companies in discussions about addressing climate change, the risks associated with climate change are reduced. The risk reduction may come from sales of offending investments, from avoiding offending investments or from influencing company managers to adopt climate-friendly policies. The accumulation of investment decisions that incorporate the full costs of climate change leads to a shift in flows of capital towards less carbon-intensive investments and away from more carbon-intensive investments.”

In 2016, he observed, Yale had readily tradable investments in thermal-coal miners and oil-sands producers. Those, and subsequently discovered public positions, have been liquidated. A private investment in thermal coal has been liquidated, and remaining ones are being disposed of. As a result, endowment’s exposure to thermal coal and oil sands has been decreased from 0.24 percent of its market value in 2014 to 0.02 percent now (the endowment was worth $30.3 billion last June 30). More generally, consistent with Yale’s policy of having managers incorporate the costs of carbon emissions in making decisions, investments with large GHG footprints “are disadvantaged” relative to those with smaller footprints.

Separately, in a conversation with the Yale Daily News, Swensen said that sudden divestment from companies involved in exploration and production of fossil fuels could actually be counterproductive because it could, in the near term, cause a shift from natural gas back to coal (for generating electricity)—raising the GHG intensity of that large sector, an outcome he called “perverse.” That matter aside, the conversation at Yale appeared to focus on the investment office’s active role in lowering carbon emissions.

~J.S.R.
THE UNDERGRADUATE

Will Truth Prevail?

by DREW PENDERGRASS '20

O n a cloudless morning the summer after freshman year, as a break from my research job, I decided to read a research paper. Light streamed into the lounge of Harvard’s Center for the Environment and illuminated the printed pages I had spread across a wooden table. The paper, written in 1963 by MIT meteorologist Edward Lorenz, A.M. ’40, was a pioneering work in chaos theory—the study of systems that follow strict mathematical laws, yet spin off wildly if they are slightly bumped. The atmosphere resists our attempts to predict and control it because it is a chaotic system. One of the figures in the paper showed curves wrapping themselves wildly around the x and y axes, evidence for Lorenz’s view of chaos. I felt I had glimpsed something hidden through a keyhole in the text, a secret feature of the universe. Lorenz described how minuscule inaccuracies in his model snowballed unpredictably, making long-term prediction of the weather impossible. In the middle of such a complex system, there is precious little to hold onto.

Grifters have always taken advantage of complexity, selling simple stories to an audience that is in over their heads—wellness tinctures and crystals in place of medicine, for example. Although Lorenz’s chaos model was designed to help show the limits of day-to-day weather forecasting, climate-change deniers use the ideas in this paper to suggest that the future is completely unknowable. In their hands, chaos transforms from a sophisticated mathematical concept into a magical shroud that covers the entire world.

There is nothing mystical about chaos. It arises under simple conditions: for example, in the atmosphere, when air, heat, and water vapor interlock with one another. Lorenz showed that chaos goes right along with change in an interconnected world. The theory suggests we could put together a perfect mathematical model of the atmosphere—and still be unable to perfectly predict the future so long as we lack exact knowledge of the motion of every individual molecule at the beginning. I thought of the grand non-answer that God gives to Job when explaining his fate, which is the same answer that chaos gives us: “Where were you when I laid the foundations of the earth?”

I grabbed up my papers and wandered toward the central cast-iron staircase, feeling overwhelmed. Taking science seriously leads to lots of questions. How do we know anything? I asked as I plodded down the steps. I was drawn to atmospheric science in part because of the poetry of chaos, but studying chaos is less beautiful than it sounds: how do we find the signal in the noise? Climate science is based on the observation that even though everyday weather is chaotic and can be predicted only a few days ahead of time, the weather in aggregate is much easier to handle. We may not be able to say exactly which days will be rainy each year, but we are pretty sure how much rain will fall in total. Climate, governed by the slow warming and cooling of the oceans with the seasons, follows different rules than weather does—much as humans follow rules different from those of their myriad individual cells. Chaos does not mean the future cannot be predicted, just that it cannot be predicted exactly.

I stepped outside into the summer air and watched the wind bend the trees one way and then another, disappearing as quickly as it appeared. You could spend a lifetime studying what just happened. There’s a million-dollar prize for anyone who can figure out what turbulence really is. It is a marvelous paradox, that the wind blowing through my hair on an unremarkable morning is among the most mysterious things on earth.

On the walk back to Leverett House, I started to think about how delicate science is. Nothing enforces Lorenz’s findings except the power of his evidence and arguments. Scholarship has no armies, no money, and makes nothing happen—at least not on its own. The towering brick laboratories to either side of me on Oxford Street seemed so immovable and authoritative, but actually studying earth science is a great way to shatter illusions of science’s invincibility. I had recently read Merchants of Doubt, co-authored by professor of the history of science Naomi Oreskes, which outlines how a small group of contrarian, industry-funded scientists misled the public about the dangers of both tobacco and human-caused climate change.
change. By sowing doubt, exaggerating scientific uncertainty, and creating their own institutions to publish junk papers that would never survive peer review, these individuals undermined public trust in consensus science, delaying action on dangerous problems for years. Their funders made a fortune in the meantime. Countless other issues—acid rain, leaded gasoline, the ozone hole—have been treated with the same ruinous pattern of denial and delay. It isn’t people like Lorenz who rule the world.

What is science, founded on nuanced arguments, against a coordinated political assault? Centuries of burning libraries show that truth alone is no guarantee of survival. In fact, it is very easy to obscure reality—advertising and PR can be as effective as censorship. I thought of a line from Blaise Pascal’s bundles of notebooks, left unorganized when he died at 39: “Truth is so obscure in these times, and falsehood so well established, that, unless we loved the truth, we could not know it.”

Scholarship in the public sphere is in sorry shape. Climate science is treated like the Apostles’ Creed, a set of beliefs either taken on faith or cast aside. Whether people accept the creed depends mostly on their political views—broadly speaking, conservatives deny and liberals believe—in part because of those merchants of doubt. Science should not be like this. The motto of the Royal Society is nullius in verba: take nobody’s word for it, not even the word of scientists. At its best, science is about letting evidence speak for itself. Everything should be questioned; all authority should be challenged and critiqued. No belief required.

I picked up the pace, having lost track of time with Lorenz. Some friends and I had organized a reading group called the “Continental Breakfast Club”—dedicated to studying continental philosophy over continental breakfast, served at noon to accommodate the nocturnal schedule of college students. Our conversation that week centered on power. I had to pick up the bagels.

The reading group was surprisingly popular, especially for a summer program composed mostly of science students. Sixty years ago, C.P. Snow’s The Two Cultures argued that the sciences and humanities were so different, they effectively spoke two languages, setting up high walls between the disciplines. Why would a science student take the time to trudge through not just any philosopher, but through Foucault, that harbinger of the post-truth age, postmodernism’s poster child, who was on the docket for the week?

I think it is because students training to be scientists today cannot afford the false naïveté that truth will prevail—and because the “two cultures” idea has always been a little fake. Perhaps Donald Trump woke some people up. Or maybe the free food was the main draw. In any case, we all shared the sense that these thinkers had a lot to teach us about the way the world works. “Postmodernism” is a vague term, almost as vague as “continental philosophy.” The words get slung around like bludgeons, meaning everything from “political correctness” to “relativist” to “post-truth.” I like Jean-François Lyotard’s definition, that postmodernism is a general skepticism toward narratives that try to explain everything about the world. If we scientists no longer believed that knowledge would win on its own, then maybe we should rethink the stories we tell ourselves.

As the cream cheese circulated, our conversation quickly turned to power and knowledge. Foucault thought the two were intimately related. We were reading about the panopticon: a kind of circular prison designed so that each inmate could be observed by a single guard in the central tower. Because the prisoners never know exactly when they are being watched, their behavior is controlled not through blunt force, but through disciplinary observation. Foucault thought that modern power was similar: totally intertwined with knowledge. By knowing people you can control them, and by controlling people you gain further knowledge of them. He anticipated the surveillance state.

To our philosophy club, there were similarities with the state of science. Coordinated denial happens because ideologues believe that a certain kind of knowledge will push them out of power, and so they use power to cloud knowledge. We all left the table feeling a little unsettled and full of carbohydrates, which, after all, is what college is all about.

As people trickled out of the dining hall, I pulled out my laptop and started writing some data-analysis code for my research. As I typed, I was struck by a moment of dissonance. It was strange to pay so much attention to methodology, to worry so much about getting every detail right, after our conversation about power. Would it count for anything?

I had met a scholar in the School of Public Health earlier that summer, who would later become one of my research advisers. Although I can’t imagine him reading Foucault, he seems to have found the same insights on his own. He ascribes our failure on climate change to a lack of power, not a lack of knowledge. “Our house is on fire,” he likes to say about current ecological crises. Urgency, however, does not excuse sloppiness. As an adviser, he has encouraged me to make science useful to activists and changemakers. The response to bad actors is not to become one, but to make the truth even clearer, and to fight for it to prevail.

To me, the power of natural science comes from something that is ultimately irresistible, a little bit like poetry, a little bit like beauty. Science exists solely on the force of its evidence and argument, and dares us to defy it. “Go ahead and try to make a perfect weather model,” Lorenz might have said. For all the flaws of science, and for all its obstacles, I am proud of this kind of work: few things in our world of double-speak try to stand on their own two feet and frankly say the truth.

Berta Greenwald Ledecky Fellow Drew Pendergrass ’20 studies physics and mathematics—of late, remotely, from his home in Huntsville, Alabama.
A Championship—and Seasons Cut Short

AFTER College administrators informed students that they must move out of their dorms by 5 p.m. on Sunday, March 15, Harvard Athletics began to make its own cancellations—a necessary response, but a brutal blow to athletes, coaches, and staff.

On Tuesday, March 10, the Ivy League canceled the men’s and women’s basketball tournaments (scheduled to take place in Lavietes Pavilion), and selected Yale and Princeton, the regular-season men’s and women’s winners, to represent the league at their respective NCAA tournaments. Two days later, the NCAA canceled them, too.

An initial lack of clarity from the University frustrated athletes who were set to compete in postseason championship events. Kieran Tuntivite ’20—who had run a Harvard-record 3:57 mile earlier in the season to qualify for the NCAA Division I Indoor National Championships—detailed in an Instagram post how the College had removed him and his teammates Anna Juul ’21 and Abbe Goldstein ’21 from the competition minutes before they were set to leave campus for Albuquerque, New Mexico.

The entire championship would be canceled. “Actually thanks to Harvard I’m not stuck in Albuquerque now,” Tuntivite posted on Instagram.

By Wednesday, March 11, at 3 p.m., every Ivy League spring sporting event was canceled, and the University declared that no Harvard athlete would participate in any individual or team postseason competition (nearly all of which were later suspended by the NCAA). The ECAC hockey men’s quarterfinal series, between Harvard and Rensselaer Polytechnic Institute—previously scheduled to be played without an audience—was called off, too.

“We understand the disappointment that will be felt by many of you and many in our community,” wrote athletics director Robert L. Scalise in a statement to coaches and staff, “but we must be guided by what is best for the health and safety of all.” The sentiment applied especially to seniors—and likely Scalise himself, who retires at the end of the academic year.

Reports from the interrupted season follow.

~The Editors
For the opening round of the 2020 Ivy championship, the Harvard men, the second-ranked team in the country, were set to face Columbia, the one squad ranked higher. The winner would be the favorite to win it all. In a three-round, 27-bout matchup, Harvard would have to win 14. They knew it would be tight.

Cai was the first one on the strip, tasked with setting the tone. A defensive stalwart with a notoriously quick hand and powerful attack, he has an unmistakable fiery presence in person and in competition. “He’s got an emotional intensity that I think is unique,” Schneider says. “I think when he’s locked in to that intensity with the right balance, he is almost unbeatable in the college circuit.” The problem, at times, had been harnessing that energy.

Cai was facing off against Christopher Walker, a first-year at Columbia. The pair had fenced for years in the same club in Atlanta, under the same coach. What had started off as a mentor-mentee relationship had evolved into something different. Walker, a powerhouse in his own right, had recently won a major national tournament—a key Olympic qualifying step.

The foil and épée bouts occur simultaneously in the Ivy tournament, but sabre bouts take place alone. So when Cai fell behind 2–0, all eyes were on him. “Christopher came out with this level of fury that I don’t think I’ve ever seen from him before,” Cai recalls. “That is so frightening. Because of the structure of the tournament, everyone is just watching you—everyone on your team, everyone else on the other team.”

But unlike during that freshman-year bout, the nerves didn’t get to him; he’d done all the prep, and in a first-to-five match, he still had time. “There was just this calm understanding that I lost those last few points, not a big deal,” he recalls. “I still have the ability to win the next five in a row.”

Cai scored two points, and later, with the score tied 4–4, Walker went in for an attack that pushed Cai to the back of the strip. If they hit each other at the same time while Cai was on defense, Walker would be awarded the point. Counterattacking in this scenario is considered risky; if the opponent can touch in time, it’s a losing move. But when Cai saw an opening in Walker’s hand area, he went in, no hesitation.

Only one light flashed: he got the point. He ripped off his mask and roared as his teammates celebrated. “It’s kind of a special moment because it’s an action I practice a lot, and it’s very high risk,” he says. “I’m willing to do it in practice, but it’s so rare for me to trust myself to ever pull out in competition.”

The Crimson men would go on to narrowly beat Columbia, and then defeat Brown, Yale, Penn, and Princeton in a series of dominant performances. The women’s team—gutting out the tournament with no substitutions—finished with a record of 3–3, falling to three teams who ended the season in the nation’s top seven. The Crimson women themselves ended the season ranked number nine in the NCAA.

Erwin Cai says the team’s past performances speak for themselves: a combined 14 Ivy League titles for men and women and the 2016 co-ed NCAA team championship, among other accolades. Now, he adds “It’s more about how do we change from ‘We’re a serious competitor,’ to ‘We’re dominant?’ How do we reach that level where teams show up, and they’ve already lost?”

He might already know the answer: drip, drip, drip.

~JACOB SWEET

“Not Meant to Be”

When the Ivy league announced that Harvard would host the 2020 conference basketball tournaments, it appeared to set up an ideal situation for the Crimson teams. Both would be led by talented seniors playing in a gym where they had a combined 80–18 career record. But the women—weakened by injuries and attrition—failed to qualify for the tournament for the first time, and the men, who earned the number two seed, never got to participate after the event was canceled.

After losing to Yale in last year’s tournament championship game, the team adopted an ambitious motto for this season: “Best Ever.” That would mean reaching the Sweet 16 round of the NCAA tournament—an admittedly lofty goal, but an attainable one if seniors Seth Towns, the 2018 Ivy League Player of the Year, and Bryce Aiken, a 2019 first-team all-league honoree, were healthy. That never happened.

Towns, who missed the 2018-2019 season with a knee injury, had surgery in December, ending his Harvard career. (After the season, he announced that he would play as a gradu-
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“Being a Radcliffe fellow was fundamental to the discovery. It gave me space, but more importantly, it gave me time: the time to think, analyze, to think again, and to finally find what has been hiding in plain sight.”

