COULDOUGUESITY THE GRADUATE SCHOOL OF ARTS & SCIENCES

Prejudice and Perseverance

Asians navigate a new wave of harassment in the US



What's Your Story?

THE GSAS 150TH CELEBRATION is coming! What's your story?

In 2022, GSAS will mark the 150th anniversary of its founding. As the School looks to celebrate this milestone in its history, we invite graduates to share their stories. Tell us about the moment you learned something that changed you, made an important discovery, met your spouse or friend for life, or experienced something else that distinguished your time at GSAS. Please share your stories with Alumni Relations at GSAA@fas.harvard.edu. And see you at the 150th!









ILLUSTRATOR: PATRICK GEORGE



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Virtual Coffee brings alumni and students together



IT'S INCREDIBLE TO THINK, after the events of the past year, that we are preparing for a full return to campus in a few short weeks. At GSAS, we've been hard at work to make this happen, planning to reopen the GSAS Student Center, welcome a full complement of students in the residence halls, and ensure that our students have the resources they need to progress in

their academic work. Yet even amid the excitement of gathering in person once again, I am mindful of the innovations in education, administration, and engagement fostered at GSAS during more than a year in the remote world and how they will shape our paths forward.

The flexibility offered by tools like Zoom and Teams enabled our staff to serve more students, some of whom may never have come physically to our offices. We launched the Scholarship Restart program, which provided researchers access to important Harvard Library materials and quiet spaces in which to do their work, while adhering to rigorous COVID-19 protocols. GSAS Student Center staff and fellows developed a robust calendar of virtual events to engage a student body around the world. And in the alumni space, our Alumni Relations team hosted a plethora of successful online events-including a "Future of" series and an expanded and well-attended Alumni Weekend—while working to connect alumni and students in new ways, such as through the Firsthand Advisers platform.

These initiatives brought alumni and students from around the world together with one another and with Harvard's extraordinary resources in ways that simply would not have been possible to do in person. In the months ahead, we will employ these pandemic-year innovations to make GSAS community life more inclusive, enabling members to participate more actively regardless of where they live.

I know that COVID-19 continues to touch the lives of hundreds of millions of people around the world. GSAS will continue to do all it can to support those in its community who have been affected-just as so many GSAS students and graduates do all they can to improve global health. As we anticipate with hope and relief a more "normal" year, we look forward to the day when people everywhere will be able to do the same.

EMMA DENCH

DEAN

SUMMER 2021 colloquy

Emma Dench dean

Jennifer Flynn senior director of global outreach Jon Petitt director of alumni relations and events Ann Hall managing editor Paul Massari editor 2COMMUNIQUÉ creative direction & design

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CONTACT The Graduate School Alumni Association 1350 Massachusetts Avenue, Suite 350 Cambridge, MA 02138-3846 617-495-5591, gsaa@fas.harvard.edu gsas.harvard.edu/alumn

Access current and back issues of Colloguy, as well as a range of other alumni services and information at gsas.harvard.edu/alumni

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LETTERS

To the editor of Colloguy:

Paul Massari's "Right On" (pp. 18–23) describes two researchers working on conservative thinking and the "Trump phenomenon," Skocpol and Williamson, who do not sound like objective social scientists but more like biased, left-wing journalists. They cite fear of *immigration* as the right-wing goal, rather than "open borders" and illegal entry. Trump indeed said the illegals include drug agents, rapists, and pandemic virus carriers, and not that all carry these toxic traits. The authors compare Trump's restrictions to the beneficial and essential flow of immigrants in past centuries: a wrong-minded slander. The authors

denv that blocking the flow of "illegals" will improve salaries and jobs for American under-classes, whereas illegals will often work for the very lowest salaries. Skocpol tries to take the role of societal benefactor, stating that Trump's tax cuts benefited high-income people like herself, but that she voted against them and for her "vision of what kind of society I want." She fails to mention that the tax cuts were probably effective in expanding American business and jobs. This article by Massari reveals much additional bias and prejudice. We can expect little from these two, so-called "researchers." -HERBERT S. CARON, PhD '53

••• Share your story with us! Email gsaa@fas.harvard.edu. Or write Colloquy, Graduate School of Arts and Sciences, Harvard University, 1350 Massachusetts Avenue, Suite 350, Cambridge, MA 02138-3846.

discourse



REMARKS

How are you connecting with colleagues and family remotely?

- COLLOQUY, WINTER 2021

My wife and I connect with daughters and grandchildren in CA, Ohio, and TX every Sunday night for family conversation and online games using Discord. -FREDERICK GREGORY, PhD '73

talking points

VIRTUALLY BRILLIANT

More than 400 GSAS graduates from around the world participated via Zoom in the School's 30th annual Alumni Day, held April 9 and 10, 2021. On day one of the event, alumni considered the possibilities of extraterrestrial life with Frank B. Baird Jr. Professor of Science Abraham "Avi" Loeb and contrasted access with inclusion at elite colleges and universities with Harvard Graduate School of Education Professor Anthony Abraham Jack, PhD '16, sociology. A conversation with Dean Emma Dench was the first of five back-to-back sessions on day two that also included discussions of the ethics of artificial intelligence, the use of museum collections and genomics in understanding the evolution of birds, and new ways of looking at visual art. The day ended with a conversation with current PhD students and closing remarks by GSAS Council Chair Marianne Steiner, MEng '78, SM '78, applied mathematics, who noted that the Alumni Association Council "is committed to expanding these opportunities to enjoy your relationship with GSAS and Harvard, with our students and with each other."





LEADERS IN INNOVATION

Congratulations to this year's grand prize winners of Harvard's President's Innovation Challenge, including Andy Chen, PhD '01, experimental pathology, of Matice Biosciences and Gleb Kuznetsov, PhD '18, biophysics, Pierce Ogden, PhD '19, biological and biomedical sciences, and George Church, PhD '84, biochemistry, all of Manifold Bio. Congratulations also to runner up Nicole Black, PhD '20, engineering sciences, of Beacon Bio!

••• Find out about their ventures at pic2021.innovationlabs.harvard.edu.

A QUANTUM LEAP

In April, GSAS announced the launch of one of the world's first PhD programs in Quantum Science and Engineering (QSE), a new intellectual discipline at the nexus of physics, chemistry, computer science, and electrical engineering. "This crossdisciplinary PhD program will prepare our students to become the leaders and innovators in the emerging field of quantum science and engineering," said Dean Emma Dench when the program was announced. QSE, which has the promise to profoundly transform the way we acquire, process, and communicate information and interact with the world around us, will admit the first cohort of PhD candidates in fall 2022.

••• Learn more about the new program at gsas.harvard.edu/programs-of-study/ all/quantum-science-and-engineering.

