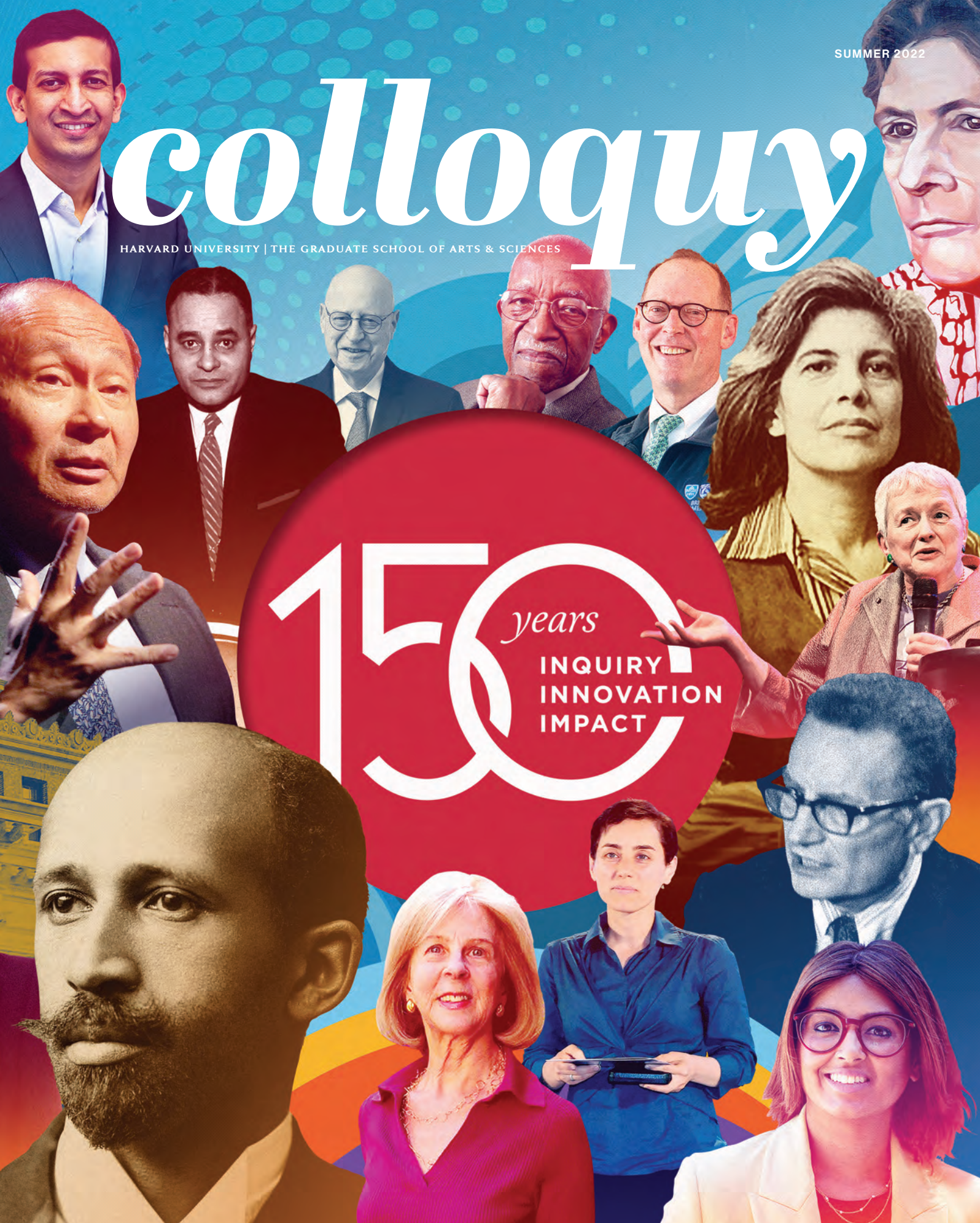


SUMMER 2022

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HARVARD UNIVERSITY | THE GRADUATE SCHOOL OF ARTS & SCIENCES



to note



Share your 150th anniversary story!



THIS YEAR, GSAS MARKS THE 150TH ANNIVERSARY OF ITS FOUNDING. As the School looks to celebrate this milestone in its history, we invite graduates to share their stories around our sesquicentennial themes of inquiry, innovation, and impact. Tell us about a 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 the Graduate School Alumni Association at GSAA@fas.harvard.edu or on social media: [#HarvardGSAS150](https://twitter.com/HarvardGSAS150), [#Innovation](https://twitter.com/Innovation), [#Inquiry](https://twitter.com/Inquiry), [#Impact](https://twitter.com/Impact).

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Join the sesquicentennial celebrations!



THIS ACADEMIC YEAR, we are celebrating 150 years of inquiry, innovation, and impact at GSAS. As we look back over our history, I am amazed by what GSAS alumni have accomplished thanks to their tireless dedication to the creation of new knowledge. Across disciplines, GSAS graduates have pushed the bound-

aries of what we know, helped tackle intractable problems, made discoveries that have changed how we live, and advanced our understanding of the world and our place within it.