–JOÃO ALVES, the Edward, Frances, and Shirley B. Daniels Fellow at the Radcliffe Institute for Advanced Study and a member of the research team that made the breakthrough

In this moment of uncertainty, we are proud to be part of Harvard as our researchers tackle the challenges of COVID-19. We also recognize that now may not be the right time to make long-term financial decisions. We send our best wishes—and we look forward to connecting when you feel ready to discuss a planned gift.

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home loss to Brown on Senior Night.

That setback knocked the team out of contention for the regular-season Ivy title but by no means ended the season—a point that senior co-captain Henry Welsh emphasized in a speech to teammates the next morning: if they could beat Yale that night, they’d have momentum heading into the conference tournament. The Crimson responded, dominating the Bulldogs defensively, and throwing down a flurry of emphatic dunks (including a 360-degree slam from Chris Ledlum ’23) on the way to a 83-69 victory that gave them the series sweep.

After the game, the seniors lingered on the floor, snapping photos and looking forward to their chance to earn an NCAA bid the following weekend. Three days later, the Ivy League canceled the conference tournament, ending their Harvard careers. Kirkwood, who averaged 12.1 point per game, ended the season as the team’s leading scorer and was named first-team all-Ivy.

After falling to Penn in last year’s Ivy tournament semifinals, the women’s team hoped to contend for the championship this year on the strength of two seniors: point guard Katie Benzan, a three-time first-team all-Ivy honoree, and center Jeannie Boehm, who earned second-team all-conference honors in 2018.

In August, Benzan (who will compete as a graduate student for the University of Texas, Austin, next year) left the team. And when the pre-season began, the entire frontcourt was injured, including Jadyn Bush ’21, who led last year’s team in rebounding before undergoing off-season shoulder surgery. Friends coach Kathy Delaney-Smith had to install a new five-guard offense, a challenging switch for any team, let alone one now heavily dependent on underclassmen. “There’s no quick road to experience,” she lamented.

Initially, the retooled Crimson thrived. In the opener at Northern Illinois, Lola Mul-
From Lewis and Clark to Michael Brown

Walter Johnson’s radical history of St. Louis

by Marina N. Bolotnikova

Ferguson, Missouri, the suburb north of St. Louis where 18-year-old Michael Brown was killed by police officer Darren Wilson in 2014, is also home to a multinational Fortune 500 company: Emerson Electric. After the U.S. Department of Justice released its long-awaited report on Ferguson’s police department in 2015, historian Walter Johnson was struck not just by the institutional racism it documented—how the city’s budget relied heavily on fines levied on its black residents for trivial infractions like jaywalking and parking tickets—but by the fact that so little revenue came from Emerson Electric’s coffers, and how that seemed so little talked about. “How is it that you can have a Fortune 500 company in a city where they’re farming poor black motorists for traffic tickets for revenue?” Johnson says. “It was surprising and outrageous. And it’s been surprising and outrageous to virtually every single person I’ve explained it to.”

“In a way, that was a question born of a kind of profound naïveté... about the way that cities work,” reflects the Winthrop professor of history and professor of African and African American studies. But it was the start of a project on St. Louis that would animate him in a way he describes as life-changing: “I’ve just become absolutely consumed with passion about St. Louis.”

St. Louis was once one of the nation’s largest and most important cities. It was the site of the 1904 World’s Fair, also known as the Louisiana Purchase Exposition, a massive celebration of American imperialism in the city that was once the staging point for the westward expansion of the United States and the dispossession of Native Americans. There had been talk of moving the nation’s capital to St. Louis. The city is the home of institutions like Washington University in St. Louis, as well as Anheuser-Busch, founded...
by German immigrants in the nineteenth century, Monsanto, and McDonnell Douglas—all of which have now been bought by multinational firms. Three of the wealthiest 25 suburbs in the country are in metro St. Louis. Yet like many cities in America’s interior, it has experienced de-industrialization and dramatic population loss since the twentieth century; vast tracts of the starkly segregated city feel like a wrecked ghost town. “St. Louis today has the highest murder rate in the nation...and the highest rate of police shootings in the nation. There is an eighteen-year difference in life expectancy between a child born to a family living in the almost completely black Jeff-Vander-Lou neighborhood in North St. Louis and a child born to a family living in the majority-white suburb of Clayton,” Johnson writes in his new book, The Broken Heart of America: St. Louis and the Violent History of the United States (Basic Books). “[I]t is hard not to wonder: what happened here?”

Johnson gives voice to some of the most radical critiques of American history, and American capitalism, among Harvard’s faculty members. His work may sometimes sound abstract and intimidating, full of words like “racial capitalism” or “legibility,” but in person, he is open and effusive. “It was kind of a regular person's upset that got me going on twentieth-century St. Louis,” he says. He’d been invited to speak at a Washington University conference in the fall of 2014, and though he’d always been a nineteenth-century historian, in the wake of Ferguson, he felt he couldn’t not address the rot that it exposed. It was an opportunity “to look at history, for me, in a new way—to do something very contemporary.”

In a 2015 story for The Atlantic, Johnson assumed the role of investigative journalist, writing about how Emerson Electric, despite conducting billions of dollar of business and having built a new, $50-million data center in Ferguson in 2009, paid the city only $68,000 in property taxes in 2014—a tiny fraction of what Ferguson earned from municipal fines—because of how its property was assessed. “The political economy of Ferguson and of what we call ‘economic development’ in St. Louis, in Missouri, and in the United States of America, around corporate tax abatement, is outrageous to normal people if you explain it to them,” Johnson booms. “But, for whatever reason, it’s also arcane. It’s hard to understand. It took me a long time to learn about it. I’m still anxious that I don’t fully understand it.”

“Walter really has a key piece of the puzzle that I think no one has grasped as brilliantly,” says George Lipsitz, a professor of black studies and sociology at the University of California, Santa Barbara. “He correctly recognized that Emerson Electric paid about $68,000...”
in property taxes a year, but Ferguson collected $2 to $3 million in fines from residents, mostly from black residents. So the policing was not just an overt act of racial control, it was also an act of extraction from the poor in order to subsidize the rich."

A native of Columbia, a mid-size college town where his father was an economics professor at the University of Missouri, Johnson made the two-hour trip to St. Louis frequently to visit family while growing up. He still speaks with a warm Missouri drawl. He wasn’t the most politically aware teenager, he says, but more than anything, he remembers being angry. "I started reading Kurt Vonnegut in eighth grade, and there was a notion that there was something that was wrong, that was sick, that was mean about our society. And that stuck with me. And it stuck with me as a kind of rage," he says. "I could see everywhere, like, hypocrisy. All these people who basically said they were Christians and acted like jackasses....I could tell my town was segregated, and it made me angry that it was segregated, and everybody seemed like they were so pious about everything.

"I thought of myself, for a long time, that my goal was to be an antisocial person," Johnson continues. "I thought, well, the way to respond to society being sick is to be different, kind of like a punk-rock impulse. To act out in school, be disrespectful of all rules and codes, break things, fight, drink." In college at Amherst, where he started in 1984, he says, "I felt like really, really kind of an outsider there. I hadn't figured out a way to channel my outsidership into alliances with different sorts of outsiders. So I was kind of drugged and violent for a period of time." He's quick to add: "And, you know, still pretty into school. I was learning things, increasingly I was interested in ideas, but I hadn't really imagined a larger version of purpose than simply acting out." He was studying history, and became deeply interested in the relatively young field of “new social history”: "It was an effort to take seriously the ideas and aspirations of ordinary people."

Johnson's present interests and political convictions really began to take shape, he says, when he started his history Ph.D. at Princeton in 1989, under Nell Painter, Ph.D. '74, a scholar of African-American history. "She really convinced me," he says, "that if you're going to really think about the history of working people in the United States, that you really needed to have a serious engagement with the question of African-American history and women's history and, she always insisted...Native American history.

"I had a kind of intellectual, emotional commitment to ordinary people, and I had a lot of rage, and I had a definitely liberal anti-racism. I had a very strong Christian or liberal belief that all people are created equal," Johnson remembers. "But it wasn't really until I met Nell and began to learn under her direction that I think a lot of those commitments were put together into a more radical, anti-capitalist, anti-racist synthesis."

For a long time, Johnson resisted the idea of writing about St. Louis. He had always focused on the links between slavery, capitalism, and U.S. imperialism that built the nineteenth-century American South. His 2013 book River of Dark Dreams: Slavery and Empire in the Cotton Kingdom distinguished him for a novel view of antebellum American history. It argued that the genocide of Native Americans in the Mississippi Valley paved the way for the expansion of plantation slavery and its development into a fully capitalist economy—with global ambitions. "For many, many, many years, when I got to 1865 in a book," he says, "I could just close it and go on to the next book."

But after Ferguson, Johnson began to see how his background in nineteenth-century history gave him a unique view into the twentieth and twenty-first. And into how St. Louis, for so long the imperial center of the expanding United States and a nexus of white supremacy and settler colonialism, became a place of such radical everyday violence. Some historians see St. Louis as a “representative city, a city that is, at once, east and west, north and south,” he writes in The Broken Heart of America. He thinks it’s better to see it as “the crucible of American history—that much of American history has unfolded from the juncture of empire and anti-Blackness in the city of St. Louis.”

"I came to this book less as a professional historian," Johnson writes in The Broken Heart of America, “than as a citizen taking the measure of a history that I had lived through but not yet fully understood.” He traces the city’s racial politics to its origins as the military center for the expanding, imperial United States. One of the earliest episodes in the city’s history, as any St. Louis school child will learn, is the start of the expedition of Meriwether Lewis and William Clark, usually remembered as the great explorers who helped map the Louisiana Purchase territory. Johnson tells it differently: In 1804, he writes, Thomas Jefferson sent Lewis and Clark to “enumerate the Indians, announce to them the subordination of their nations to the United States of America, and gauge the economic potential of their lands.”

St. Louis, he continues, would soon become “the military headquarters of the Western Department of the US Army and the staging post for the Indian Wars. White settlers—backed by that St. Louis-based US Army but often operating well in advance of its lines—violently removed Native Americans from their lands all over the Upper Midwest.” During the second quarter of the nineteenth century, Johnson writes, Indian killing “became the (made in St. Louis) official policy of the United States in the West.” He describes the leadership of this period in St. Louis history, including the military leader William Harney, "one of the army’s most...
Missouri Supreme Court denied his claim in 1852, citing the state’s.

Johnson argues that Native American removal also presaged a policy of “black removalism” that would characterize Missouri’s history from the very beginning. To understand why, it’s important to see how racism worked differently in the west (the frontier territory west of the Mississippi River) than it did in the south. Southern anti-blackness took the form of mass plantation slavery. “There’s a different story in the west,” Johnson explains, “where anti-blackness is much more tied up with, I think, the patterns and aspirations of empire. With the idea of ‘white man’s country.’ With getting rid of black people so that white people can rule the west in the absence of competition from slave labor, and particularly from free people of color.” Although there were slaves in St. Louis, there were far fewer than in other slave states—and there were many more working-class and non-slaveholding whites, who were militantly committed to clearing Missouri of Native American and black people. The “free soil” movement, which eventually merged with the Republican Party, thus opposed slavery not from an abolitionist ethic, but in support of a white supremacist vision of America. After the Missouri Compromise of 1820, which admitted Missouri to the union as a slave state, its constitution banned the migration of free people of color from other states. As Johnson puts it: “There was no room at all for Black people—at least not free Black people—in the city of St. Louis.”

St. Louis, then, became a city that policed the mobility of free African Americans. Johnson writes that Francis McIntosh, a free black steamboat steward, in 1836 became “the victim of what was arguably the first lynching” in U.S. history when he was burned to death by a mob in St. Louis. In the Dred Scott v. Emerson and later Dred Scott v. Sandford cases, the St. Louis-based slave sued for the freedom of himself and his wife and daughters, arguing that they had spent time in Illinois and the Wisconsin territory, where slavery was illegal. The Missouri Supreme Court denied his claim in 1852, citing the state’s ban on free black migrants; subsequently, in 1857, the U.S. Supreme Court also ruled against Scott. “The Dred Scott decision reflected the politics of race and slavery in the city from which it emerged,” Johnson writes. It was about “extraterritorializing or even exterminating free people of color. It took the proslavery stance of the South and recalibrated it to the whites-only removalism of the West.”

Johnson’s view of history is animated by the concept of “racial capitalism,” an idea expounded by the late Cedric Robinson, a professor of political science and black studies at the University of California, Santa Barbara. It refers not just to economic inequality between different racial groups, but to how, as he saw it, racial hierarchy is built into the very fabric of capitalism in the United States (and elsewhere). Racial capitalism, Johnson wrote in a Boston Review essay after Robinson’s death, is why modern economic expansion has been “dependent on slavery, violence, imperialism, and genocide.” It also is why poor whites in Missouri, Johnson argues in his book, “were so arrested by the image of free Black competition that they could only dimly understand that they too toiled and suffered in the service of wealthy whites.”

Because working-class whites’ rage focused more on free black people than on the white elite, black removal continued in St. Louis long after the end of slavery. One of the most shocking anti-black massacres in American history broke out in 1917 in East St. Louis, the Illinois city across the Mississippi from St. Louis. The city had a growing population of black workers, often migrants from the south in search of opportunity. They held dirty, dangerous jobs in slaughterhouses and manufacturing plants. Johnson writes, “driving bolts into the brains of terrified animals on the killing floors; going unpaid during the ‘broken time’ herding new animals into the factory; tending the molten metal and carrying the castings and hot slag in among the furnaces in the metal plants, where the temperatures reached 120 degrees.”

Black workers were unwelcome in the local unions, and when the unions went on strike, employers would fire their members and recruit black workers for lower wages as strikebreakers—an example, Johnson writes, of racial capitalism’s two-tier labor system. Instead of organizing black workers, union leaders viewed them as an assault on the work and wages that belonged to white men. This is what happened when, in spring and summer 1917, workers of the Aluminum Ore Company went on strike. After the company hired black replacements, East St. Louis whites erupted in a terrifying spree of violence, beating, shooting, hanging, and burning the city’s black community. The massacre killed hundreds and left thousands more homeless, never to return to the city.

To this day, St. Louis is one of the most segregated American cities—by design. South of scenic Delmar Boulevard, the city is overwhelmingly white; to the north, it’s almost entirely black. A 1916 law banned racially integrated neighborhoods. Segregationist policies across the country were struck down throughout the twentieth century, but white citizens in St. Louis and elsewhere always found ways to keep black residents out of their communities.

Johnson recounts one of the most stunning examples of the lengths to which white residents and institutions—including neighborhood associations, real-estate groups, and local government—went to make sure they would never have to live near a black person. In 1936, Howard Venable, an African-American ophthalmologist at St. Louis’s black hospital, began building a house on land he owned in the white suburb of Creve Coeur. White residents of Creve Coeur tried to persuade Venable to sell his land, a
Traditional accounts of American history often suggest a clean break between the pro-slavery movement of the south and the assumed anti-slavery commitments of a Union state like Missouri (where anti-secession forces eventually gained control); Johnson wants to complicate this pat narrative. “One of the things that I’m intent on,” he says, “is we have this huge conversation in our society about what are we going to do with the Confederate monuments? Well, what are we going to do with the Union monuments? I mean, what are we going to do with the monuments to all these Indian killers”—men like William Harney, who was violently committed to white supremacy. “I feel like a lot of that history is either treated as uncanny—Wow, isn’t it weird that the Francis McIntosh [lynching] thing happened in St. Louis?...It’s treated as uncanny, or it’s just sort of forgotten.” Or violent episodes of the city’s recent history, like the destruction of Mill Creek Valley: “All these things, they’re like ghosts. They’re kind of known, but not really known.”