"No reason why leadership and entrepreneurship and creativity can't manifest among non profits and civil society also; isn't that why some of us remain educators?" – Harvard Business School prof. Tarun Khanna, PHD '93, ON TWITTER MARCH 3

AN EMPHASIS ON DIVERSITY

Maya Sen, PhD '12, political science, appeared last March before a House Judiciary Committee panel to discuss her research examining the issue of diversity in the nation's courts. In her testimony, she argued that the courts were out of step in reflecting the wide array of educational and professional experiences found in the legal profession, a situation that "risks undermining public trust in the judiciary."

Sen examined the demographic and professional breakdown of the 172 judges actively serving on federal appeals courts and the 613 active judges presiding over district courts and asserted that the "evidence shows that diverse groups of decision-makers reach better-justified decisions." She praised the Biden administration for nominating judicial candidates who were not only "demographically diverse, but they come from a diverse set of professional experiences."





MAGNIFICENT MENTORS

Sheila Sen Jasanoff, PhD '73, mathematics. Pforzheimer Professor of Science and Technology Studies, was one of five Harvard faculty recognized on April 12 with the Everett Mendelsohn Excellence in Mentoring Award. Presented annually to one or more Harvard faculty members on the basis of nominations from GSAS students, the award celebrates those who "serve as paragons of graduate student advising." Also honored were Robin Bernstein, Dillon Professor of American History and Professor of African and African American Studies and of Studies of Women. Gender, & Sexuality; Erica L. Kenney, Assistant Professor of Public Health; Hannah Marcus, Assistant Professor of the History of Science; and Christopher H. Rycroft, John L. Loeb Associate Professor of Engineering and Applied Sciences.



OPPORTUNITY COSTS

IN 2014. THE INTERNATIONAL MONETARY FUND NAMED JUSTIN WOLFERS, PHD '01, ONE OF "25 ECONOMISTS UNDER 45 WHO ARE SHAPING THE WAY WE THINK ABOUT THE GLOBAL ECONOMY." RECENTLY, THOUGH, THE UNIVERSITY OF MICHIGAN PROFESSOR TURNED HIS GAZE ON THE DISCIPLINE OF ECONOMICS ITSELF; SPECIFICALLY, THE WAY THAT WOMEN IN THE FIELD ARE TREATED.

You recently collaborated with colleagues Alicia Sasser Modestino, PhD '01, Muriel Niederle, PhD '02, and Pascaline Dupas on a study of women and bias in economics presentations. What was the question you were trying to answer, what was your method, and what did you find?

The big picture question is "Why are women still underrepresented in economics?" There's an emerging body of research on this topic. To summarize it, every rock we look under we find evidence of bias, whether it's in the publication process, the evaluation process, how we grant leaves, and so on.

On a personal level, I'm partnered with the economist Betsy Stevenson, PhD '01, another GSAS alum. So, I have had the experience of seeing the career of a professional economist once through a man's eyes and once through a woman's eyes. We write a lot of papers together and I'll give a talk and she'll give a talk and we'll immediately see that we have very, very different experiences. I suspect that gender may be part of it.

Now, one of the unique facts about economics is our seminar culture, which is far more abrasive relative to any other social science. So, it's not hard to imme-

"Women economists are on average interrupted 12 percent more often than men. The nature of those interruptions is more likely to be patronizing."-JUSTIN WOLFERS

diately think, "Is this part of the problem? Part of the underrepresentation of women in economics?"

Once we decided to study seminar culture, we needed to find people who were invited to seminars at top economics departments around the country, so we started recruiting graduate student collaborators who are listed on the paper as full co-authors. Nearly 100 graduate students around the country agreed to turn up at a bunch of seminars and collect data. We designed an iPad app where they could just sit in their classroom and code "Right now, a male professor started speaking. Right now, a female graduate student started speaking," and so on. Some seminars we had multiple coders and we found that they coded very similarly, so there's not a lot of subjectivity.

The result is that we have a complete map encoding literally hundreds of seminars at top institutions around the country.

But if you really want to understand what's going on, you have to tell stories. So, we asked our collaborators also to record their subjective impressions. Was this question patronizing? Was it hostile? Was it helpful? Was it clarifying? What we found was that women economists are on average interrupted 12 percent more often than men. And the nature of those interruptions is more likely to be patronizing and hostile.

What do those results tell us about the way that the economics profession treats women? What's the impact on the careers of female economists and their ability to disseminate the knowledge they create? Think of it this way: If you had 12 percent more scrutiny in every aspect of your professional life, the accumulation

of that would be enormous. Our findings may be part of a broader pattern that's reflective of the culture within economics. And that culture probably shapes a wide range of behaviors, from how we act at seminars, to how we evaluate people for tenure, how we read and referee reports, right down to how we treat each other in the hallways.

That culture may be particularly problematic in some of those domains, less so in others. For instance, women economists have told me anecdotally that they're less likely to be invited out for a beer by their advisor. Now, is that important? Perhaps not. But perhaps it really matters: Relationships with advisors are lifelong relationships in which they continue to do the right thing by you for many, many years.

The bottom line is that we've yet to find a study that looked at any part of professional life for women economists where it didn't look like the odds were somewhat stacked against them. So, I don't want to say that seminars are the problem, but seminars are a reflection of the culture, and it's a very male culture.

If that's the case, what can be done to level the playing field for women economists?

That said, I've gone to seminars in

A common refrain among economists is that our rough-and-tumble ways create greater scrutiny and rigor, and we don't want to lose that. My response has always been that it's hard to believe that oafish behavior is a complement to rigor and easy to believe it's a substitute. many fields that were entirely respectful and you sit there and listen and at the end applaud. The true exchange of ideas is lost somewhere along the way and some rigor is lost. To my fellow economists who

CURRICULUM VITAE

University of Michigan Professor, Department of Economics 2013-Present Professor, Gerald R. Ford School of Public Policy 2013-Present

National Bureau for Economic Research **Research Associate** 2009-Present

University of Sydney Visiting Professor 2014-Present

University of Sidney BEc in Economics, 1994

Harvard University PhD in Economics, 2001

are afraid of moving in that direction, I say that neither I nor my co-authors want to go there. But it's not an "either-or."

The good news is that there's a growing awareness of the impact of gender bias in economics. And we are making changes. Many of my male colleagues who are senior economists are now aware of the importance of showing leadership just by illustrating what productive behavior looks like. A lot of seminars at the University of Michigan, where I teach, now have a rule where you don't interrupt for the first ten minutes.

It's obvious that these changes are moves in the right direction. We can engage the ideas in economics with rigor and we can do it in a way that is respectful and welcoming. And I think there's a lot more we can do in the years ahead.



Harassment of Asians is on the rise in the US. It has deep roots in the COUNTRY'S DAST. BY PAUL MASSARI

THE WINTER OF 2020, Boram Lee, PhD '20, was wrapping up her doctoral work at GSAS and thinking about what she wanted to do after graduating in May. Then, in late January, the coronavirus made landfall in the United States after flaring up in Wuhan, China. In March, President Donald Trump declared COVID-19 a national emergency and soon began to refer to the disease as "the Chinese virus." Shortly after that, Lee, who is South Korean, was walking through Harvard Yard when a stranger swore at her, using racial slurs. On her way home from campus nearly a week later, Lee was accosted by a woman who told her to "go back to China."