In this issue of *Colloquy*, you will read about several of your fellow graduates and their pathbreaking achievements. And throughout this sesquicentennial year, we will tell additional stories about our extraordinary community—past, present, and future—including alumni whose GSAS education laid the foundation for incredible impact and the promising students who will go on to accomplish even more. These stories, as well as information about the celebration, our history, and events, can be found at gsas.harvard.edu/150, on GSAS's YouTube channel, and on our Twitter, Facebook, and Instagram pages.

You are an integral part of this remarkable community of scholars and innovators, and I invite you to join in the celebration. I hope you will connect with GSAS, whether you attend events in cities around the globe and virtually, visit our Harvard Archives exhibit in spring 2023, engage with students through the Firsthand Advisers career mentoring platform or the Virtual Coffee program, or return to campus for Alumni Days. While we can look back on the singular achievements of the past 150 years, it is the accomplishments of alumni like you that will make GSAS and Harvard's next 150 years even more extraordinary.

—EMMA DENCH
DEAN

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SUMMER 2022

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Colloquy is published two times a year by the Graduate School Alumni Association (GSAA). Governed by its Alumni Council, the GSAA represents and advances the interests of alumni of the Graduate School of Arts and Sciences through alumni events and publications.

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

LETTERS TO THE EDITOR

We welcome your feedback and ideas. Write to: *Colloquy*, Harvard University Graduate School of Arts and Sciences, 1350 Massachusetts Avenue, Suite 350, Cambridge, MA 02138-3846; or email gsaa@fas.harvard.edu.

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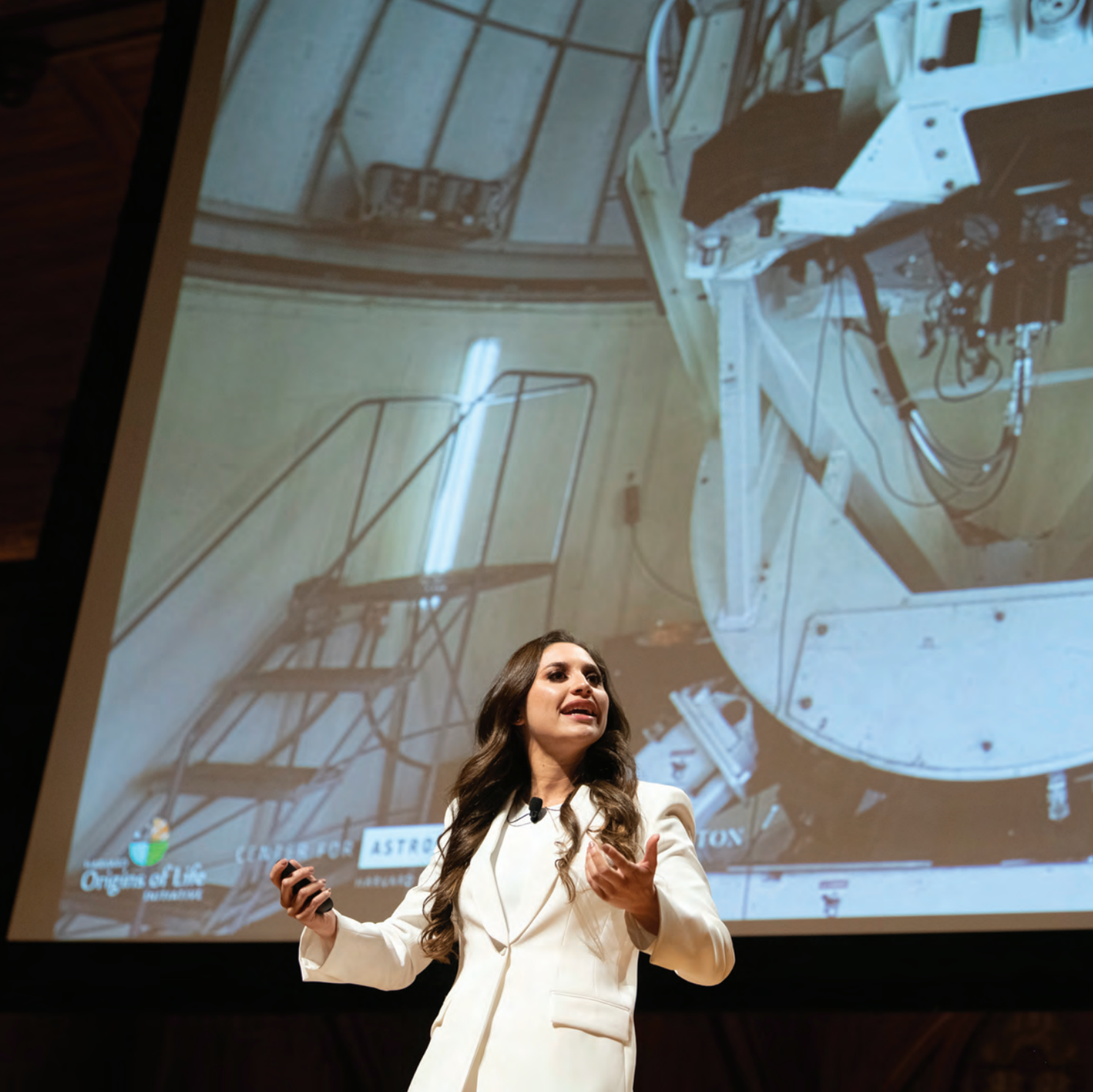
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Out of This World