“If you haven’t seen north St. Louis, you haven’t seen the United States of America. You’ve got to go see that to believe it.”

By the same token, Johnson adds, St. Louis’s history of black labor activism remains obscure even within the context of the city’s civil rights history. During the Great Depression, he writes, “a radical and powerful working-class movement emerged in Black St. Louis, threatening both the hegemony of the middle-class Black civil rights organizations, like the Urban League and the NAACP, and the racial and economic order of the city.” A coalition of black workers and activists from the Communist Party, which was influential in St. Louis at the time, organized to improve conditions for wage workers; in 1933, 500 black women went on strike from their jobs at the Funsten Nut Company. Though many of them were arrested for protesting outside, within less than two weeks, they doubled their wages. With the decline of American communism during the Cold War, alliances between the black working class and the Communist Party faded. It wasn’t just the Red Scare that doomed the movement, Johnson writes, but also that the party was too preoccupied with converting black workers to communist ideology rather than meeting them where they were—“in the particularity of their own lives and beliefs.”

Part of what Johnson wants to do with the Commonwealth Project, he says, is to make St. Louis’s radical history more visible in the fabric of the city. The initiative grew out of conversations Johnson had with St. Louis rapper Tef Poe, who is known for his activism in the wake of Ferguson’s 2014 uprising, when Poe was a fellow at Harvard’s Charles Warren Center for Studies in American History. Founded by Johnson and Poe and housed at the Warren Center, the project now serves as an umbrella for a group of community-led collaborations between Johnson, students, and researchers at Harvard and St. Louis-based activists, artists, lawyers, and others. It aims to be “thoroughly mutual: to bring front-line knowledge into the university and university know-how into the community.”

Last summer, Johnson took a group of students from his undergraduate course, “St. Louis from Lewis and Clark to Michael Brown,” to the city (a planned spring recess trip there this year was canceled due to the COVID-19 pandemic). “If you haven’t seen north St. Louis, you haven’t seen the United States of America. You’ve got to go see that to believe it,” Johnson says, referring to the absolute segregation and rows of abandoned lots. The city has started selling some of these properties, stamped LRA—Land Reutilization Authority—for $1 through its “Dollar House” program, to encourage buyers to fix them up. “As many books as I’ve written and as good as I’m reputed to be with using words, I can’t convey to anyone in writing what it’s like to be in north St. Louis.”

Two of his students—Kale Catchings ’22, who grew up in the St. Louis suburb of O’Fallon, and Saul Glist ’22—worked with the Metropolitan St. Louis Equal Housing and Opportunity Council (EHOC) last summer to build support for changing the name of Beirne Park, built on Howard Venable’s former land. By December, Creve Coeur’s city council had voted to...
A

AFFIRMATIVE ACTION for portraits,” was how Nobel laureate Dudley R. Herschbach, Baird professor of science, described the oil painting of Cecilia Payne-Gaposchkin that he and his wife, associate dean of the College Georgene Botyas Herschbach, had commissioned. For years, he had argued that there were too few women on the faculty, and too little recognition for the few there were. The portrait would hang in University Hall’s Faculty Room where, in the winter of 2002, there was only one other painting of a woman: historian Helen Maud Cam.

At the dedication, Jeremy Knowles, dean of the Faculty of Arts and Sciences, told the audience: “Every high-school student knows that Newton discovered gravity, that Darwin discovered evolution, even that Einstein discovered relativity. But when it comes to the composition of our universe, the textbooks simply say that the most prevalent element in the universe is hydrogen. And no one ever wonders how we know.” As she was then, Payne-Gaposchkin is today: the most famous astronomer you’ve never heard of.

English-born Cecilia Helena Payne early on displayed a relentless desire to learn. She once asked a London bookbinder to put a fake cover on the Apology and inscribe “Holy Bible” on the spine, so her teachers would think she was working on her religion studies instead of reading Plato. (The bookbinder refused.) That attitude got her expelled from her English school a year shy of college. Luckily for science, she was accepted to the demanding St. Paul’s School for Girls in London. The moment she walked through the door, she said to herself, “I shall never be lonely again. Now I can think about science!”

In 1925, Payne submitted what’s been called “the most brilliant Ph.D. thesis ever written in astronomy” to earn Harvard’s first doctorate in her field (albeit awarded by Radcliffe). She determined that hydrogen was a million times more prevalent in the universe than the experts believed; Henry Norris Russell, dean of American astronomers and head of the Princeton Observatory, wrote her that the findings were “clearly impossible.” Her book Stellar Atmospheres therefore stated that her results were “almost certainly not real.” Four years later, Russell proved her results correct by a different method. He got the credit.

Astronomy, meanwhile, continued to consume Payne, though she made time for a personal life. She spirited Sergei Gaposchkin, her husband-to-be, out of Nazi Germany and they had three children. She made time for a personal life. She spirited Sergei Gaposchkin, her husband-to-be, out of Nazi Germany and they had three children.

All that changed on the night of December 2, when Arthur Eddington, head of the Cambridge Observatory, lectured on his recent solar expedition, which had proved Einstein’s theory of relativity. Payne, one of four women in the audience, raced back to her dorm room and transcribed the lecture word-for-word into a notebook. “For three nights, I think, I did not sleep,” she recalled. “My world had been so shaken that I experienced something like a nervous breakdown.”

She changed her major to physics, with all the astronomy she could pick up on the side. It was challenging. She bicycled to the Cavendish Laboratory in a full-length dress and a hat (required to enter town), and, as a woman, had to sit in the front row. The lab’s director, Nobel laureate Ernest Rutherford, would look directly at her and begin each lecture with, “Ladies and gentlemen.” She recalled that “all the boys regularly greeted this witticism with thunderous applause…and at every lecture I wished I could sink into the earth.”

Unable to get an astronomy job in England when she graduated, she applied for a fellowship at the Harvard College Observatory. Its director, Harlow Shapley, offered her a $500 stipend. Arriving in the fall of 1923, she met the observatory’s hard-working women “computers” who across four decades had produced nine 250-page volumes of stellar spectra. Those stellar data, etched into thousands of glass plates, made up a giant jigsaw puzzle waiting for the right person to fit it together. By looking down through a jeweler’s loupe, Payne was able to do what centuries of astronomers had tried to do by looking up through telescopes: determine what stars are made of.

That was the birth of astrophysics—and when the trouble started. In 1925, Payne submitted what’s been called “the most brilliant Ph.D. thesis ever written in astronomy” to earn Harvard’s first doctorate in her field (albeit awarded by Radcliffe). She determined that hydrogen was a million times more prevalent in the universe than the experts believed; Henry Norris Russell, dean of American astronomers and head of the Princeton Observatory, wrote her that the findings were “clearly impossible.” Her book Stellar Atmospheres therefore stated that her results were “almost certainly not real.” Four years later, Russell proved her results correct by a different method. He got the credit.

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Harvard president Abbott Lawrence Lowell had declared that because she was a woman, “Miss Payne should never have a position in the university” as long as he was in office.

Through it all, she persevered. On June 21, 1956, The New York Times reported, “Harvard University announced today the appointment of Dr. Cecilia Payne-Gaposchkin as Professor of Astronomy. She is the first woman to attain full professorship at Harvard through regular faculty promotion.”

Today, a painting of President Lowell dominates the north wall of the Faculty Room. Surely, Payne-Gaposchkin would appreciate the irony: in her portrait, because her eyes look left and slightly up, she is gazing directly at Lowell, no more than 30 feet away.

Reporter and writer Donovan Moore is the author of What Stars Are Made Of, a biography of Payne-Gaposchkin just published by Harvard University Press.
This year’s U.S. election campaigns offer competing visions for many aspects of American life, as candidates describe the federal programs they would launch or expand or shrink, and the taxes they would lower or (sometimes) raise. Rarely are the costs and revenues underlying those proposals made clear, and most voters are, reasonably enough, content with a general sense of candidates’ priorities. But ultimately the structures of federal programs and tax rules lead to amounts of federal spending, revenue, and borrowing, and those amounts matter for the national economy and for states, communities, and households. Here, we attempt to provide some larger context for evaluating the candidates’ plans—and their consequences for Americans’ financial future.

Three figures are paramount for considering any proposals for future federal spending and taxes.

- First, the ratio of federal debt held by the public to total output (gross domestic product, or GDP) was 79 percent at the end of the last fiscal year: the highest such ratio in the nation’s history except for six years during and right after World War II.
- Second, the ratio of federal revenue to GDP in the last fiscal year was 16.3 percent: the lowest such ratio in five decades except for two years in the early 2000s and four years following the financial crisis.
- Third, the average yield on 10-year Treasury notes in 2019 was 2.14 percent: the lowest annual yield in the past six decades, except for 2012 and 2016.

We Will Need to Act

We begin with the debt, which totaled nearly $17 trillion at the end of the last fiscal year, and GDP, roughly $21 trillion over that fiscal year: with a U.S. population of around 330 million people, that translates into about $64,000 of output and $51,000 of federal debt per capita.

Federal debt held by the public totaled between about 25 and about 50 percent of GDP between 1957 and 2008. (Some broader measures of federal debt include debt issued by one part of the government and held by another, rather than by the public; economists and budget analysis almost always focus on the measure we use.

Spending on health care is central to the long-term budgetary challenges. So it is especially useful to pair their essay with David Cutler’s nuanced explanations of why American health care costs so much: about $3.5 trillion per year (that’s the norm, before an emergency like COVID-19)—of which one-third is wasted. The sources of that waste, in terms of health value received for dollars spent, may surprise you. It has certainly proven resistant to political repair. Given the relatively poor results Americans receive for all they spend, fixing health care matters: for citizens’ well-being, the country’s fiscal soundness, and extending essential medical services to those who lack access now.

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You can learn more from all three authors on their segments of the Ask a Harvard Professor podcast.

~The Editors
here, which nets out those cross-holdings.) That debt equals the cumulation of past budget deficits less occasional surpluses. The ratio of debt to output climbed sharply beyond its historical range in the wake of the financial crisis at the end of the last decade, when the severe recession and slow recovery (and the spending increases and tax cuts enacted in response to the economic conditions) produced very large budget deficits. But today, even with the economy growing fairly steadily and the unemployment rate falling below 4 percent, deficits are so large—roughly $1 trillion per year—that debt continues to grow faster than the economy.

Moreover, under current policies, federal deficits will become even larger over time, and federal debt will continue to expand faster than the economy. According to Congressional Budget Office (CBO) projections, debt will reach 98 percent of GDP in 10 years and 180 percent of GDP in 30 years. This projection assumes that almost all the individual tax cuts enacted in 2017 will be allowed to expire as scheduled after 2025; if, instead, those tax cuts are made permanent, as happened in 2010 for most of the supposedly temporary individual tax cuts enacted in 2001, then debt would climb much higher still.

The impact of debt on the economy depends on the combination of spending programs and tax rules that fueled budget deficits. Spending programs and tax rules that foster economic growth lead to less debt relative to the size of the economy than do programs and rules that produce the same deficits but inhibit growth. Estimating these effects, and projecting all of the other variables that affect the federal budget, are clearly challenging. But if projections by the CBO (and other analysts) are even roughly correct, the trajectory of debt to GDP is steeply uphill from here under current policies.

Some observers have worried that government debt cannot exceed some particular percentage of GDP without causing immediate economic instability, but economists’ analysis suggests that no definitive tipping point can be identified. Different countries at different times seem able to support different amounts of government debt, depending on their specific circumstances. But few analysts think that federal debt could increase indefinitely relative to the size of the U.S. economy, because economic activity represents the resources that could be brought to bear to meet the government’s obligation to pay interest on its debt and repay the principal. Therefore, current policies must ultimately be changed.

Just to stabilize the ratio of federal debt to GDP, those changes
will need to be substantial. For example, given CBO’s projections, making the ratio of debt to GDP in 30 years equal to the ratio today would require a combination of revenue increases and spending cuts of roughly 2½ percent of GDP (or about $550 billion, or $1,700 per capita, today) in each year of the next 30. Accepting a higher target ratio 30 years hence would allow for smaller changes in the next few decades—but maintaining that ratio would require larger deficit reductions subsequently.

How to Act: Raising Revenue

Many different combinations of revenue increases and spending cuts could reduce budget deficits and thus debt—but we are not aware of any combination that is broadly popular.

• Spending. In 2019, total federal spending was equal to 21.0 percent of GDP (nearly $4.5 trillion, or close to $14,000 per capita), just a little above the 20.4 percent average of the preceding five decades. But the composition of federal spending has changed dramatically over time. Spending has grown sharply relative to the size of the economy in a handful of large and generally popular programs: Social Security and the major healthcare programs—Medicare (for older and disabled Americans); Medicaid (for Americans of modest means and older Americans who have exhausted their resources—the program pays a substantial share of all U.S. nursing-home bills); the Children’s Health Insurance Program; and further subsidies for health insurance under the Affordable Care Act (ACA). Together, these programs cost about $6,600 per capita last year. (The additional spending attributable to the ACA is only about one-twentieth of federal spending for those programs.) Under current policies, spending for these programs will continue to grow much faster than GDP, driven by the retirement of the large baby-boom cohort, which increases the number of beneficiaries, and by continued increases in healthcare spending per capita at rates much faster than growth in GDP per capita. As the population continues to age and more Americans become beneficiaries of these programs, political support for cutting spending on them, already low, will wane further. The remaining categories of federal spending apart from interest payments on the debt—other benefit programs, defense appropriations, and nondefense appropriations—are each currently equal to or smaller than their 50-year averages relative to the size of the economy. These other benefit programs (which include a portion of the earned income tax credit, food stamps, retirement benefits for federal employees, income security programs for veterans, etc.) cost about $1,700 per capita, and defense and nondefense spending each cost a little more than $2,000 per capita. (Interest payments are more than $1,100 per capita.) Even though spending in these areas is not high by historical standards, it certainly could be reduced—but the political appetite for doing so falls sharply when attention turns to specific programs. Between 2011 and 2018, even a conservative-led House of Representatives voted for no significant reductions in benefits apart from repeal of the ACA, and annual appropriations have consistently exceeded the overall limits Congress ostensibly imposed in 2011.

• Revenue. Federal revenue in 2019 was smaller relative to the size of the economy than its average over the past 50 years: 16.3 percent of GDP compared with 17.4 percent. Accordingly, federal revenue was a little under $3.5 trillion: close to $11,000 per capita. The difference from the long-term average stems from offsetting factors: economic shifts, legislated tax cuts, and bracket creep (which occurs as growth in inflation-adjusted household incomes pushes more income into higher tax brackets). Individual income taxes make up about half of total revenue and are close to their long-term average relationship with GDP. Payroll taxes have risen over time relative to GDP. And corporate income taxes and other revenue sources have declined relative to GDP.