"I would have brushed it off if it hadn't been the pandemic and I didn't know that similar incidents were going on around the country," Lee says. "But it alarmed me that it happened twice within a week or so and I was hearing a lot of similar stories on social media."

The US is in the midst of an upsurge in anti-Asian racism, from a dramatic rise in hate crimes to a spike in use of anti-Asian hashtags on social media platforms. Lee's experience of the trend inspired her to join with friend and current GSAS student Ja Young Choi in an innovative attempt to track incidents of harassment. But while the pandemic surge in hostility toward Asians is distinct and troubling, it is not new. As historian Jane Hong, PhD '13, points out, racist stereotypes and discrimination against Asians in the US—particularly in immigration—have deep roots in American history.

"I AM NOT A VIRUS"

Lee says that the incidents last March were not the first time she had experienced harassment. People had hurled racist slurs at her ever since she came to GSAS to study in 2013—albeit not on campus. Lee had always seen the behavior as a series of isolated incidents. When the president of the United States began to use racially disparaging terms in talking about the coronavirus, however, Lee's perspective changed.

"President Trump didn't invent anti-Asian racism," she says. "But for me, he crystallized the understanding that those people who were calling me names weren't just an anomaly. The president was one of them."

Neither Lee nor Choi were students of Asian American history, but they wanted to contribute to the effort to confront the racism that they and people like them were experiencing. They decided to facilitate the tracking of incidents of anti-Asian harassment, first by leveraging Google Maps, then by creating their own website that allowed people around the country to log their experiences.

"The project didn't start as anything formal or grand," she says. "We'd been using Google Maps to find restaurants that offered home delivery. After the incident on campus and walking home, I was complaining to Ja Young and we thought, rather than restaurants, let's use Maps to locate incidents of harassment."

After some back and forth with Google's app, Lee and Choi decided to create their own website in April 2020: iamnotavirus.net. The duo kept the interface simple to make it as easy as possible for people to input incidents of harassment, violence, and vandalism. Between the original Google Maps project and their own site, Lee and Choi got nearly 90,000 views and recorded 150 incidents of harassment, especially in the



"ALTHOUGH I BELIEVE WE ARE MOVING IN THE RIGHT DIRECTION, THIS RACISM IS BIGGER THAN ANY ONE INDIVIDUAL AND WE HAVE A LOT OF WORK TO DO. IT HAS A LONG HISTORY." -BORMLE

Boston area, thanks in part to a popular article about their project that appeared in the *Boston Globe*.

"When we started the project, it was for our close acquaintances and people who were friends with us on social media," Lee says. "But the project went viral after the *Globe* piece. We got a lot of inputs through the month of June."

Inputs to the site dropped off during the summer, Lee says, probably because users became aware of better-resourced platforms like stopaapihate.org. She began a postdoctoral fellowship at the University of Pennsylvania's Christopher H. Browne Center for International Politics. Choi began a new academic year at GSAS. Lee says that the change in presidential administrations made her feel optimistic about the future. Then, in March of 2021, a gunman murdered eight people-six of them women of Asian descent-at three different massage businesses in Atlanta, Georgia. Lee was disheartened.

"The Atlanta shooting was a reminder that the problem of anti-Asian hate doesn't begin or end with a presidential administration," she says. "Although I believe we are moving in the right direction, this racism is bigger than any one individual and we have a lot of work to do. It has a long history."

ROOTS OF RACISM

Jane Hong was mindful of the historical roots of anti-Asian racism when she heard about the shootings. The author of Opening the Gates to Asia: A Transpacific History of How America Repealed Asian *Exclusion* and a professor of history at Occidental College, Hong recognized longstanding toxic stereotypes. Asian women, she notes, have been presented in the US as alien and exotic ever since the first, Afong Moy, was brought to the country in the 1830s by merchants who used her difference-Chinese clothing, bound feet—to enhance and promote their import goods. Over the decades, the gendered stereotype of Asian exoticism grew and contributed to a rise in sex trafficking between China and the United States. The result was the Page Act of 1875, a new federal law that severely curtailed female immigration from China and helped foster a cultural association between Asian women and sex work.

"Even before 1875, there's the notion that Chinese women are exotic and submissive," Hong says. "An association emerges that links all Chinese women to prostitution. As a result, the Page Act is passed and it becomes very difficult for these women to enter the United States, even if they clearly were not involved in sex work."



Chinese men who came to prospect for gold after its discovery in California in 1849 and then, later, to work on the construction of the transcontinental railroad encountered a different set of prejudices. Working class white men believed that their Chinese immigrant counterparts would be a source of lowwage labor, a fear exploited today, Hong says, by politicians who accuse China of stealing US jobs. The hostility expressed during the pandemic is layered on top of these resentments.

Class-based resentment and anti-Asian racism reached an apex in the late 19th century with the notion of the "Yellow Peril"-the idea of East Asians as an existential threat to Western civilizationand the infamous Chinese Exclusion Act of 1882. The law barred working-class immigration from China (later expanded to include most of Southeast Asia) and prohibited Chinese immigrants from becoming citizens of the US. The first time in US history that the federal government restricted migration on the basis of race or ethnicity, the Chinese Exclusion Act necessitated the creation of a massive administrative state, entangling the issue of immigration with the politics of class and race in ways that still afflict us todav.

"Policymakers cared about economic ties with China," Hong says. "So, they wrote a law that only restricted the immigration of workers. Merchants, diplomats, and all kinds of elites were still allowed to enter the US. That meant that, in order to enforce the law, you had to decide who was a laborer and who was a merchant. For that, you need immigration inspectors and a whole federal bureaucracy. In many ways, then, the gatekeeping state that we have today around immigration came into being to meet the demands of the Chinese Exclusion Act."

FROM YELLOW PERIL TO MODEL MINORITY

The Immigration and Nationality Act of 1965 eliminated national quotas for those coming to the US, with the effect of increasing the flow of migration from Latin America and Asia. In an astonishing turn of events, Asians, who had been excluded from immigrating or becoming citizens of the US, found themselves increasingly identified as the "model minority"—and used to bolster negative stereotypes of Black and Brown people.

"The model minority isn't ultimately about Asian Americans," Hong says, "and it's no coincidence that it emerges at the same time as there's a backlash to the US civil rights movement. You have different folks holding up Asian Americans—for their traditional family structure, for their work ethic—as the antithesis of Black and Brown Americans. So, the stereotype becomes a tool that's used to blame Black and Brown people for problems like poverty and crime, and there's a focus on cultural traits instead of the structural and historical realities that contribute to inequality."

Over the last 50 years, Hong says, Asian Americans have been subject to all these stereotypes—the exotic submissive woman, the Yellow Peril, and the model minority—at different times and in different ways. Depending on the politics of the moment, they can be either existential threat or a symbol of the successfully assimilated minority. Thinking of the pandemic and the terror in Atlanta, Hong says that the emphasis now is on yet another stereotype: the Asian as perpetual foreigner.

"At various times Asian Americans can be described in positive terms and deployed for various political reasons," she says, "but they can also just as easily be portrayed as forever alien, not belonging to this country. That's where I think the narrative is focused now. Maybe the Atlanta shooter viewed Asian Americans



"ASIAN AMERICANS CAN BE DESCRI BED IN POSITIVE TERMS AND DEPLOYED F OR VARIOUS POLITICAL REASONS, BUT THEY CA NALSO JUST AS EASILY BE PORTRAYED AS FORE VER ALIEN, NOT BELONGING TO THIS COUNTRY."

ASIANS IN AMERICA

(from left) Afong Moy, first Chinese woman to arrive in America (1834); inspection by San Francisco customs officers (1877); building the transcontinental railroad (1883); detention at Angel Island, California (early 1900s); protesting hate crimes during the pandemic of 2021.

as not really American, less than human, and therefore disposable."

Despite the history of Asian stereotypes, Boram Lee remains cautiously optimistic about the future. In the midst of harassment and even violence, she sees Asians in America connecting with other marginalized groups to build solidarity and work together for a society where everyone belongs.

"I see a lot of coalitions on the ground," she says. "As much as this year and last have been hurtful, the experience has increased our awareness of the racism that all people of color experience. We're learning that there is a common denominator we share with other marginalized groups. Learning about each other's struggles and how to sympathize with them: That's what I hope the future holds."



Freedom

Movement

• BY PAUL MASSARI ILLUSTRATION BY KEITH NEGLEY



the origins of action,

and the question of free will



• It's morning.

• Maybe you're reading this article at your kitchen table.

You've got a cup of coffee there.

You take a sip almost without thinking as you read.

Why?

Yes, it's your favorite blend and God knows you need the caffeine.

But why did you bring the cup to your lips at that exact moment?

Why not a second after—or a second before?



"We know we can react to sensory triggers like dodging speeding cars in the crosswalks of Harvard Square," says neuroscientist Allison Hamilos. "But introspection tells us that many—if not most—of what we do arises from our own *volition*; that we can decide to do things like pick up our coffee without obvious external prompting. What goes off in that black box between our ears that lets this happen? Where does spontaneous action come from?"

The question of what "makes us move" has fascinated and stumped philosophers for centuries. Today, Hamilos-who received her PhD in medical sciences from Harvard's Graduate School of Arts and Sciences in 2021–studies the neurological processes behind voluntary motion. Working with Professor of Neurobiology John Assad, PhD '91, the recent alumna sheds new light on the role played by the neurotransmitter dopamine in self-initiated action. In so doing, she is also challenging the basis for how we understand ourselves and our relationships with others: the idea that human beings have free will.

SEARCHING FOR THE SOUL OF ACTION

Attempts to explain the origin of action from physical phenomena go back at least to the 17th-century French philosopher and scientist René Descartes, who described the body as a machine that could react to its environment in ways not so different from our modern understanding of the way our reflexes work. But Descartes had no physical explanation for the origin of voluntary behavior and so reasoned it must arise from some non-corporeal "soul." Even with the advent of modern neurobiology, Hamilos says we continue to grapple with this mystery. "The 20th-century physiologist Sir Charles Sherrington pioneered our understanding of neural reflex arcs—the pathways in the brain that control our reflexes," she says. "Stimuli like contact with a hot stovetop trigger our bodies to move—unconsciously—to more advantageous positions. But even though Sherrington believed voluntary actions arose from a physical source, he didn't have an explanation for how this works, either, and believed finding their 'spring of action' would be essential to truly understanding what makes us who we are."

Now, in the 21st century, armed with unprecedented genetic and computational tools to observe and manipulate the brain, Hamilos is part of a new generation of neuroscientists poised to discover the physical origins of volition. To begin her exploration, she and her team of researchers draw on insights from Parkinson's disease. Sufferers notoriously have trouble with tremors and movement—but not *all* movement. It may be a challenge for a seated Parkinson's patient to stand up or to reach for a glass and drink, for instance, but throw an object at them and they can dodge it with surprising agility. Because Parkinson's results from the degeneration of dopamine neurons, the paradox of motion in patients suggests the neural "circuits" involved in self-generated movement are different than those that enable us to dodge impatient drivers or catch footballs.

Alison Hamilos, PhD '21, studies the neurological processes behind voluntary motion.

"We think the issues with movement in Parkinson's have to do with the loss of dopamine neurons from a tiny strip of the brainstem called the *substantia nigra pars compacta*," Hamilos explains. "When you look at the brain of a Parkinson's patient, you can see these cells are pretty much gone. That's why we suspect these neurons might be part of Sherrington's 'spring of action."

Dopamine, a neurotransmitter that facilitates communication between brain cells, likely matters for spontaneous movement because of its interaction with an evolutionarily ancient brain circuit called the basal ganglia. Hamilos suspects the basal ganglia acts like a kind of amplifier for the brain's higher-reasoning center, the cortex. When cells of the motor regions of the cortex fire in the right patterns, it causes muscles to contract and enables movement. What causes these cells to fire? Dopamine plays a key role.

"There are positive and negative 'feedback circuits' in the basal ganglia that send signals to the motor regions of the cortex," Hamilos explains. "Dopamine stimulates the positive feedback circuits and suppresses the negative ones. For this reason, dopamine is poised to increase activity in the cortex's motor regions, and this could help the brain decide both if and when to move. So, our hypothesis was that less dopamine would mean less positive drive to the cortex, less cortical firing, and less spontaneous action. It's how we think we get the movement phenomenon of Parkinson's. If your cortex isn't able to 'rev up' its own activity as well as normal, it might be more difficult for you to initiate new behaviors like picking up a cup."

"Our brains are already setting us up to do
something, that suggests we don't choose what we do. Ultimately, our spontaneity might all come down to some kind of randomness that's going on in the brain—in other words, things we can't control."





OF MICE AND MOVEMENT

Given that the loss of dopamine neurons disrupts voluntary action in those who have Parkinson's disease, does the normal signaling of these neurons facilitate spontaneous movement in those who are healthy? To test this hypothesis, Hamilos performed an experiment on mice trained to make spontaneous movements in a self-timing task. First, Hamilos gave the mice a sip of Gatorade from a spout positioned in front of them exactly 5 seconds after a cue in the form of a flash of light and a sound. Repeating the process many times, she conditioned the mice to anticipate the treat after the visual and aural cues; the mice started licking the spout even before the juice came.

"This is how we coax the animals into timing their movements," she says. "The mice anticipate the Gatorade and start to sip before the juice comes—just like Pavlov's dog."