Examining the tax burden among households is illuminating. The CBO allocates all federal taxes to households (for example, by attributing corporate profits taxes primarily to owners of capital) and then compares those taxes to incomes for representative households at different income levels. According to those estimates, federal taxes are now equal to or close to the smallest share of income in any year since 1979 (the earliest year for which CBO reports such figures) for representative households in the bottom four quintiles (fifths) of the income distribution and in the top quintile excluding the top percentile; for those in the top percentile, the federal tax burden is now close to the average since 1979.

Looking ahead, the CBO projects that bracket creep and especially the scheduled expiration of almost all of the individual tax cuts enacted in 2017 would push up revenue significantly: to 18.0 percent of GDP in 2030—and higher thereafter. But under current law, spending for Social Security and the major healthcare programs will rise faster over the next decade, widening the deficit. Opinion surveys suggest that most people would prefer raising taxes to cutting spending on such programs.

We conclude that significant reductions in federal budget deficits ultimately should, and will, rely much more on revenue increases than on spending cuts. Raising revenue in a way that is both equitable and not very harmful for economic growth is a challenge, but a solvable one (and the topic for another essay).

When to Act: Later Rather than Sooner

The appropriate timing of actions to lower the growth of federal debt relative to GDP is an important and unsettled issue. The historically large amount of federal debt, combined with the continuing upward trajectory, suggests to some observers that reducing
Federal policy should focus on changes to taxes and spending that promote the well-being of the many Americans who have benefited relatively little during the past few decades.

Budget deficits demand immediate action. But perhaps surprisingly, a broader look at the relevant evidence does not support that view. Rather, the very low level of Treasury interest rates implies that putting federal debt on a sustainable path is not as urgent as one might expect from the projected growth of debt alone—and, indeed, that sharply curbing deficits now would be a mistake.

Yields on Treasury securities soared in the 1970s and the beginning of the 1980s because of high inflation and the subsequent effort to drive inflation down, and they later subsided during the rest of the 1980s, 1990s, and early 2000s. Yields fell further in the financial crisis and Great Recession, and they have stayed low even as the economy has returned to essentially full employment. The current low level of rates cannot be attributed to mistakenly loose monetary policy, because rates are low even at long time horizons that are less influenced by current Federal Reserve decisions and because inflation remains below the Fed’s target. Moreover, the low level of interest rates is not a uniquely U.S. phenomenon but is common across many countries—despite a surge in government debt in many countries.

As this pattern of globally low interest rates has become more apparent, analysts have examined a large number of possible explanations. Candidates include a declining demand for investment dollars (stemming from falling prices for information technology and other factors), shifts in saving, and the safety and liquidity of government securities. Explaining past interest rates is a complex exercise, and forecasting rates is quite uncertain. Nonetheless, recent research implies that the key factors that have brought interest rates down will probably persist, and that rates will remain low by historical standards—an outlook that is quite consistent with readings from financial markets.

This new economic environment fundamentally changes the benefits and costs of reducing federal budget deficits. It is well understood that low interest rates change the dynamics of federal debt: for any given amounts of revenue and noninterest spending, lower rates mean that debt will compound more slowly. For example, CBO estimated a year ago that if interest rates were persistently a half-percentage point lower than the CBO projects, the government’s interest burden over the next decade would be nearly $1 trillion lower than the CBO projects.

It is less well understood that low interest rates change the desirable size of deficits and amount of debt for the government to issue. Recent research suggests that many of the factors that seem to have held down interest rates also make the optimal amount of federal debt larger than it would be otherwise.

This finding should not really be surprising: The most common economic cost attributed to high federal debt is that the government’s demand for loanable funds crowds out private borrowers who would have used those funds for capital investments that would boost future growth. Low interest rates suggest that loanable funds are not very scarce and that private investments with even moderate returns can be readily funded—so the government’s use of borrowed funds is not very costly to society. The next most common economic concern about high federal debt is that investors might suddenly worry that the debt will not be honored, and then try to sell their holdings in large quantities and push up interest rates sharply. But low interest rates suggest that investors are not very worried about that possibility.

Thus, with interest rates especially low, the optimal amount of federal debt is now much higher than in previous decades—so there is less urgency today to putting federal debt on a sustainable path than we and many other economists have argued in the past.

Plus, with interest rates so low, fiscal tightening now—to narrow the deficit—would threaten continued economic expansion. Increases in federal taxes and reductions in federal spending generally reduce demand for goods and services and thereby lower output and employment.

Hedging Those Bets

What are the disadvantages of delaying action to reduce budget deficits? One concern is that interest rates could jump upward unexpectedly. The danger of high interest rates is not great, because they could rise considerably from current levels and still remain below long term averages, and because the global decline in rates stretching for almost 40 years implies that current low rates in the United States are hardly a fluke. To hedge bets, however, we support lengthening the maturity of federal debt issuance to lock in low long-term rates. Moreover, other than responding to future recessions, we think that policymakers should not legislate any further increases in deficits—which means that any policy changes that increased spending or reduced revenue would need to be combined with other policy changes with offsetting budgetary effects, an approach known in previous years as “paygo.”

A second concern is that some policy changes should be enacted well before they take effect, so that people whose benefits or taxes...
Alec Smith died of diabetic ketoacidosis, though it is probably fairer to say that he died from high health-care costs. The 26-year-old from Rochester, Minnesota, had just moved out of his parents’ home and didn’t have enough money to afford his insulin. He decided to ration his remaining supply until his next paycheck, a week later. Alas, he was not able to make it. Alec died alone in his apartment, vomiting and having difficulty breathing, from a condition that never should have occurred.

Whatever candidates for office do (or do not) say, members of the public ought to bear in mind a few principles about our national government’s finances. We think about them this way:

- Federal debt cannot rise indefinitely relative to the size of the economy, as it would under current policies, so changing those policies to reduce budget deficits will become necessary.
- Given the amount of federal revenue being collected relative to the size of the economy and households’ incomes, and given the amount and composition of federal spending, those future changes should rely more on revenue increases than spending cuts.
- But the changes are less urgent than one might deduce from the projected path of federal debt, because interest rates will probably remain well below their long-term averages.

Accordingly, the focus of federal budget policy over the next few years should not be deficit reduction but deficit-neutral changes to tax rules and spending programs that promote the economic and social well-being of the many Americans who have benefited relatively little from national economic growth during the past few decades.

Karen Dynan, professor of the practice of economics in the economics department, was previously assistant secretary of the U.S. Treasury for economic policy. Harvard Kennedy School dean Douglas Elmendorf, who is also Price professor of public policy, was previously director of the nonpartisan Congressional Budget Office (CBO). The data presented here come largely from CBO reports.

The World’s Costliest Health Care

...and what America might do about it

by David Cutler

Alec Smith died of diabetic ketoacidosis, though it is probably fairer to say that he died from high health-care costs. The 26-year-old from Rochester, Minnesota, had just moved out of his parents’ home and didn’t have enough money to afford his insulin. He decided to ration his remaining supply until his next paycheck, a week later. Alas, he was not able to make it. Alec died alone in his apartment, vomiting and having difficulty breathing, from a condition that never should have occurred.

The harm from high medical spending goes well beyond the medical sector. Many firms have outsourced low-wage workers because providing them health benefits is too expensive. Government spending for schools and environmental programs are starved because resources go to health care instead. Warren Buffett called medical costs the “tapeworm of American economic competitiveness.” Oncologists have invented a term, “financial toxicity,” to consider along with biochemical toxicity in deciding on the appropriate treatment.
Americans agree with Buffett. Two-thirds of Americans want the federal government to regulate the price of medical care. Indeed, the public has a clear theory for explaining high medical spending: unconstrained greed. Pharmaceutical companies put profits above patients, and insurance executives are paid millions to deny coverage. The government should stop both.

And people are right, to a point. Allowing the makers of life-saving medications to price their products without constraint is a recipe for premature death. But the issue is more complex than just greed. Even if the United States cut every pharmaceutical price in half and eliminated all profits on health insurance, the gap between U.S. medical spending and that of other rich countries would fall by less than a quarter. Health care is more than just rapacious profits in drugs and insurance.

The reality is that the healthcare problem is multifaceted. But that is not the same as saying nothing can be done. On the contrary, it means there is even more to do. Three areas are essential to tackle if we want to reduce health spending to near the level in other countries.

Administration Adds Up
The largest component of higher U.S. medical spending is the cost of healthcare administration. About one-third of healthcare dollars spent in the United States pays for administration; Canada spends a fraction as much. Whole occupations exist in U.S. medical care that are found nowhere else in the world, from medical-record coding to claim-submission specialists.

Healthcare administration needn’t be so costly. Even in other countries with multiple payers and private providers—including Germany and Switzerland—healthcare administration is less than half the cost of the U.S. equivalent. The key requirement for reducing administrative costs is standardization. Grocery-store checkout is simple because all products have bar codes and credit-card machines are uniform. Mobile banking is easy because the Federal Reserve has put standards in place for how banks interface with each other. But every health insurer requires a different bar-code-equivalent and payment-systems submission. And even in 2020, it is virtually impossible to send medical records electronically from one hospital to another. Almost all hospitals have electronic medical records, but there is no federal requirement that they interface. Indeed, many providers take active steps to avoid electronic interchange, because keeping records local ensures that fewer patients will switch doctors.
Greed and Gouging

Greed is the second part of excessive health spending. The U.S. list price for insulin is 10 times higher than that in Canada. Relief for Alec could have come after a short bus ride north. But pharmaceuticals are not the whole story. Prestigious hospitals charge multiple times what less prestigious hospitals do for the same service. While that may be justified in the case of complex surgery, it surely is not for an x-ray.

It is no mystery why pharmaceutical prices are higher in the United States than in Canada and at star hospitals as compared to community institutions. Prices rise when there is nowhere else to go. Traveling to Canada for insulin is not something most Americans can do—though Alec Smith’s mother now leads such trips, or did when she was able to do so. And few people are willing to switch from a star hospital to a community institution, even if the price is much lower.

Economists’ favorite solution to such “sticky” demand is to help people become more mobile. Play different insulin suppliers off against each other to bargain for a lower price. Have interactive websites to help people shop for lower-priced imaging. Alas, all attempts to make these policies work have so far been unsuccessful. Many employers have created websites where their employees can search for more and less expensive services. Uniformly, they are not looking out for the system as a whole. That thinking will need to change if progress is to be made.

In Love with Medical Services

The final part of higher medical spending in the United States is higher utilization. The United States has the most technologically sophisticated medical system of any country, and it shows up in spending: the U.S. has four times the number of MRIs per capita as Canada, and three times the number of cardiac surgeons. Americans don’t see the doctor any more often than Canadians do, and are not hospitalized any more frequently, but when they do interact with the medical system, it is much more intensively.

Outcomes for this greater intensity are not easy to find. Despite the more intensive U.S. cardiovascular care, heart-attack survival is no better. Indeed, U.S. death rates for heart disease have been rising relative to other rich countries. The greater degree of imaging in this country detects more cancers, but many of these would never have become clinically apparent. Many cancers grow slowly, and often the patient dies of something else long before the cancer would have become noticeable.

And even as the United States overdoes high-tech care, it underprovides routine care. Effective medications to treat high blood pressure and high cholesterol have been around for decades, yet only half of people with these risk factors are successfully treated. Mental illness is underdiagnosed and undertreated despite its enormous social cost.

The reason for the disparity between high-tech and routine care is not hard to ferret out. Cardiac surgery and MRIs—famously lu-
To date, there is no evidence that shared-savings programs will lead this country to the much lower Canadian or European levels of medical spending and better health outcomes.

Most recent economic idea is shared savings: don’t pay physicians a fee for each service, with higher rates for surgery and imaging than for medical management. Instead, set a target amount of spending for the average patient. If spending comes in below the target and quality is sufficiently high, the provider group gets to keep the savings. Thus, physicians have incentives to limit their own use of imaging to necessary cases and to figure out ways to make sure that all care is medically necessary. While good in theory, the administrative costs of this policy have proven to be a disaster.

Over time, insurers evolved other ways to try to restrict care. Some insurers have gone with a high cost-sharing strategy: make people pay more when they use care. Those willing to pay a higher cost can have the service. This is the strategy that leads to high out-of-pocket costs for insulin and emergency-department use. The second strategy is to keep an eagle eye on what physicians want to do, to make sure that all care is medically necessary. While good in theory, the misallocation of medical resources is the most difficult technical challenge in lowering medical spending. How does one get a health system to perform fewer MRIs but do them on the right patients, and use the money saved to extend more primary care? The Canadian policy for overprovision is simple: limit the total amount of high-tech care available. Canadian governments ration the number of scanners that can be bought and how many hospitals can have open-heart surgery facilities. Within the available supply, physicians decide how the services are allocated. In a highly professional system like Canada’s, doctors perform the allocation rules very well. Thus, outcomes are better in Canada than in the United States, at a fraction of the cost.

The U.S. government once tried this type of technology rationing—it went by the name of Certificate of Need regulation. In the 1970s and 1980s, state governments had systems to approve each new scanner or addition to a hospital’s footprint and were supposed to say no when it was not necessary. But the policy was not very effective. Without a firm limit on what was allowed to be spent on medical care, it was too difficult for technology boards to deny hospitals. That set of policies has been left in the dustbin of failed cost-containment efforts.

This discouraging record leads to deep questioning about how to make progress in medical care. Can the current system be a basis for good medical and economic outcomes, or must one make more radical change? Proponents of the latter view fall into two camps. On the left are those who reason that the only successful healthcare models internationally are single-payer systems, so the United States must move in that direction to do materially better. On the right are those who argue that only markets can provide the combination of price and quality that people want, so the country needs to remove government from the equation as much as possible. Not surprisingly, many Democrats espouse the former, and Republicans sign on to the latter.

In Rochester, Minnesota, and elsewhere in the country, people want none of this bigger debate. Phrases like “choice” and “single payer” are not helpful, let alone “incentives for interoperability of healthcare records.” Recall that Americans have a firm view of the problem: greed. Every conversation about something other than greed seems entirely beside the point.

This creates a special problem for the healthcare policymaker. In addition to figuring out what is technically correct, we need to learn how to explain those reforms to worried people. Can we promise that any policy will prevent deaths like Alec Smith’s and not harm people in other ways? Speaking morally, as well as economically, is the biggest challenge in health policy.

David Cutler is Eckstein professor of applied economics in the Faculty of Arts and Sciences, professor in the department of global health and population at the School of Public Health, and a faculty member at the Harvard Kennedy School.
A Love Letter

John Alexander films the ups and downs of funk musician Rudy Love.

by ALEX HULS

Filmmaker John Alexander ’11 never thought he would make a music documentary. He’d heard too many horror stories: how editing them could be a logistical headache, how securing music rights could eat up a budget. But then he met Wichita funk musician Rudy Love.