Next, the mice received Gatorade for making a *voluntary* movement: a lick at least 3.3 seconds after a cue.

"We rewarded the mice for spontaneously initiating their licks when we wanted them to," Hamilos says. "If they licked between 3.3 to 5 seconds after the cue, we gave them Gatorade immediately. But if they licked too early or too late, they didn't get any treats on that trial and had to wait several seconds before getting to try again."



Although the animals adapted to the new circumstances and started to selftime all their licks relative to the cue, the timing of their movements was highly variable over many trials. Sometimes the mice moved too early. Other times they moved too late.

"In theory, the thirsty mouse should be motivated to time their licks accurately," she says. "But they don't. That suggests they *can't* perfectly time their movements. We suspected that the firing of dopamine neurons might explain why a mouse moved a little earlier or later on a given trial in this timing task."

To find out how the signaling of dopamine neurons related to the movement timing of the mice, Hamilos introduced an otherwise harmless virus into the animals that made their brain cells glow green when dopaminergic firing increased. Then, she looked at the glowing signals in the brains of the mice through tiny fiber-optic "telescopes" to see what the dopamine neurons were doing while the animals timed their movements. She found that the dopamine neurons sent timer-like signals to the basal ganglia in the interval between the cue and the movement. Right after the cue, the signals started at a low level and built up slowly, peaking just before the mice moved.

"It's as though reaching that peak level communicated to the brain precisely when to move," Hamilos says.

More surprising, perhaps, was the finding that the neural signals could actually predict when the mouse would move even before the cue happened

"When dopamine neurons were more *active* before the cue, their signaling ramped up faster, and the animal moved relatively early on that trial," Hamilos says. "But when dopamine neurons were *less active* before the cue, their timer signal rose more slowly, and the animal only moved once it had peaked-later than usual."

To see if dopamine neurons could control when movement initiated, Hamilos and her team did another experiment using optogenetics-a technique that involves shining light on genetically modified neurons to control the strength of their signaling in awake, behaving animals. When the researchers increased the signaling of dopamine neurons during the self-timing interval, the mice consistently moved earlier. When they suppressed the signaling, the mice moved later.

"Together, this shows that the signaling of dopamine neurons explains both *when* and *why* mice decide to move when they do," Hamilos says. "It suggests that these neurons might be something like the physical embodiment of Descartes ephemeral soul in the brain-at least as far as deciding when to do something is concerned."

RANDOMNESS OR FREE WILL?

"Some hints, like Parkinson's dis-

HMS Professor John Assad, Hamilos's dissertation advisor, helped her to develop the idea for her project and to review and analyze data. The two, along with collaborators Giulia Spedicato, Hong Ye, Fangmiao Sun, and Yulong Li, published the findings from the experiments in two papers currently undergoing peer review. Assad says that movement initiation is still a mystery, but Hamilos's research brings neuroscientists one step closer to understanding the mechanisms behind it. ease, for instance, have suggested that dopamine neurons in the brain may be involved in self-initiated movements, but their role has remained unknown," Assad says. "Allison's clever self-timed movement behavioral task in mice showed that the activity of dopamine neurons predicted when movement would occur even seconds in advance. These results point to the dynamics of dopamine neurons as a critical signal for self-initiated movements, and further provide a view of how their loss in Parkinson's patients could lead to difficulty in initiating movements."

But if dopamine neurons help initiate activity, what initiates *them*? Why *do* we do what we do?

Hamilos says scientists don't know the answer to that question, but she suspects the brain activity that caused the pre-cue dopamine signals in her mice could have several different ultimate causes-signals from other brain areas representing thirst, boredom, or fatigue, for example. It's also possible that this activity may be completely random. Heat changes the excitability of neurons, for instance, so it could be that moment-to-moment temperature fluctuations in dopamine neurons predisposed her mice to be in different states of readiness for action before the cue. It could be that recent experiences and learning predisposed the mouse to time its movement differently,

trial to trial. Whatever the case, Hamilos acknowledges that her research is "a bit unsettling" because it challenges some of our notions of free will.

"When I was young, I always thought of free will as meaning we make our own choices-no higher power or deterministic universal construction forces us to do anything," she says. "But as I've gotten older, I've started to ask what it would mean *practically* to say we get to choose? On the one hand, if the dopaminergic signals we observed before the timing cue mean our brains are already setting us up to do something, that suggests we don't choose what we do. Ultimately, our spontaneity might all come down to some kind of randomness that's going on in the brain-in other words, things we can't control."

At the same time, Hamilos says that free will could mean acting on the basis of the feelings, desires, dreams, and experiences that make us who we are. Those qualities may be encoded in our brain cells, neurotransmitters, and neural pathways, but there is still a "self"-even if it's not in our conscious control-and it does make decisions.

"So, if we think of this 'self' as who we are," she says, "people with a set of personality traits, wants, needs, likes, and dislikes that arise in the circuits of the brain as the result of our genetics and our experiences, and if this 'self' predisposes your brain to behave in a certain way . . . if you think about it that way, then in that sense, I think we do have free will."

THE 2021 CENTENNIAL MEDALISTS

ADVANCING KNOWLEDGE, IMPROVING SOCIETY

Alumni change the academy—and society through groundbreaking research and ideas

AT FIRST GLANCE, the 2021 Centennial Medalists—a social psychologist, an engineer, a journalist and political scientist, and a scholar-activist—seem to have little in common other than their Harvard diplomas. According to David Staines, a professor of English at the University of Ottawa and chair of the Graduate School Alumni Association Council's Medals Committee, however, the group is connected by something more than their status as GSAS alumni.

"The people who receive these awards have had exemplary careers both in academics and in the worlds beyond the academy," he says.

Whether by reimagining the way businesses look at worklife balance, changing the way engineers understand the structure and strength of the materials they work with, shaping the civic dialogue for nearly two generations, or challenging the way we think about gender, race, and inclusivity, this year's Centennial Medalists have all made their mark. In so doing, they have not only advanced knowledge but also made important contributions to society.

"For over 30 years, the Centennial Medals have honored some of GSAS's most accomplished graduates," says Dean Emma Dench. "This year's cohort continues that distinguished tradition. Throughout their careers, each of the 2021 medalists has exemplified the School's mission by creating new knowledge and advancing understanding in a range of fields. Congratulations to all!"

BY ELIZABETH GEHRMAN ILLUSTRATIONS BY SAM KERR



LOTTE BAILYN, PHD '56

When Lotte Bailyn graduated from Radcliffe in 1956 with a PhD in social psychology, she assumed she would immediately begin an academic career. Her parents were both social scientists and her husband, Bernard Bailyn, was a Harvard historian who would go on to win two Pulitzer prizes.

She didn't think it would be 16 years before she secured a tenure-track appointment. Bailyn used the time to raise her two boys and contribute to scholarship through temporary research and teaching positions. The experience of having no serious career options, and seeing her friends in similar situations, helped her understand the link between the personal and the professional spheres of life. That link would define her nearly 50 years at the MIT Sloan School of Management, where she would eventually rise to become the T Wilson (1953) Professor of Management, Emerita.