Alexander was at the wrap party for Bender, his 2016 feature-film directorial debut, based on the true story of a Kansas family of serial killers who preyed on travelers in the early 1870s. Shawn Rhodes, the film’s associate producer, had hired Love to perform at the party, in part so the musician could meet Alexander and his artistic collaborator and wife, JC Guest ’11. Rhodes had been documenting the singer’s story since the early 2000s, amassing a catalog of footage he wasn’t sure what to do with, and he hoped the duo could help.

Alexander was immediately intrigued. When Love was a promising 17-year-old funk musician, he’d been tricked into signing a fraudulent contract with a company called Canyon Records that allowed distributors to steal his songs for decades: a generation of musicians was influenced by Love’s work—hits like “I’ve Just Got to Tell Somebody” and “Your Love is So Doggone Good”—without ever knowing his name. But his life wasn’t the tragedy one might expect. Love had other chances at stardom, only to return again and again to what mattered to him more than fame, money, or bitterness: love for family and music. He continues to write songs, and to perform and record locally with his bandmates, most of whom are his siblings. For many years, he helped his mother run her Wichita soul food restaurant, Mama Love’s Kitchen.

Following a serial killer movie with a music documentary did not deter Alexander. This Is Love is the result. “When making art, you have to channel your inner child...
and not overthink things,” he says. He felt compelled to bring attention to Love’s overlooked influence and talent, and his indomitable spirit. Part of that talent and spirit came from Love’s father, Robert, a pastor and accomplished gospel singer who had a brief recording career of his own (complete with an unhappy experience with duplicitious music–industry executives). Robert Love’s church services became a destination for artists like Sam Cook and Aretha Franklin when they came to Wichita on tour, and Lou Rawls was an old friend. The oldest of 17 children, Rudy Love formed his first band in grade school, and in college began performing with siblings as Rudy Love & the Love Family. Over the years, he wrote songs that were recorded by Ray Charles and Isaac Hayes; Jay-Z sampled Love’s “Does Your Mama Know” in his 2007 single, “Sweet.”

Love spent a decade as a bandleader and manager for Sly and the Family Stone, and he has written or performed with Little Richard, Chuck Berry, B.B. King, Stevie Wonder, The Temptations, Tina Turner, Michael Jackson, Aretha Franklin, Lionel Richie, James Brown. (One admirer, Mick Fleetwood of Fleetwood Mac, served as an executive producer for the documentary and sat for an interview.) In This Is Love, funk icon George Clinton recalls discovering Love’s music in the 1960s and ’70s, calling him one of the “for-real unsung heroes of that era.” The more Alexander learned about him, he says, “I could not resist this undeniable force of nature that was drawing us toward this man, this voice, this story.”

A version of that same force has been with Alexander himself since he was five years old, growing up in Santa Monica and making movies with his parents’ camcorder. He’d round up some local kids, and shoot musical comedies or thrillers with Hot Wheels car crashes. As a teenager, he attended Adel-derley School for the Performing Arts in Los Angeles, where he dabbled in acting and continued to make films. Sometimes he’d rent out small local theaters to screen his and his friends’ work. “It was definitely rinky-dink and small time, but it felt great to actually have something tangible to show for all of my adolescent goofing around,” he says now. He was determined to become a filmmaker.

At Harvard, he concentrated in linguistics and kept working at his artistic ambitions. He filmed statistics and economic lectures for Harvard’s AV office to earn extra money, made short films, and even interned with director Sam Raimi during

McArthur University Professor Rebecca Henderson, a leading voice on climate change, teaches “Reimagining Capitalism” at the Business School: an immersion in “business and big problems”—from the integrity of the Earth to inequality, institutional incapacity, and more. Now, she has synthesized her ideas about the role of private enterprises in solving them (in their own interest), in completely circular economy and halt the damage we are causing to the natural world, we can. In the course of World War Two, the Russians moved their entire economy more than a thousand miles to the east—in less than a year. . . . Last, I am convinced that we have a secret weapon. I spent 20 years of my life working with firms that were trying to transform themselves. . . . The firms that mastered change were those that had a reason to do so: the ones that had a purpose greater than simply maximizing profits. . . . This is not easy work. It sometimes feels exactly like climbing down a metal ladder into a hole cut through foot-thick ice. But. . . . while taking the plunge is hard, it is also exhilarating. Doing something different makes you feel alive. Being surrounded by friends and allies, fighting to protect the things you love, makes life feel rich and often hopeful. It is worth braving the cold.

Join me. We have a world to save.
the making of 2009’s *Drag Me to Hell*. He met Guest on their first day at Hollis Hall. As the two grew closer, she learned about the film industry and saw a chance to combine her own kaleidoscopic interests—art, business, technical skills, craftsmanship—into the role of producer.

The couple heard about the Bender family during their sophomore year and thought it had movie potential. They began writing scenes, positioning the story as a Hitchcockian Western, and eventually devoted their senior year to completing a script that they could shop after graduation, when they moved to Los Angeles. “At the time, it didn’t even feel like a dream,” Alexander says. “We were so driven to do it, that it was just a mission.…We were just going to get this done.” In less than a year, Bender was approved by producer Scott Adler and Casadeli Pictures. Then, a few years later, came the party where they met Rudy Love.

After they decided to take on his story, they spent a year sifting through the extensive interview and concert footage Shawn Rhodes gave them. Alexander also drove thousands of miles with Love to shoot interviews, concerts, and other events and encounters. During editing, he drew on the experience he’d picked up running Crook & Nanny, the post-production company he and Guest had founded in 2016. His approach was to let the style reflect the content, a technique he gravitates toward.

**Off the Shelf**

Recent books with Harvard connections

**Inside the Hot Zone**, by Mark G. Kortepeter ’83, M.P.H. ’95 (Potomac Books/University of Nebraska, $34.95). Now a public-health professor at the University of Nebraska Medical Center, the author is a retired army colonel with long experience in defense against biological agents. His thriller-like account, subtitled “a soldier on the front lines of biological warfare,” is a timely reminder that alongside natural threats (Ebola, coronavirus), life sciences can be weaponized in stealthy, alarming ways.

**Traces of J.B. Jackson**, by Helen Leffkowitz Horowitz, Ph.D. ’69, RF ’01 (University of Virginia, $39.50). John Brinckerhoff Jackson ’32 had an engaging, diverse, creative three-year undergraduate career at Harvard, following which his life experiences in Europe, New Mexico, and the military led him to create *Landscape* magazine and to shape, profoundly, landscape studies at Berkeley, the Graduate School of Design, and elsewhere. Horowitz, now emerita from Smith College, provides an accessible, handsomely illustrated guide to the life and work of “the man who taught us to see everyday America.”

**Baby Jails: The Fight to End the Incarceration of Refugee Children in America**, by Philip G. Schrag ’64 (University of California, $29.95 paper). A Georgetown Law professor details the too-long history of locking up minors (he worked in a “jail full of toddlers”) brought into this country, often for basic reasons of safety, and political leaders’ refusal to address their needs for minimally humane care. An issue that lingers because the people who would have to care…don’t.

**Nothing Is Wrong and Here Is Why**, by Alexandra Petri ’10 (W.W. Norton, $25.95). A collection from the work of *The Washington Post* columnist, whose zany satires—far more carefully and wickedly crafted than they at first seem—go far beyond her role as dedicated humorist in the nation’s capital. It seems almost unfair for her to get to practice in an era so rich in possibilities. “A Good Time to Talk About Gun Laws” (President Donald Trump said he would do so “as time goes by”) notes that “’Not now’ is not the same as never. It must be on a day when there has been no recent gun violence. So not today, and not tomorrow, and not the day after that. But someday.” That was in 2017.

**The Last Negroes at Harvard: The Class of 1963 and the 18 Young Men Who Changed Harvard Forever**, by Kent Garrett ’83 and Jeanne Ellsworth (Houghton Mifflin Harcourt, $27). A retired television journalist (see “Reel Revolution,” March-April 2017, page 55) tells the stories of 18 youngsters who grew up when *Brown vs. Board of Education* was decided; entered Harvard as “the largest group of Negroes admitted to a freshman class to date”; and graduated as the civil-rights “confrontation” campaign in Birmingham, Alabama, began to break segregation: the era when “Negro” gave way to “black” (hence the title). He recalls the special sting of dorm crew: “I was a Negro doing Negro work—I was in my place.” In recording what it meant to be “pulled…into an unknown world,” Garrett and Ellsworth have captured the nascent movement toward a broadened institution—a change well worth remembering.

**Why We Swim**, by Bonnie Tsui ’99 (Algonquin Books, $26.95). The writer/swimmer/surfer reports on the enigma of land-adapted *Homo sapiens* loving to live by and plunge into the water. Journalism *cum* poetry: “We submerge ourselves in the natural world because the natural world has a way of eliciting awe.”

**The Long Fix**, by Vivian S. Lee ’87, M.D. ’92 (W.W. Norton, $26.95). The president of “health platforms” at Verily Life Sciences, an Alphabet/Google analytics enterprise—
The film is rarely still, constantly shifting in time, place, and visual perspective. “Consistently inconsistent,” is how Alexander describes it. “Much like funk music, it’s all over the place. Aesthetically, it’s smooth and then it’s choppy. It’s slow and then it’s fast…. It’s dancing around a lot, like Rudy’s music.” He says that’s how Love recalls his own life: “I do not believe Rudy views his own story as linear, clean, and conventional, but rather as scattered, euphoric, puzzling, and fleeting.”

The result is a love letter to Love’s infectious funk music, propelled by the bounce of his guitar licks and the lift of his voice. The seeming effortlessness of his talent belies the difficulty of his past ordeals. The documentary tracks, too, how the music industry sold his sound and voice as far as England and China, and how he never became a household name, despite his prolific output and touring. But This Is Love makes clear that Love doesn’t view his life as a disappointment. He has a voice inherited from his father, a family he’s performed with for decades, and a bone-deep connection to music that no one can steal. After working on Love’s story for nearly four years, Alexander says, “It’s really kind of an antidote to the vanity of our times, where people are measuring success based on things they can look up on their phone. It’s very important and refreshing to remind ourselves that a human impact can be measured in different ways.”

The Caregiver’s Encyclopedia, by Muriel R. Gillick, professor of population medicine (Johns Hopkins, $22.95 paper). Given the burgeoning obligation to assist increasingly dependent elders, many of their grown children, and others, will gratefully receive this “compassionate guide to caring for older adults.” It is admirably forthright, clearly organized, and helpfully illustrated, proceeding from an initial focus on understanding someone’s “underlying health state” through visiting doctors, entering the hospital, and proceeding from acute to long-term care, at home and in specialized facilities.


Lincoln on the Verge, by Ted Widmer ’84, Ph.D. ’93 (Simon & Schuster, $35). A gripping, minutely detailed account of Abraham Lincoln’s 13-day progress from Springfield to Washington, to take possession of the presidency at the then-United States’ moment of greatest challenge. Evocatively illustrated, and resonant with the kind of leaderly rhetoric and character that sustained the nation—and made it great.

Healthy Buildings, by Joseph G. Allen, assistant professor of exposure and assessment science, and John D. Macomber, senior lecturer in finance (Harvard, $35). A public-health scientist and a Business School teacher join forces to explain why the indoors—where humans in developed societies spend 90 percent of their time—“drive performance and productivity,” as the subtitle puts it. A useful complement to the energy- and climate-focused concerns of the “green-building” movement.

A Registry of My Passage Upon the Earth, by Daniel Mason ’98 (Little, Brown, $27). The physician-novelist (The Winter Soldier, The Piano Tuner) presents a series of precisely crafted, often historically informed, stories about mystery and the unexpected turns of diverse lives.

Dare to Speak: Defending Free Speech for All, by Suzanne Nossel ’91, J.D. ’96 (Dey Street, $28.99). The CEO of PEN America—formerly COO of Human Rights Watch—advances “a common set of rules” for speech in an era when “our global conversation is now a mosh pit of expression” and “[h]ateful speech is on the rise.”

Cook, Taste, Learn, by Guy Crosby, adjunct associate professor of nutrition (Columbia University Press, $26.95). A brisk, attractively formatted history of the science of cooking—with color-coded inserts on the learning (emulsions, the chemical structure of fats, etc.) and for recipes.

When Truth Mattered, by Robert Giles, curator emeritus, Nieman Foundation for Journalism (Mission Point Press, $16.95 paper). The then-managing editor of the Akron Beacon Journal, Giles now has written a fiftieth-anniversary account of the Kent State shootings—when protest was cut down by state power gone horribly wrong—and of the role of a free press in getting the news right. In an uncomfortable number of ways, his story resonates with current circumstances.
The Fiction of Limbo

Novelist Paul Yoon explores Laos’s forgotten war.
by BAILEY TRELA

“My fiction is constantly in transit,” says novelist and Briggs-Copeland Lecturer Paul Yoon. “If I were to self-analyze it, my guess is that it probably comes from the fact that my history is one of transit, of being in limbo.”

For Yoon—whose most recent novel, Run Me to Earth, came out in January—the earliest awareness of family history is indelibly tied to his grandfather, who fled North Korea for the south during the Korean War. “When I think back and ask myself what I remember about my family, it all begins with stories about my grandfather sneaking across the border as a refugee.”

Yoon’s grandfather never immigrated to the United States, although he visited a few times when Yoon was young. The author’s parents met after both had moved to the States in the late 1970s, but impermanence remained the norm. He remembers his parents and their friends sharing their experiences of immigrating and the way, once arrived, they continued to drift, moving from California to New York or vice versa. Growing up, Yoon himself shuttled around within New York state, rarely staying anywhere longer than five years as his father, a doctor, moved from one hospital to another. “There was always this constant movement to find happiness, and a place to settle and make a life,” he explains. “I think that notion is just embedded in my sense of life and story.”

Those early experiences have helped shape a body of fiction remarkably attuned to the exigencies of flight and the perpetual searching that often typify immigrant narratives. In 2009, Yoon published Once the Shore, eight interlinked short stories set on a fictional island off the coast of South Korea. His 2013 novel, Snow Hunters, traces the life of a Korean refugee who escapes to Brazil by cargo ship at the end of the Korean War. And in 2017’s short-story collection, The Mountain, a series of characters, times, and places—New York, Spain, South Korea—are also obliquely tied to the war as a way of investigating the psychological aftermath and physical displacement it engendered.

The experience of diaspora is reflected in the warp and weft of Yoon’s fiction—in the ruptured movement of his plots and in the spare, minimalist prose that seeks to capture, impressionistically, the flashing-by of lived reality and the peculiar play of memory that accompany physical displacement. A sense of place permeates Yoon’s writings, which tend to fracture along geographical lines.

For Run Me to Earth, he chose to address a different anchoring event: what he calls the “shadow history” of the bombing the United States conducted in Laos beginning in 1964, a nearly decade-long assault that devastated the country with more than two million tons of ordnance. During research for The Mountain, Yoon learned about the campaign in Laos, a conflict frequently overshadowed by the Vietnam War that lent itself to his interest in indirect thematic explorations. The new book’s plot follows a small cast of characters as they leap across continents and decades, from the 1960s to the present day, and from Laos to Peru, Spain, and upstate New York. What’s remarkable, given the bombs that open the book and the successive tragedies that send its characters wandering through the world, is how the novel remains so grounded, in a very literal sense.

Yoon’s fictions crystallize around mountains, islands, fields, and landscapes. Partly, he says, this stems from a deep respect for nature, though it’s also in some ways a metaphor for the act of writing and storytelling itself. “When I think about the natural world, and the landscape and environment, I think of tremendous layers—whether that’s layers of sky, layers of earth; what’s on the land, or what’s under it,” he explains. “It’s a very three-dimensional, layered world, and for me that evokes, or represents, the way I want readers to experience a story and its characters, as well.”

In Run Me to Earth, the landscape serves in part as a symbol for memory. The book’s first section follows Alisak, Prany, and Noi, three teenagers orphaned by war who are serving as couriers for a makeshift hospital thrown up by international aid workers in an abandoned mansion. At the behest of Vang, the head physician, they swerve through the countryside on dilapidated motorcycles in search of medicine, passing through the endless rain of bombs and carefully negotiating fields pitted with unexploded ordnance. At one point, Alisak and Prany look on as Noi makes her way through a minefield:

They watched Noi move across upturned earth and broken bits of stone, the soles of her feet searching for patches that appeared untouched. She would be avoiding the feel of a hard, curved surface under the dirt as much as she could. Every time she stepped forward, she dug her heel in, leaving a solid footprint she could follow back.

Noi’s passage through the field is delicate and calculated, leaving traces in the landscape that are tied, like breadcrumbs, directly to survival. Years later, when Prany returns to the mansion, Yoon again emphasizes the physicality of memory. “Always to his surprise, it was this house his mind had often leaped to these past years. The way he roamed the halls. Entered the rooms and opened drawers as though each held a mysterious treasure. The way they were all together.”

The web of connections in Run Me to Earth is vast and fine. Instead of fleeing the country himself with the help of a smuggler, Prany
Setting the Stage
Joshua McTaggart leads London's Chelsea Theatre into a new era.

by OLIVIA MUNK

London's Chelsea Theatre can be found off a main road in the Royal Borough of Kensington and Chelsea, a neighborhood where household incomes are typically three times the national average. By contrast, the theater itself is tucked into the World's End Estate, a public-housing complex built in the 1970s that also includes a school and a church. The irony of affordable housing hidden away in an area where cafes bearing names like “Juice Baby” and antique shops selling €35,000 chandeliers is lost on no one; this is the borough where, in 2017, 72 people in the Grenfell Tower council flats lost their lives to a preventable fire and became the face of inequality caused by the British government’s austerity program.

The 30-year-old theater has just completed an 18-month, £2.5-million capital campaign refurbishment and now faces a new challenge. It seeks to reposition itself as a venue presenting work comparable to that of the prestigious Royal Court Theatre (just down the road in townhouse-lined Sloane Square), while remaining affordable and welcoming to the more than 2,500 residents in its backyard.

In 2018, Joshua McTaggart ’13 was recruited to lead the Chelsea into its second life as its joint artistic director and CEO. At the time, McTaggart was the founding artistic director of another London theater, The Bunker, which he and a business partner had converted from an abandoned parking garage into a thriving off-West End locale. (Ironically, The Bunker lost its lease in 2019, a victim of the ever-shifting ecologies of London’s arts and real-estate industries, and is set to close this spring, just as the Chelsea prepares for its eventual opening.)

McTaggart discovered a love of theater, and directing in particular, at Harvard, thanks to campus extracurriculars. (He graduated before Theater, Dance, and Media became a concentration.) His most memorable shows included a 25-person production of Stephen Sondheim’s Sweeney Todd in Farkas Hall, and British writer Mark Ravenhill’s Pool (no Water), performed, fittingly, in the Adams Pool Theatre, a repurposed swimming pool with no water. These undergraduate productions represented a valuable time and environment in which artistic risks were not only possible but encouraged, he says, with support from the Harvard-Radcliffe Dramatic Club and the Office of the Arts.

After graduating from Harvard with a concentration in history and a secondary field in English, McTaggart plunged into London’s “fringe” theater scene, directing plays on shoestring budgets in rooms above pubs and managing theater festivals. Then came The Bunker. There, he says, “being an artistic director meant making sure the toilets got cleaned as well as picking plays.” He cares just as much about the lavatories at the Chelsea, but also has the additional role of CEO, providing financial guidance and strategy for what he deems a “civic space” rather than either a community center or theater. In the redesigned Chelsea—a modern, open building with high ceilings and natural light—studios are used for community projects like film clubs for women over 50 and pop-up offices for local housing associations. Programming for the fully flexible, 135-seat theater was set to start this fall, but will be delayed several months because of the coronavirus pandemic.

McTaggart intends for the Chelsea to en-
The “Messy Experiment”
From “female confinement” to “female liberation” at the Radcliffe Institute
by SUSAN WARE

On November 20, 1960, scientist Mary Ingraham Bunting unveiled her vision for the Radcliffe Institute for Independent Study. Newly appointed as Radcliffe’s president, she made her announcement just weeks after the country had elected John F. Kennedy ’40, LL.D. ’56, its youngest president. Change was in the air, but Bunting was one of the foresighted few who realized women should be part of that changing equation. To provide an intellectual lifeline to talented women whose careers had been sidetracked by marriage and children, she proposed creating an institute where fellows would receive office space, access to Harvard’s resources, and a part-time stipend to pursue their creative and scholarly work. Nothing like this had ever been proposed before, certainly not at Radcliffe College. Even Bunting referred to it as a “messy experiment.”

Practically as soon as the program was announced, inquiries started to roll in. Prospective applicants were typically Boston-area women in their thirties and forties who were married with small children. After a rigorous selection process which looked both for evidence of past achievement (such as an advanced degree) and the promise of future distinction, 24 women (four more than originally planned) were offered slots in the inaugural class. When they assembled at 78 Mount Auburn Street in September 1961, they were keenly aware of the high expectations placed on them to fulfill Bunting’s expansive mission statement. But mainly they just felt lucky to have been chosen.

In The Equivalents: A Story of Art, Female Friendship, and Liberation in the 1960s, Maggie Doherty, Ph.D. ’15, a literary scholar and critic, and a preceptor in Expository Writing, tells the story of how this small and privileged group “operated as a hinge between..."
Chapter & Verse
Correspondence on not-so-famous lost words

Steve Ladd writes: “Years ago I read a short piece in which a man radically addicted to in-depth travel noticed, at a wedding in rural eastern Europe, a fellow on-looker. Realizing he had seen that man before in other out-of-the-way places, he approached and they discussed their mutual interest in immersive travel. One offered the explanation, ‘I just want to be where it’s all happening.’ Can anyone identify this work?”

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

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Maggie Doherty, Ph.D. ’15, The Equivalents: A Story of Art, Female Friendship, and Liberation in the 1960s (Knopf, $29.95)

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the 1950s and 1960s, between a decade of female confinement and a decade of female liberation.” Her chosen vehicle is collective biography, focusing on three women from the inaugural class and two from the second class: poets Anne Sexton and Maxine Kumin ’46, A.M. ’48, artist Barbara Swan, writer Tillie Olsen, and sculptor Marianna Pineda. These women formed a friend group which they called “the equivalents”—a humorous but self-conscious reference to the requirement that fellows have an advanced degree or its equivalent. Sexton and Kumin were already close friends and writing collaborators who had met in Boston’s male-dominated poetry circles in the 1950s, a relationship they concealed from the selection committee. Swan and Pineda had also already connected, although not as deeply, as two creative artists living and raising children in Brookline who felt somewhat out of sorts with the general domestic scene in that affluent suburb. The odd person out was Olsen, who relocated from the West Coast to take up her fellowship.

The choice of these five to anchor the book was felicitous. (In a footnote Doherty gives a shout-out to Sexton biographer Diane Middlebrook for first noticing the existence of this quintet.) Sexton, Kumin, Swan, and Pineda all came from fairly privileged backgrounds and were now comfortably ensconced as married if somewhat restless white women in affluent Boston suburbs. Even if they didn’t need the money (the stipend was not need-based and would not have replaced a full-time salary if any of them had been employed), they treasured the validation it gave to their professional aspirations. Like many of the other early fellows, they used their stipends to hire household help and other domestic support to make it possible for them to devote more time to their creative work—not seeing the irony of hiring other, less privileged women at low wages to shoulder those chores. Doherty prominently foregrounds this ini-
right, such as Bunting, Sylvia Plath, Alice Walker, BF ‘72, Florence Howe, and Adrienne Rich ‘51, Litt. D. ’90, who interact with the main players and also allow connections to events beyond the Radcliffe Institute in its early years.

But any reader who picks up the book will immediately realize that the Anne Sexton-Maxine Kumin friendship provides its narrative backbone and emotional core. In many ways, this is a wise decision, since the two women are charismatic characters who offer an intimate glimpse into how the institute nurtured their creative process. The rich sources available to document that influence are also a huge plus—especially the sound recordings of their seminar talks preserved in the institute’s archives at the Schlesinger Library. But at times this focus threatens to take over the story, especially as Sexton tries to navigate her struggles with mental illness. Sexton’s eventual suicide in 1974 looms large, essentially supplying the book’s end except for a short epilogue.

The Equivalents is most successful when it keeps close to the story of its five main protagonists. It captures the joy of their mutual friendships and how they depended on each other for encouragement and support: “a fleeting window on women’s camaraderie and autonomy in a society not designed for such things.” The writers read and critiqued each other’s work, and Barbara Swan created a series of drawings of the original fellows, several of which appear in the book. Later she supplied cover art for books by both Sexton and Kumin, even though she had moved on to lithography. Why? “I just did it out of friendship.” As Swan realized, these deeply felt relationships shaped and informed the artistic work the Equivalents created while at Radcliffe. Case in point: the sculpture that Marianna Pineda donated from her Aspects of the Oracle series in honor of Connie Smith, the beloved first director of the institute who died young from cancer. That sculpture still holds pride of place in Radcliffe Yard.

When Doherty wanders too far from her collective biography, however, she sometimes loses her way. Her description of the 1950s domesticity which had thwarted the lives of so many talented women sets the stage for the creation of the institute in the first place, but her attempts to link the initiative to the broader history of feminism that comes later are less convincing. Doherty does seem to realize the limits of how far she can stretch her story: “The sad irony of the Equivalents is that the movement they helped give birth to was not one in which they could participate fully.” Born too early and already mid-career when it took off, “They were neither willing, nor able, nor especially eager to be personally and politically transformed.”

And yet there is something wonderfully bracing about learning about this key moment in Radcliffe history and thinking about what has happened in the almost 60 years since. Thousands of women—and since 1999, small numbers of men—have had life-changing opportunities for a year at Radcliffe, surrounded by the company of an increasingly diverse set of artists, writers, and academics. Long gone are the days when the institute catered mainly to local women who were primarily white and comfortably middle-class; now its reach is truly global. Surveying this transformation, we have reason to thank Mary Ingraham Bunting for setting out to challenge the “climate of unexpectation” that she identified as holding back American women, and by extension, American society, in the domestic-bound 1950s. And we have Maggie Doherty to thank for bringing this story, warts and all, to new readers who are left contemplating what “messy experiment” we should be considering for our own perilous times.
The Hollowing Out

*Americans diminished by “social poverty”*

by ALLISON J. PUGH

The “deplorables”—they are not the Other, they are ourselves. The best thing about *Tightrope*, an inspiring-but-frustrating book, is that it brings us up close and personal with America’s working class and poor: not as voyeurs, but as neighbors. Nicholas Kristof ’82, a *New York Times* columnist whose parents were professors, grew up in the white working-class town of Yamhill, Oregon, taking the bus to school with the children of janitors and farmworkers. He and his co-author and wife, Sheryl WuDunn, M.B.A. ’86 (they previously wrote about the oppression of women in less-developed countries; see “Women in a Woeful World,” September-October 2009, page 20), here set out to reveal and explain the devastation of America’s low-income communities. Their narrative is peppered with pictures and vignettes from the lives of those kids and the adults they grew up to be, adults who trusted the authors with their stories and photos. The result is heartbreaking but moving in its small details of people remembered, not just for the meth lab they ran but for the fact that they were genius mechanics or that time they destroyed the nest of yellow jackets. These are whole people, not statistics. In a book largely written for a more advantaged audience, the immediacy and drama of these portrayals force the question on readers: what happens when we consider all of our fates as linked together?

Visiting Yamhill, but also distraught African-American communities in Baltimore and in Pine Bluff, Arkansas, the authors first report the destruction of low-income life in the United States: the high dropout rates, declining real wages, increases in incarceration and in single-motherhood, and...
shocking declines in life expectancy due to suicide or drug or alcohol abuse. Given the hollowing out of working-class jobs, a lack of vocational education, and a miserly social-welfare system, low-income people pay a great price for their mistakes, Kristof and WuDunn contend. “It’s a tightrope that I’m walking,” says Drew, trying to stay off drugs and out of prison so he can stay involved with his baby son. “And sometimes it seems to be made of fishing line.”

The crux of the problem, the authors tell us early on, is what they dub “social poverty,” which they variously refer to as loneliness, social isolation, an erosion of trust, and a loss of dignity and self-respect stemming from unemployment, educational failure, family breakdown, and social dysfunction. Clearly, this phrase is doing a bit too much work here to be useful, but I found it so felicitous that it stayed with me, hovering behind the stories they told.

Separate chapters cover the rise in incarceration, the origins of the opioid crisis, and the roots of homelessness. Although Kristof and WuDunn acknowledge “bad choices” on the part of their protagonists, we also hear unflinching accounts of reckless pharmaceutical companies and venal medical practitioners, corrupt business owners and manipulative politicians.

Here too are those optimistic Kristof por-

traits we’ve come to expect from his newspaper columns. We see “America’s Mother Theresa” using every trick she can think of to wrench black Pine Bluff teenagers away from the pull of gang life; a homeless Nigerian refugee and second-grader who became the 2019 state chess champion thanks to a teacher who saw his promise; someone who once brought free dental care to Haiti and Guyana and then expanded it to the poor people of Virginia and Tennessee; and the graduates of an intensive rehab program with a 96 percent long-term success rate. Kristof and WuDunn have a knack for finding and reporting stories of the good Americans can do, sprinkled throughout the book like breadcrumbs to lure us back into the light. Tightrope manages to chronicle our worst while reminding us of our best.

Nonetheless, the book is uneven. There are a few strange omissions. Race is not very central; it gets a few pages and some footnotes. Gender is virtually absent; at one point, the authors write, “Something about reproductive health makes politicians and local officials lose their reasoning faculties,” and this kind of wide-eyed “who knows” shoulder-shrugging had me gnashing teeth. Finally, a book that rightly attributes much of the sorrow it recovers to the collapse of working-class jobs hardly mentions automation. Yet automation has eliminated more jobs than outsourcing, many of them in working-class occupations in manufacturing and agriculture. If we are to take seriously the importance of work as the foundation for dignity and self-respect, then we have to analyze those jobs that are susceptible to technological innovation and change—those that rely on routine and predictable tasks —and train our workforce for the jobs we think will be left: those that rely on creativity and interpersonal skills.