Bailyn lived through extreme versions of the biases women still have to put up with," says Maury Peiperl, dean of the George Mason University School of Business and a long-time colleague of Bailyn's. "Her insights have helped to make the whole organizational and career space better for everyone."

Bailyn was a leader in the then-nascent field of work-life integration. Her book *Breaking the Mold*, originally published in 1993, urged American businesses to radically rethink some of the hidden assumptions that set work and personal life at odds, especially for women. "Back then, the book was ignored," Bailyn says. "The revised edition came out in 2006 and by then everybody was talking about these things, but the issues were still the same-that organizations didn't consider anything about their employees except their attitudes toward work." Moving away from "uniform and monolithic expectations toward multiplicity, pluralism, and change," Bailyn writes in the new edition, will help companies discover "unexpectedly more effective ways of reaching their goals" and will impact the very "well-being of the nation."

Bailyn practiced what she preached, says Kate Kellogg, the David J. McGrath Jr (1959) Professor of Management and Innovation at MIT, who recalls being encouraged by Bailyn as a young mother working on her doctorate. "She's been a tremendous mentor to many PhD students but especially female ones," Kellogg says, "encouraging them to find their voice. I can't say enough wonderful things about her, and this award is just further validation that she has made such a huge difference to multiple generations of scholars."

Ask Bailyn what the award means to her personally, and she'll admit that the symmetry of it gives her a certain satisfaction. Her husband, who died in 2020, was a Centennial Medalist in 2001. Twenty years later, Bailyn has joined him in that august company.

"I was totally surprised and very pleased to receive this award," Bailyn says. "I'm only sad that my husband is not around. He would have enjoyed it so much."



JOHN HUTCHINSON, PHD '63

John Hutchinson claims to have been an indifferent student and a lackluster careerist. "I just bumbled along," he says. "I consider myself lucky to have found, almost by chance, a good niche."

Good niche indeed. During his five decades at Harvard, starting as an assistant professor and leaving as the Abbott and James Lawrence Research Professor of Engineering, Hutchinson did groundbreaking work in the field of materials engineering and solid mechanics, particularly fracture and failure mechanics. He has written or contributed to hundreds of research papers, been cited more than any other researcher in his field, and won numerous international awards and honors, including honorary doctoral degrees from three US and two international universities, in addition to his Harvard PhD in mechanical engineering.

As an undergraduate at Lehigh University, where he received a BS in engineering and mechanics, Hutchinson did well enough in the subjects he liked—math, physics, and chemistry—to graduate first in his class. Accepted by Harvard, MIT, Stanford, and Brown for graduate school, he decided on Harvard at the urging of his department head and because his father thought it was "the highest quality" of his four choices. In the mid-1950s, when Hutchinson started college, few people were studying structural mechanics, but the proliferation of computers and the advent of the space race soon changed that. "Thanks to Sputnik," he recalls, "the US really started pumping money into universities for research in science and technology. Getting funding simply wasn't an issue for me."

Though he made his professional name as a researcher, Hutchinson says he values his time teaching at Harvard just as much. "It doesn't matter whether it's a graduate or an undergraduate class," he says, "there's always a little feeling of excitement at the beginning of a class. Every time. You want to hold the students' attention and get them to care about the subject. And, of course, I've had fabulous students as well as fabulous colleagues at Harvard."

"John's generation of graduate students have done exceedingly well," says Venkatesh (Venky) Narayanamurti, Benjamin Peirce Research Professor of Technology and Public Policy, Engineering and Applied Sciences, and Physics, Emeritus. "He's not just a great scholar, but at the same time a great teacher and the finest person to work with." Narayanamurti calls Hutchinson a "great support" to him as associate dean in Narayanamurti's first years at Harvard and remembers going into Hutchinson's office in the mornings because "I knew I would get good cheer," he says. "John is absolutely outstanding at research and a dedicated teacher who really cares about others."

Hutchinson says, despite his long list of achievements, the Centennial Medal is a truly special distinction. "It means I'm being recognized as Harvard quality by Harvard," he says, harking back to his father's words. "I really feel honored."



MARVIN KALB. AM '53

One Monday morning in 1957, Marvin Kalb was in Widener Library working on his nearly completed PhD dissertation when a librarian approached. "There's a man on the phone who wants to speak with you,' she said. 'He says he's Edward R. Murrow.' I said, 'Hang up on him; it's probably some quack," Kalb recalls. Luckily, the legendary newsman did not give up so easily, and when he called back later that afternoon Kalb took the call. "The minute I heard his voice," he says, "I knew I had made a horrendous blunder."

Murrow had seen a story that Kalb, now the Edward R. Murrow Professor of Practice, Emeritus, at the Harvard Kennedy School, had written on Soviet youth for that Sunday's New York *Times Magazine*. The next day Kalb was in New York sitting in front of Murrow and "a half-hour meeting turned into three hours," he says. "At

the end, he put his arm on my shoulder and said, 'How would you like to join CBS?' I said yes, and that was it."

Kalb, whose older brother Bernard was then a reporter at the New York Times, knew a once-in-a-lifetime opportunity when he saw one. He suspended his doctoral studies-temporarily, he thought at the time—and became the network's Moscow correspondent. Over the next 30 years, journalism would take him all over the world. He has won numerous awards and written or co-authored 14 nonfiction books and two best-selling novels. He just published his 17th book, Assignment Russia, a memoir of his years as a foreign correspondent during the Cold War.

Kalb returned to Harvard in the mid-1980s when he was again recruited, this time by former HKS dean Graham Allison, to become the founding director of the Shorenstein Center on

Media, Politics and Public Policy. "That was like heaven knocking on my door," Kalb says. "I had always thought of my time at Harvard as among the happiest, most fulfilling, richest years of my life."

Harvard has clearly returned the affection. "Marvin has both benefited from Harvard and enriched it," says Fiona Hill, PhD '98, a senior fellow at the Brookings Institute who met Kalb as a grad student in the early 1990s. "He's just extremely engaged with the Harvard community, looking out for younger scholars, taking them under his wing, and forging incredibly close cross-generational relationships. He makes you feel like you're his friend, not just a mentee."

For Kalb, the award itself is a link of sorts. "Yes, I've gotten many awards and I'm very grateful for them," he says. "But this is the wraparound award. It wraps up all corners of my life-the teaching, the journalism, the education, the inspiration. All of those are wrapped up in this award because it represents who I am. It's the way that this University recognized that there was a talent, a skill, an interest, a passion that it could stimulate and turn into something worthwhile."

PEGGY MCINTOSH. PHD '67

"My paper wasn't the first to use the

Last year, a long-needed conversation on race in America finally began in earnest, and as a result, the phrase "white privilege" has become an important part of the daily lexicon. But in 1988, when Peggy McIntosh wrote the seminal paper "White Privilege and Male Privilege: A Personal Account of Coming to See Correspondences through Work in Women's Studies," the idea was far from commonly understood. phrase, but it got attention because it was written from an autobiographical perspective," says McIntosh, a senior research scientist and former associate director at the Welleslev Centers for Women, who got her PhD in English and American language and literature. "It contains 46 examples of how I have unearned power because of being born white in a culture that favors whites. At first the Centers' Working Papers Committee didn't want to publish it. They said it was anecdotal and had no footnotes. Finally, my subconscious shouted, 'Freud didn't have footnotes!' So I took that to the committee and they said, 'Okay, we'll publish it."

It was a key moment in what had until then been a wide-ranging and peripatetic career: McIntosh has taught English, American studies, and women's studies at five universities, moving around as her husband, Harvard Medical School Professor of Pediatrics Ken McIntosh, took various positions in the US and the UK. Along the way she co-founded the Rocky Mountain Women's Institute, helped inspire women's studies courses in 22 universities in Asia, picked up four honorary degrees, and in 2019 published her collected essays in the book On Privilege, Fraudulence, and Teaching as Learning, which includes



the widely celebrated "White Privilege: Unpacking the Invisible Knapsack."

In 1986, McIntosh founded the National SEED Project on Inclusive Curriculum. (The acronym stands for Seeking Educational Equity and Diversity, a topic McIntosh has long championed.) SEED immerses teachers and others in self- and systemic knowledge by preparing them to facilitate yearlong seminars in their institutions with the aim of working toward social justice. McIntosh calls it "deeply personal group work."

McIntosh says that she's grateful to Harvard, both for the Centennial Medal and for teaching her the skill of close reading that made possible her career and the impact she has had on our culture.

"The close reading method encouraged me to read between the lines," she says. "Reading between the lines in words and in cultures carried me into women's studies, multicultural studies, and my work on systems of privilege during the following six decades. For this, I am most thankful to Harvard, and especially to Professor Reuben Brower, whose courses in the Department of English emphasized this skill when I was a graduate student in the 1960s. He taught me to take my own thoughts seriously."

••• Find out more about the 2021 Centennial Medalists at gsas.harvard.edu/news/stories/outstanding-achievements.

BIG DATA. BIG PRIZE.

Nan Laird, PhD '75, statistics, the Harvey V. Finebera Professor of Public Health, Emerita, arvard T. H. Chan School of Public awarded the 2021 International Prize i tistics for methods that enable "to wring detailed information resear from larg tudies that follow participants and co their data over to the a uncement from Statis ssociation. The Prize in Statistics is awarded by five leading international statistics organizations and recognizes an individual or team that has made major achievements in the field.

TTO

ALUMNI UPDATES



Jeremy Thorner, PhD '72, biochemistry, received the prestigious 2022 Centenary Award from The Biochemical Society of the United Kingdom, given annually to a biochemist of distinction from any country. Thorner was recognized "for his contributions to our understanding of biological signal transduction mechanisms." A professor emeritus at UC Berkeley, Thorner's research centers on signaling proteins that control most of the complex processes inside cells.



Mihai "Mishu" Duduta, SM '15, PhD '19, materials science and mechanical engineering, joined the University of Toronto Department of Mechanical and Industrial Engineering as an assistant professor. He leads the Materials for Actuators, Robots & Batteries - Laboratory, which focuses on building actuators and batteries for the robots of the future. Before joining the University of Toronto, Duduta developed soft robotic tools for endovascular interventions.

Yoon Kim, PhD '20, computer science, is joining the Massachusetts Institute of Technology as an assistant professor in the Department of Electrical Engineering and Computer Science. Previously a research scientist at the MIT-IBM Watson AI Lab, Kim also holds degrees from New York University, Columbia, and Cornell. His research focuses on machine learning and natural language processing. He is the recipient of a Google Fellowship.



Yuliang Li, PhD '20, computer science, won the 2020 Doctoral Dissertation Award from the Association for Computing Machinery's (ACM) Special Interest Group on Data Communication (SIGCOMM). SIGCOMM is ACM's professional forum for the discussion of topics in the field of communications and computer networks. Li won for "innovations that enable improved performance and robustness of cloud networks through hardware and software codesign."



Preston Williams, PhD '67, sociology & the study of religion, was one of three recipients of the 2021 Harvard Medal, given each year to University alumni "who have demonstrated extraordinary service to the University in a variety of areas, including teaching, fundraising, leadership, innovation, administration, and volunteerism." Williams is currently Houghton Professor of Theology and Contemporary Change Emeritus at Harvard Divinity School.



Kim Gutschow, PhD '98, anthropology, recently received a National Geographic grant of \$100K for her project, "Climate Zangskar: By the People & For the People." The initiative focuses on climate change adaptation among women and youth in the Ladakh region of the Indian Himalayas, where Gutschow has worked for 31 years. The grant was co-written and co-conceived with Dr. Robin Sears, research associate in anthropology at Williams College.



Jane Lubchenco, PhD '75, biology, last spring joined the Biden-Harris administration as deputy director for climate and environment in the White House Office of Science and Technology Policy. Lubchenco, a 2019 GSAS Centennial Medalist, will lead climate and environment science efforts in the White House, bringing an integrated approach that connects climate and environmental challenges with health, economic recovery, equity, and sustainability.



Marie-Christine Nizzi, PhD '20, psychology, gave a presentation, "Happiness and Wellbeing in Cities and Communities," to a United Nations USA panel on March 23. A scientist, university instructor, and psychologist, Nizzi is a research associate at Dartmouth College, where she leads a project aiming to better support the experience of free will in paralyzed patients. She was named a 2018 Harvard Horizons Scholar for her work with US veterans and face-transplant recipients.

AUTHOR PROFILE

PASSING THE WORD ON THE LIVING LEGACY OF SLAVERY

"I lived it." Those were the words of writer Clint Smith's grandmother as she walked through the National Museum of African American History and Culture with her grandson a few years ago and looked at the symbols of white supremacy. "I saw those clan robes," she said. "I saw the nooses. I saw the buses that people were trying to desegregate. I lived it."

The moment was one of a series of events—including the removal of Confederate monuments in his hometown of New Orleans-that made Smith. PhD '20, realize that the history of slavery was personal, present, and all around him. In his new book, How the Word Is Passed, Smith explores the way that the legacy of white supremacy still touches the people he loves, the places he grew up, and the country he calls home.



How did the removal in 2017 of a monument to Confederate general Robert E. Lee in your hometown of New Orleans inspire vou to write How the Word Is Passed? I grew up in New Orleans. My parents still live there. When I watched Lee's statue come down via live stream. I thought about what it meant that I grew up in a majority Black city where more images and more iconography were dedicated to enslavers than to enslaved people. I could tell you specifically the locations of monuments to Confederate soldiers and Confederate generals, but I couldn't tell you the locations of a lot of places that had ties to enslaved people, or abolitionists, or folks who worked to end the perpetuation and spread of human bondage.