Most important, however, Kristof and Wu-

sometimes seem to argue is the cause rather than the effect of the collapse of low-income communities in America. I teach family sociology, and so I recognized the sources they quoted: writers who are certainly credentialed, but all selected from one side of what is actually a debate, all making the argument that “family structure matters.” The problem is that hidden in the term “family structure” are all manner of sins; by prioritizing marriage as crucial for children’s outcomes, it lumps together first, second, and third (and fourth!) marriages. It is this kind of marriage-at-all-costs fever that led to misguided government programs such as the marriage promotion campaigns begun with the 2002 Healthy Marriage Initiative. Such campaigns received more than a billion dollars of federal funding until randomized controlled trials proved it was an ineffective—and in some cases even counterproductive—strategy (some participants were actually more likely to break up). Studies have shown that it’s not that low-income people devalue marriage, but rather that they want to wait to marry until they have achieved a certain financial solidity. For some, that never comes.

Furthermore, as it turns out, what matters for most children’s thriving is not so much family structure as family stability; in other words, stepfamilies are not necessarily better than stable single-mother families. This was the central point of Andrew Cherlin’s heralded book The Marriage Go-Round and a host of other studies. Kristof and WuDunn actually pause in their panem family structure to acknowledge this point, an admission strange in light of what comes before and after.

They openly wish for more working-class marriages as a way to save the men who are skidding out before our eyes; in one chapter we even see how such a rescue might work. But they really don’t consider what that means for the women involved, who would be married to—and thus in some cases in
harm’s way of—the drug-addicted abusers they would need to save. We can see Kristof and WuDunn trying to resist the nostalgia for the working-class families of yore. Tightrope opens with an appalling story of Yamhill neighbor Dee Knapp in 1973, cowering in the back fields of her house in the dark while her raging drunken husband shoots his rifle into the brush, trying to hit her. The authors chose this story, they say, to counter any charge of wistfulness for the old days, when families stayed together and the working class had cause for its purpose, self-respect, optimism. They know that those days were difficult for women, African Americans, Latinos, and “others who did not even have a seat at the table.” Nonetheless, as the book progresses, they seem to forget their own counsel.

Their conclusion, too, is contradicted by their own stories. Several central protagonists, such as Clayton Green or Farlan Knapp, were raised by two-parent families, but lived lives wracked by tragedy and ended up among the so-called “deaths of despair.” Kristof and WuDunn celebrate the story of Ke’Niya, the youngest of 17 children in a poor but stable family, but she becomes a single mother herself while still in high school, even though she is “managing her young family, holding a job and starting college.” To be clear, I am not arguing against this celebration. There is good evidence that for low-income women, children can actually serve not as a tragic misstep, but instead as both tether and witness, a spur to jobs and further schooling. Ke’Niya is an apt representation of this phenomenon. “Especially when I had my son, it’s like, okay, now you don’t have a choice but to make something out of yourself,” she tells them. But clearly, “family structure” is too blunt an instrument for analyzing Ke’Niya, Clayton, or Farlan.

Instead, I think we can look for answers in “social poverty”—defined in a much more limited way to mean a thinness of social ties and the obligations they carry—and its converse, call it “social abundance.” It’s not that Ke’Niya’s parents are married that makes the difference for her future, which I agree seems bright, despite her single-motherhood. Instead it is the fullness of the social world in which she is embedded, a richly textured world of reciprocity and need, of accountability and promise, all the words that convey the ways we can be braided together. While dense social networks often come with judgment and surveillance, they can also provide a thicket of social support that helps to fortify us.

The social poverty that plagues the working class is in part internal to their communities: the fragmentation of families and relationships on which they can count—developments that certainly depend in part on material poverty, as well as scant jobs, spotty education, and an overeager criminal-justice system. (There is surely social poverty among affluent families as well, who are more likely to turn to the market to solve needs or problems.) But the concept of social poverty also allows us to talk about the changing definition of our communities in the first place: a large-scale shrinking from an “Us” to a “Them.”

The trouble with inequality is not simply the yawning chasm in material opportunities or outcomes that it generates, but also its cultural impact: the sense that our futures are not linked, that one group can bottom out without affecting the fortunes of the other. Tightrope can sometimes bolster the impression of a working-class America that is as distant as a foreign country. Kristof and WuDunn tell us that working-class men in the United States have the life expectancy of those in Sudan or Pakistan; that U.S. children living in “extreme poverty” would count as “extremely poor” even in Congo or Bangladesh; and that poor Americans have a homicide rate higher than their counterparts in Rwanda. The untold story here is the increasing sequestration of affluent people from the rest of the country, as schools, neighborhoods, even workplaces become increasingly segregated by class. Since the 1970s, the paths of these two Americas have diverged ever more widely. It is this divergence that makes the Yamhill stories unique, depicting a world in which different people connected not across the soup-kitchen counter or the courtroom, but across the fence.

Kristof and WuDunn might not employ “social poverty” in their analysis as much as I like, but their book, and its interweaving of the stories of their friends from Yamhill caught in the webs of misfortune, is an antidote to this sequestration, and thus deeply humane. “Whenever someone like Clayton dies an early death, whenever anyone falls from addiction, suicide, crime or despair, we all are diminished,” they write. And I believe them.

*Allison Pugh ’88, author of The Tumbleweed Society: Working and Caring in an Age of Insecurity, is a professor of sociology at the University of Virginia. She is writing a book about person-to-person work, technology, and the stratification of human contact.*

### ALUMNI

#### The Early Bird

**A quest to chronicle New York City’s avian community**

by NELL PORTER BROWN

On a fresh spring morning, David Barrett ’86, armed with his super-zoom camera and Zhumell binoculars, left his Upper East Side apartment and ran the few blocks to Central Park, where he’s spent (conservative tabulations via his database show) at least 3,000 hours since 2010 counting and chronicling birds.

The coronavirus pandemic had thinned the usual crowds of tourists and joggers, and the peak-season May migrants, with their skyward-gazing human followers, were yet to come. In narrating his day out, Barrett reported that he darted over to Tupelo Meadow, in Frederick Law Olmsted’s wild-garden Ramble, looking for newly arrived eastern phoebes. He had already relayed a Twitter report of the small, brownish-gray birds with a raspy peep via his popular online Manhattan Bird Alert account (@Bird-CentralPark), but even after nine years of competitive Big Year birding, he noted, in unmistakable British tones, “It’s fun to watch them sally off their perches to catch insects in flight.”
He then trotted north, following the melodious notes of pine warblers near the Shakespeare Garden, and filmed the pert, bright-yellow birds flitting among dark conifers. Then he ran—“Nothing much to see in the interim”—to the reservoir for views of waterfowl, and happily documented the pied-billed grebe, with its “cute face,” and “the lone representative of its species that spent the entire winter there.” An excellent morning’s work, with plenty of field recordings to post for his 21,600 followers.

Barrett makes no money from his aggregating, crowd-sourced Manhattan Bird Alert and the others he has created for Alert and the others he has created for the Central Park Effect, encompassing tena-

The work takes near-constant effort. The Manhattan account alone typically issues 30 posts a day, and close to 100 during busy migration seasons. Barrett built some of the software that drives his alerts (having studied math and computer science at Harvard and MIT, before earning an M.B.A at the University of Chicago), and devised the system to gather sightings and data from many sources, including Twitter, typically editing and re-posting the best ones.

Increasingly, though, he also features his own skillful photography and field videos, with savvy one-liners. Barrett’s alerts “have changed the connectivity of people’s birding in the city dramatically,” says a friend, the ornithologist Andrew Farnsworth, a research associate at the Cornell Lab of Ornithology and leader of the BirdCast and Bird-Vox projects. Such online crowdsourcing, he explains, is part of a global trend. The most comprehensive, worldwide, online database is the Cornell lab’s e-Bird, launched in 2002, gathering more than a hundred million sightings annually, providing maps, images, recordings, historical analog data, and other information to support science, conservation, and education related to avian life.

New York City’s birding community, highlighted in the 2012 documentary Birders: The Central Park Effect, encompasses tenacious aficionados like Barrett and countless weekend amateurs. Since 1886, the Central Park Conservancy has kept a checklist of the 200 species regularly seen there, yet unusual fowl also land on street signs, awnings, and sidewalks. Barrett notes the “photos we posted of a Virginia rail that somehow made it into a Midtown Duane Reade drugstore. If you follow the alerts, you see these amazing birds showing up in unexpected places.”

Before discovering birding, the always hyper-focused Barrett applied his quantitative, analytical talents to managing hedge funds, from the 1990s through 2009, at a firm he helped found. Initially, counting species simply enlivened his outdoor training as a competitive runner with a low five-minute mile and victories as a masters athlete. “I could measure everything I did: heart-rate data, paces,” he recalls. “I was very scientific about it.”

Soon, though, both the birds and the challenge of the hunt became a primary fascination, with his own twist. Unlike those who eagerly travel to Costa Rica or New Zealand to revel in close encounters with exotic fowl—or routinely cross the Brooklyn Bridge to check out shorebirds at Coney Island—Barrett restricts himself to mastering Manhattan’s avian realm because it’s what he can do best. His 2013 book A Big Manhattan Year: Tales of Competitive Birding details that period and his 2012 quest to trounce other birders. Tallying 208 species, remarkable for a newcomer, he wrote of finishing second to “a vastly more knowledgeable and more skilled birder,” his friendly rival Farnsworth—who does not take Big Years too seriously. (He’s been birding since 1978 and has acute vision, along with high-end optical gear, “so it’s pretty easy to just look up and see things that other people are simply not clueing into.”)

In 2013, Barrett placed second again to Farnsworth, and launched the Manhattan Bird Alert. In 2014, concerned that his count would be surpassed, he ramped up efforts—landing with a comfortable victory, assured that “No one will try that anymore because they can see I’ll just do whatever it takes.” He says no amateur birder has since topped his annual counts, and he ended 2018, his last...
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to attracting Twitter followers as they were 
tory routes. These factors are now as useful 
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cyclopedic arsenal includes research into 
outs outdoors watching birds “cool.”

But now he doesn’t have much time for 
entertainment, or even trips to the grocery store. 
“I don’t like to waste time on things that are 
not essential,” he explains. “I just buy massive 
quantities of pasta and cereal, protein 
powder, bars. Something has to contribute 
to what I am trying to do...help me reach 
a goal. That’s the key.” He says he can easily 
correlate his spreadsheets logging years’ 
worth of fat, protein, and carbohydrate in-
take with those that track his weight loads 
and reps at the gym, to calibrate muscle ver-
sus fat gain.

Barrett recalls his years at Harvard fondly 
(“The hardest I ever worked!”), and in par-
ticular praises his math professors John T. 
Tate, Andrew Gleason, and David Mumford. 
By sophomore year he was in graduate-lev-
courses, en route to applying to MIT’s 
doctoral program and planning a career as a 
mathematics professor. But he left MIT after 
passing his qualifying exam and ultimately 
focused instead on finance at Chicago, mov-
ing to New York City in 1992 to become a 
Wall Street mortgage trader when “math-
ematical approaches were revolutionizing 
the industry.”

Long ago, Barrett visited Britain, but 
says he’d never live outside Manhattan, 
and hasn’t left the borough for more than a 
few hours in at least a decade. Asked about 
those British tones, he explains it’s “an RP 
accent. RP British...received pronunciation.” 
He pauses, thinking, “Maybe it was the clas-
sical training I did in voice and speech that 
encouraged that. But I’ve always been fond 
of speaking, and accents in general. And I 
think some things become a choice: that 
if you like something over a long time, it 
eventually becomes part of your life.” He has 
friends within the birding community, and 
until COVID-19 arrived, sometimes joined 
guided groups in Central Park, because more 
eyes on the trees increases the odds of 
finding more birds. But for him, as for 
many others, birding is chiefly a solo pursuit, 
because it is about the birds, not people.”

After spyng the pied-billed grebe at the 
reservoir, Barrett reported that he pressed 
on along its north side and was surprised to 
find a horned grebe. Ordinarily such a rare 
bird—not seen in the park for two years, he 
said—would have quickly drawn observers. 
But after an hour, only a few fellow enthu-
siasts had arrived.

At home later, he was excited by an online 
report of a great horned owl at Inwood Hill 
Park. “They are solitary birds. They hunt 
alone, spend the day alone. And I think I 
feel some kinship with them,” he said. “I am 
a solitary person, and I like it, and I sur-
 vive that way, too.” Ordinarily, he would 
have spent nearly an hour on the subway 
to see and photograph this favorite of his 
followers, but that didn’t seem like govern-
ment-approved essential travel. Besides, in 
roaming Manhattan’s greenest corners, he’d 
already recorded dozens of owls, including 
eight different species.

Scrolling through his personal database 
to count and relay exactly which ones, he 
li on an entry from January 11, 2014. He’d 
been alone at Randalls Island Park, an oasis 
between the Harlem and East Rivers. Scan-
ning the sky, he noticed something among 
the soaring white sea gulls, something more 
compact flapping in a distinctly different 
style. It was a snowy owl. None had been 
erspotted in Manhattan for 20 years, “and they 
come from afar, thousands of miles away,” 
he explained. “So it was unexpected, and 
simply beautiful and elegant, and right there. 
So I texted Farnsworth so he could come out 
and document it with me.” They were 
the only people out there that wintry day, 
the only two people to see the ethereal bird. 
It stayed for maybe 90 minutes, then flew 
away. Did they go celebrate? Barrett laughs. 
“No. Nothing like that. He just went back 
to his family, and I lingered awhile. There 
were other things I wanted to see. And then 
I went on my way.”

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Overseer and HAA Director Elections

On March 31, the Harvard Corporation and the Board of Overseers announced that the annual voting for new Overseers and elected directors of the Harvard Alumni Association (HAA), ordinarily running from April through mid May, would be postponed until early to mid July because of severe logistical problems imposed by the COVID-19 pandemic. For further details, visit harvardmag.com/elections-delay-20.

Alumni vote by paper ballot or online; the results are usually announced on Commencement day (already postponed). Both the Overseer candidate slate proposed by the HAA nominating committee and the Harvard Forward-backed slate of candidates nominated by petition appear below, in ballot order as determined by lot. Both slates are covered in further detail at harvardmag.com/divest-slate-20; biographies of all candidates appear at elections.harvard.edu.

For Overseer (six-year term):
Nominated by HAA committee

Diego A. Rodriguez, M.B.A. ’01, Palo Alto. Executive vice president, chief product and design officer, Intuit Inc.

David H. Eun ’89, J.D. ’93, New York City. Chief innovation officer, Samsung Electronics, and president, Samsung NEXT

Katherine Collins, M.T.S. ’11, Boston. Head of sustainable investing, portfolio manager of the Putnam Sustainable Future Fund and the Putnam Sustainable Leaders Fund, Putnam Investments

Raphael William Bostic ’87, Decatur, Georgia. President and CEO, Federal Reserve Bank of Atlanta

Susan Morris Novick ’85, Old Westbury, N.Y. Senior vice president, Merrill Lynch; freelance journalist, The New York Times

Tracy K. Smith ’94, Princeton, N.J. Chair of the Lewis Center for the Arts, Berlind professor of the humanities, Princeton University; twenty-second poet laureate of the United States

Miki Uchida Tsusaka ’84, M.B.A. ’88, Tokyo. Managing director and senior partner, Boston Consulting Group

Ryan Wise, Ed.L.D. ’13, Des Moines. Director, Iowa Department of Education; dean-designate, Drake University School of Education

(Diego Rodriguez and Ryan Wise are current Overseers—since 2018 and 2019, respectively—completing the unexpired terms of Overseers who concluded their service early.)