I started looking around and thinking about monuments, museums, memorials, and historical sites in New Orleans and also in other cities. Are they tackling this history? Are they running from it? Are they doing something in between? I thought that writing a book around the conceit of place was an interesting way to contribute to a robust historiography around enslavement and memory. I hoped I could bring something unique to the work as a poet, a qualitative researcher, a journalist, and a Black man from the South. By bringing my professional background together with my personal life experiences, I thought I could tell an interesting story about how other places were dealingor not dealing—with the legacies of slavery and white supremacy.

Why was it important for you to tell in this book the stories of "ordinary people" who lived through slavery, as opposed to those of more "heroic" figures like Frederick Douglass and Harriet Tubman, who escaped it?

I think it can be a tricky balancing act. In the context of slavery, there is an impulse to demonstrate that enslaved people were not simply passive recipients of the violence that was inflicted on them. And so, we hold up Tubman and Douglass as examples of people who confronted their enslavers and/or ran away. You know, "Look at these stories about the Underground Railroad. Look at this man who gave speeches that inspired millions to rise up against this horrific institution."

I fully empathize with that impulse. I think it is important to tell stories of people who resisted enslavement. But I think we have to expand our notion of what resistance looked like with the understanding that it manifested itself in all sorts of small, quotidian ways. I've read hundreds of slave narratives and it is just impossible to fully grasp how someone lived from day to day under the threat of violence or the prospect of being separated from the people they loved every moment of their lives.

When you sit with that knowledge, you realize that millions of enslaved people made the best decisions they could to bring some meaning to their lives, to preserve their relationships, and to preserve their sense of self. So, it's essential to tell the stories of Douglass and Tubman and others, but we also need to lift up the stories of the vast majority of people who were not them and for whom simply surviving was an act of resistance.

What did you learn about the people who see Confederate cemeteries as "sacred ground" and about how we, as Americans, need to change in order to move forward from the legacy of white supremacy? My visit to Blandford Cemetery in Petersburg, Virginia gave me a new level of clarity about the whole "lost cause" mythology that ennobles the Confederacy and about the ways that our history and how we view it are deeply shaped by our own sense of lineage. It was both endlessly fascinating and deeply unsettling.

For instance, I met a man named Jeff at the Confederate Veterans Memorial Day celebration. He told me that Blandford meant so much to him, that he had a bunch of family members buried there. and that sometimes he liked to come in the evening and sit under the gazebo and just watch the deer graze on the grass around the tombstones. He said he liked to walk through the cemetery with his granddaughters and tell them about their ancestors. I told him that, for me, the place means something fundamentally different. It's not a place of peace and remembrance. It's a site that memorializes those who fought to keep people like me in chains.

So, the question is "What does it take for someone to recognize that their sense of self need not be predicated on a lie?" I think about a story on Confederate statues in the New York Times a while back. One of the men they interviewed said, "You want me to accept that my great-grandfather was a monster!" The cause that his great-grandfather fought for was monstrous. But your sense of self doesn't have to be tied to that cause. You can imagine an identity that is not singularly defined by your lineage. And if you free yourself from that idea, then you create room to acknowledge that, although your ancestors may have fought for something monstrous, that's not who you are.

RECENTLY PUBLISHED

Kim Gutschow, PhD '98, anthropology, Sustainable Birth in Disruptive Times, Springer International Publishing, 2021

Nebil Husavn, AM '10, Near Eastern languages and civilizations, Opposing the Imam, Cambridge University Press, 2021

Larry Lockridge, PhD '69, English and American literature and language, The Cardiff Giant, Iguana Books, 2021

Jeffrey P. Moran, PhD '96, history, The Scopes Trial: A Brief History with Documents. second edition. Macmillan Press, 2021

Thomas F. Pettigrew, PhD '56, social psychology, Contextual Social Psychology: Reanalyzing Prejudice, Voting, and Intergroup Contact, American Psychological Association Press. 2021

Karen L. Thornber, PhD '06, East Asian languages and civilizations, Global Healing: Literature, Advocacy, Care, Brill Publishers, 2020

Lisa J. White. AM '81. Middle East studies. Rooted in the Body: Arabic Metaphor and Morphology, American University in Cairo Press, 2021

••• Would you like your book considered for inclusion? Send it to Colloguy, Graduate School of Arts and Sciences, Harvard University, 1350 Massachusetts Avenue, Suite 350. Cambridge, MA 02138. Questions? Email gsaa@fas.harvard.edu.



Coffee Connection

GSAS INVITES ALUMNI AROUND THE WORLD TO INFORMAL ONLINE MEETINGS WITH CURRENT STUDENTS

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Questions? Email the Graduate School Alumni Association at gsaa@fas.harvard.edu. Engage and share your advice with current GSAS students through the GSAS Virtual Coffee program. This is an informal opportunity for students to "ask alumni anything." You, as alumni, can help students navigate Harvard and life as a grad student, impart strategies for talking with their advisor, provide insight into different career paths, discuss an aspect of their scholarship and research, or share your journey at and after Harvard. Sign up today and take advantage of virtual connectivity to meet with a student, regardless of your proximity to Cambridge!

STAY TUNED!

Last year's online events enabled GSAS graduates from around the world to connect as never before. From the "Future of" events to Alumni Day, scores of alumni logged on to hear from alumni experts, faculty thought leaders, and each other. Alumni serving as Firsthand Advisers were mentors to hundreds of students exploring career options.

While GSAS monitors public health guidance around the world as it plans for the return of in-person events, the Graduate School Alumni Association will continue to explore new opportunities to connect alumni to each other, to students, and to the Schoolboth in-person and online. Stay tuned in the months ahead for news about exciting programming coming to your city or your laptop!

••• For an up-to-date schedule of events, visit gsas.harvard.edu/events.

NO BOUNDARIES TO REAL-WORLD IMPACT

MATHEUS FERNANDES'S curiosity has no limits. He's immersed himself in the glacial mechanics of the Greenland ice sheet. He's found solutions to building stronger bridges and skyscrapers from the skeletons of deep-sea glass sponges. And now he's using data science to change real estate investing.

The latitude to explore is what brought Fernandes to Harvard. "My graduate program gave me the ability to transition from mechanical engineering and applied physics, to applied mathematics and bioinspired engineering, to AI and machine learning," he says.

Not only did he feel empowered to move easily between disciplines, but he also found a community of scholars eager to collaborate in that space. "Everyone's just so motivated to share knowledge and solve the hard problems," he says.

Recently, Fernandes and a classmate did just that, launching a startup to make real estate ventures accessible even to the smallest investor. "Innovation happens when you cross fields, when you bring expertise from one domain to the other," says Fernandes. "Harvard gave me that freedom."

Support the next generation of innovators with a gift to the Graduate School Fund. alumni.harvard.edu/give-to-gsas





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