Nominated by petition

Margaret (Midge) Purce ’17, Portland, Ore. Professional soccer player, Sky Blue FC and U.S. Women’s National Soccer Team

Jayson Toweh, S.M. ’19, Atlanta. Program analyst, Environmental Protection Agency

Lisa Bi Huang, M.P.A. ’19, San Francisco. Chief financial officer and vice president of growth, OZe

John Beatty ’11, Seattle. Senior product manager, Amazon.com, Inc.

For elected director (three-year term):

Santiago Creuheras, A.L.M. ’00, A.L.M. ’01, C.S.S. ’01, Mexico City. Senior consultant on sustainable infrastructure and energy, Inter-American Development Bank

Kelsey Trey Leonard ’10, Hamilton, Ontario. Banting Postdoctoral Fellow, McMaster University

Michael D. Lewis ’93, Cambridge. Strategic technology adviser, iCorps Technologies

Mallika J. Marshall ’92, Weston, Massachusetts. Medical reporter, CBS Boston; physician, Massachusetts General Hospital

David R. Scherer ’93, Chicago. CEO and chairman, Origin Investments; co-founder, One Million Degrees

Sajida H. Shroff, Ed.M. ’95, Dubai, United Arab Emirates. CEO, Altamont Group

Benjamin D. Wei ’08, New York City. CEO, Nova Invite

Joyce Y. Zhang ’09, San Francisco. CEO, Alariss Global

Vanessa Zoltan, M.Div. ’15, Medford, Massachusetts. Co-founder and CEO, Not Sorry Productions
Boats and Coats

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

Boats and Coats

Y all means. Nathaniel Phillips Carleton ’51, Ph.D. ’56, a physicist-turned-astronomer who practiced his craft for many years at the Harvard-Smithsonian Center for Astrophysics, died on February 25, at age 90. He had an early hand in arraying smaller (but not small!) telescopes to achieve the light-collecting power of impossibly larger single instruments (the feature now at the center of next-generation machines, like the Giant Magellan, described in “Seeing Stars,” May-June 2013, page 32)—work that took him and his wife, Kay, to mountaintops high above the Arizona desert, often. As a scientist, he progressed from studying Earth’s atmosphere to observing the distant planetary equivalents. Locally, he appears to have been dedicated and inventive in ways that might inform the contemporary academic community. According to his obituary notice, Carleton raised his family in Carlisle, riding into Cambridge by motorcycle. He also lived for a time in a houseboat in Boston Harbor. And he built a 42-foot catamara—

Home-from-home. With construction work on Adams House renewal now extended to August 2024, its wry faculty-deans-in-exile have affixed this sign to their own swing space, on Prescott Street—a few blocks north-east of their regular quarters.

Clothing codes. While worrying about global warming during a weirdly mild winter (gloomy thoughts heightened one February Sunday spent raking the lawn in a cold northern suburb, when shoveling the driveway would have been seasonally in order), Primus found some solace in the low level of the CGI. This little-known metric—Primus invented it—is tightly tied to the class differences visible among the young persons studying in Cambridge. The Canada Goose Index (for such it is) unscientifically registers how many people who look to be undergraduates are wearing the eponymous parkas to keep off the chill—at $500 or so for a jacket to more than twice that for a long coat with a ruff of real fur: all readily identifiable by the logo patch.

A moment’s observation outside a Harvard Square-priced coffee shop during the prior, colder, winter yielded an initial CGer—who was promptly joined, seriatim, by four colleagues similarly attired: enough coat to qualify as a decent-sized capital investment. Winter outerwear is of no intrinsic interest. But as assistant professor of education Anthony Abraham Jack points out in The Privileged Poor (see “Adjacent but Unequal,” March-April 2019, page 26), on elite campuses, “clothes quickly become a proxy for class”—especially as perceived by the growing cohort of lower- and medium-income matriculants who have not resided among, or perhaps even met, much wealthier peers before. “[I]f one student sports an $895 Burberry raincoat while another wears a $69.99 coat from H&M,” Jack writes, something real has been seen—and absorbed. One Jack interviewee could not believe the price of North Face coats, compared to her “ZeroXposur, which is like a Sears brand.” And during his research, North Face gave way to the far more expensive Canada Goose as the new “brand of choice on campus for those who could afford it.” Are $2,000-plus Monclers next?

There is nothing encouraging about climate change. Yes, the Hamamelis x intermedia ‘Arnold Promise’ witch hazels brightened Widener, Mass Hall, and other campus nooks on drab days this February. But their stringy yellow blooms would have been equally lovely on schedule, nearer winter’s traditional end.

If the class chasms echoing on campus from the larger society are lessened ever so slightly along the way, that’s to the good. But so would be good old-fashioned New England winters, with students paying more heed to function than fashion when they zip up against the cold.

~PRIMUS VI
LETTERS (continued from page 4)

Editor’s note: The article reports on research done at Harvard Law School, and explains clearly the context for the Clean Slate project. Harvard Magazine gladly featured the views of Thomas A. Kochan, of MIT’s Sloan School, in “The Workforce” (September-October 2012, page 35)—in a set of articles on Harvard Business School’s U.S. competitiveness project.

OPEN BOOK
“COURT-ORDERED INEQUITY” (Open Book, March-April, page 56) contains a glaring error. The excerpt, from Adam Cohen’s book, Supreme Inequality, makes the claim that in Jack Gross’s case, the “Court decided, however, that victims of age discrimination had a higher burden of proof [than race or sex discrimination cases] even though the federal laws against race, sex, and age discrimination used identical language.”

This is seriously mistaken. As the Court’s decision makes clear, Title VII was amended to provide that cases thereunder could be based on a claim that improper consideration was a motivating factor for the adverse action. The decision added that while the Age Discrimination Employment Act (ADEA) was also amended at the same time, the relevant provisions that amended Title VII were not included in the ADEA amendments. For Cohen to claim Title VII and the ADEA use identical language is, quite simply, wrong as a matter of law. It is not the Court’s fault for following Congress’s statutes; indeed, given Congress’s clear intention otherwise, it is the dissenters who would be guilty of “judicial lawmaking.”

MARK E. DENNETT, J.D. ’83
Palm Coast, Fla.

Adam Cohen replies: The Court did, in fact, interpret the same language in the two statutes two different ways. The language was “because of,” which the Court construed to make it more difficult for employees to win age discrimination lawsuits. It is true that Congress expressly made clear, in an amendment, that “because of” in Title VII should apply to cases in which discrimination was one of the factors in an adverse employment action, but the Court should have applied the same interpretation in age discrimination cases, since the age discrimination law uses the same wording: “because of.” (Congress has had ample opportunity to say it wants a higher standard of proof for age discrimination claims, but never has.)

The accusation that I made a “glaring error” is reckless and untrue. I adopted the precise logic adopted by the dissenting justices in Mr. Gross’s case—a rather distinguished group: John Paul Stevens, David Souter, Ruth Bader Ginsburg, and Stephen Breyer (the last was my professor at Harvard Law School). Justice Stevens wrote, in a dissent all four justices signed, that “Today…the Court interprets the words ‘because of’ in the ADEA ‘as colloquial shorthand for “but-for” causation.’ That the Court is construing the ADEA rather than Title VII does not justify this departure from precedent. The relevant language in the two statutes is identical, and we have long recognized that our interpretations of Title VII’s language apply ‘with equal force in the context of age discrimination, for the substantive provisions of the ADEA ‘were derived in haec verba from Title VII’” (emphasis added). I share those justices’ deep regret that the Court chose to interpret the age discrimination’s “identical” language in a way that has no basis in law and that does grievous harm to older Americans who hope not to be discriminated against when they show up for work.

CLIMATE CHANGE AND DIVESTMENT
The letter from William Nickerson ’61 (March-April, page 2) rightly calls for urgent action by Harvard to address the climate crisis. But his idea of action is sadly off base. His objection to divestment ignores the power of symbolic gestures and community pressure. His advice to rely on courses and research was relevant 20 years ago. I salute the Harvardians calling for decisive, visible, urgent action now.

Ironically, the Allston complex he touts will be under water before the buildings are ready for that woefully belated research.

Kitty Beer ’59
Cambridge

ERRATA
In “Legitimate Leadership?” (March-April, page 15), the reference borrowed from Porter professor of philosophy Christine M. Korsgaard should have been “bags full of mice.”

The group photograph in the Vita of William Monroe Trotter (November-December 2019, page 41) should have been credited to the Columbia University Library, and shows Trotter at a gathering, circa 1920, of Liberty League members. We thank Dr. Jeffrey B. Perry for calling this to our attention.

We regret the errors.

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FROM LEWIS AND CLARK TO MICHAEL BROWN

(continued from page 37)

renamed it Dr. H. Phillip Venable Memorial Park, and had apologized for the city’s “abhorrent” past. “It’s just been amazing to see the speed at which this really took off,” says Kalila Jackson, a lawyer with EHB.

“Without a coalition formed when [Saul and Kale] came to us at the end of May, and by the time they left at the end of August, they had a coalition of at least six groups, including backing from several alderpeople, people in the city council…and Saul and Kale are wholly responsible for pulling that together.”

“We have to address the issue of raw sewage bubble up into the yards 24 hours a day, flowing into fetid sluiceways that run between the houses,” he writes. “Some days, especially in the summer, the whole town smells like an outhouse. And when it rains, and the water begins to rise, the sewage follows the water, out into the drainage ditches and the roadways, across the yards, into the houses.” One resident said that he “keeps a flatboat in his yard that he uses to ferry his neighbors when the water gets high.” This is a crisis, Johnson writes, “unfolding at the confluence of climate catastrophe, structural racism, infrastructural deterioration, and widespread indifference to black suffering.”

What can a Harvard professor and his students do to confront a situation so ruinous, and so vastly removed from daily life at an elite institution? One answer is to have some humility about what the role of an academic should be—and to not do what so-called experts have done in St. Louis’s past: simply justify the removal of people whose circumstances are inconvenient or embarrassing.

The Commonwealth Project has focused on researching the history of the situation in Centreville, conducting historical research to put together a press kit; Johnson also wants to gather oral histories from city residents (an initial plan to do so was delayed after the class’s spring recess trip was canceled). The idea, he says, is “to help people, first of all, to create an archive of the fullness of people’s histories and lives and humanity in the face of this catastrophe. They live in a catastrophic situation, but they have stories and aspirations that are not defined by that. And part of it is to really create an archive of their connection to that place, because the goal is not, ‘Well, okay, this is a crappy situation, these people can be relocated to another place.’ This is their place. It’s the place that they’ve made their lives for decades. And so to create a kind of a historical record of that, to help make the case: no, this place needs to be changed.”

In many ways, Johnson still resembles his description of the younger, angry version of himself who was outraged by the world’s wrongs. At Harvard, he’s known for his vocal support of student and faculty activism, like the University’s graduate student union and its recent strike. “Whether it is Harvard or whether it is the state of Missouri or the United States federal government, he wants institutions to fulfill the promises that they represent and to close the gap between word and deed,” says a colleague, professor of history Kirsten Weld.

“I think that he is just remarkably consistent in the way in which he articulates that moral demand, and he’s incredibly gifted at communicating its urgency… I can’t actually imagine how I would have survived at Harvard so far without Walter.”

Yet Johnson says he has only recently discovered how to harmonize his anger and his scholarship into a positive, loving way of engaging with other people. “I knew there was something deeply wrong with the way that I grew up, with the place that I was from. Then I went to other places, and they seemed, in a way, equally hollow and mean,” he says. “And then gradually, I think, finally now, really only now—I’m 52 years old—do I feel like all that stuff is going in one direction, with the books, the way that I’m thinking about the history of St. Louis, the work that I’m doing in St. Louis, the types of things that I can do with students, the way I’m trying to teach students. I feel like a lot of it is much more integrated for me than it has been in the past.”

Associate editor Marina N. Bolotnikova ’14, who grew up in St. Louis, previously profiled Johnson’s colleague Vincent Brown in “History from Below” (March-April, page 46).
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Collectors have long been smitten with artists’ better-than-photographic renderings of charismatic fauna (Audubon’s birds, for instance) and flora. Among them, happily, was Mildred Bliss, who with her husband, Robert, A.B. 1900, created what is now Harvard’s Dumbarton Oaks Research Library and Collection, and its splendid gardens, in Washington, D.C. Among her purchases are 21 botanicals painted by Margaret (Brown) Mee (1909-1988) during the first three of her remarkable 15 expeditions to Amazonia, from 1956 through the year of her death.

The English-born Mee studied at various art schools before she and her husband, Greville Mee, first visited Brazil in 1952 to help her ailing sister; while there, she began painting local species. Back in Brazil in 1956, she consulted local experts, and began working seriously. A 1958 exhibition of her art at the Sao Paolo Botanic Institute, where she deepened her research on tropical plants and met leading botanists, underpinned the expeditions that followed, focused on bromeliads (including discoveries named after her) and other passions. Flowers of the Brazilian Forests and Flowers of the Amazon made her work, increasingly driven by concern about rainforest destruction, accessible to a wider public.

But nothing compares to experiencing Mee’s gouaches (watercolor made less transparent through the addition of white pigment and a binder). The Dumbarton Oaks holdings, presented there together for the first time (doaks.org/resources/online-exhibits/margaret-mee-portraits-of-plants), show the results she obtained by working from live, individual specimens. Tabebuia umbellata (Sond.) Sandwith, the deciduous yellow trumpet tree, fairly glows against its ground paper—complemented by details of the reproductive structures, and Mee’s impeccably lettered identification, dating, and signature.

Such veracity did not come cheap. Mee, often accompanied only by local guides, contracted severe cases of malaria and hepatitis. Her fortitude came, apparently, from within: traveling to Germany in the early 1930s, she witnessed the rise of Nazism and the Reichstag fire; her first husband was a union activist; she had advocated for the jobless and opposed fascism in Spain.

The exhibit organizers (executive director Yota Batsaki, curator of rare books Anatole Tchikine, and postgraduate curatorial fellow Leib Celnik) have placed Mee’s paintings in the contexts of botanical art through the ages and of contemporary women active in the field: photographer Amy Lamb, Smithsonian illustrator Alice Tangerini, and artist Nirupa Rao, also an intrepid rainforest visitor represented here by carnivorous sundews. Rao could not be more stylistically different from Mee, but the clarifying virtues of her eye and hand are readily apparent.

Sadly, the horrific deforestation since Mee raised her alarm gives some of her work historical, as well as aesthetic and scientific, importance. The exhibition thus demonstrates an enduring service to Amazonia, by an Amazon among botanical artists.

—John S. Rosenberg
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