At the Harvard Horizons Symposium last April, PhD student Juliana Garcia-Mejia told the crowd at Sanders Theatre about a new instrument she created to search the heavens for Earth-like planets. Hear her and other Harvard Horizons Scholars talk about art, literature, history, molecular biology, and more on the *Harvard Horizons* podcast.

●●● Find it today on Apple Podcasts, Spotify, Amazon, and Simplecast or the GSAS website gsas.harvard.edu/harvardhorizons



Slave Ship (1840),
by J.M.W. Turner, included
in the Harvard and the
Legacy of Slavery report.

Reckoning with the Legacy of Slavery

In April, the Presidential Committee on Harvard and the Legacy of Slavery released its long-awaited report. The committee, led by **Tomiko Brown-Nagin**, dean of the Radcliffe Institute for Advanced Study, found that “during the 17th and 18th centuries...Harvard leaders, faculty, staff, and benefactors enslaved people, some of whom labored at the University; accrued wealth through the slave trade and slave labor; and defended the institution of slavery.” Upon the report’s release, GSAS Dean Emma Dench wrote to students that “having unearthed many connections to the legacy of slavery, we have a duty to investigate what other links exist and take action to reckon with what those connections mean for us now and for the future.” For just that purpose, the Harvard Corporation has established a \$100 million fund to implement the committee’s recommendations and sustain in perpetuity the work of studying the history of slavery at the University.

INCLUSION BY ANOTHER NAME

To better reflect the scope of its work, the GSAS Office of Diversity and Minority Affairs last April adopted a new name: the Office of Equity, Diversity, Inclusion & Belonging or GSAS EDIB. “This change signals GSAS’s commitment to ensuring that all students feel welcome here,” said Dr. Sheila Thomas, GSAS dean for academic programs and diversity, “and to working with our many partners across the University in helping our students succeed. Each word represents a different and important way that the EDIB team engages with students and with the broader Harvard community.” The GSAS EDIB team helps students achieve their goals and supports others in the community who engage in efforts to support diversity, inclusion, and belonging. [Learn more about the office’s work by visiting *gsas.harvard.edu/diversity-gsas*.](https://gsas.harvard.edu/diversity-gsas)



“The chance of having a magnitude of six or greater [earthquake in the United States] is estimated to be between 25 percent to 40 percent over the next 50 years. So that’s looking like odds that we need to plan for.” – CONEVERY VALENCIUS, PHD '98 on the GSAS *Colloquy* podcast gsas.harvard.edu/colloquy-podcast



BACK ON CAMPUS

GSAS graduates returned to campus on April 9 for the first Alumni Day gathering since the start of the pandemic. They were welcomed joyfully by Dean Emma Dench, who noted, “Zoom chat was quite good but real-life conversations are so much better.” Attendees listened with interest to the day’s keynote address on the role that universities can play in supporting democracy by James Bryant Conant University Professor **Danielle Allen**, PhD ’01. Faculty presentations addressed the rhetoric of social media and challenge of climate change from the perspective of economics, data science, and biology. The program included talks from FAS Professor **James Engell**, PhD ’78; HKS Professor **Robert Stavins**, PhD ’88; HSPH Professor Francesca Dominici; HMS Professor Pamela Silver, and **Marika Ziesack**, PhD ’18, a staff scientist at Harvard’s Wyss Institute.

Couldn’t make it to this year’s Alumni Day? It’s not too early to start planning ahead for 2023. GSAS will be in the midst of a year-long celebration of the School’s 150th anniversary that will include exciting programming involving former students all across the globe and an expanded, multi-day Alumni Days program next spring in Cambridge. Watch the GSAS website (gsas.harvard.edu) and School communications in the months ahead for more information!

A Quantum of Students

This fall, GSAS welcomes the first cohort of the new PhD program in Quantum Science and Engineering (QSE) – one of the first in the world. QSE will provide the foundational education for the next generation of innovators and leaders who will transform quantum science and engineering into next-level systems, devices, and applications. The program leverages talent from around the world with 11 of the 14 incoming students from countries other than the United States. Fields of study include computer science, engineering, chemistry, and applied, experimental, and theoretical physics. “This cross-disciplinary 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 QSE launched in April 2021, pronouncing GSAS “the perfect place” for the students to “make discoveries that will change the world.”



FOUNDATION HONORS GSAS “NEW AMERICANS”

Last spring, GSAS students **Zubia Hasan** (left), physics, and **Laura Nicolae** (center), business economics, as well as incoming student **Osaremen Okolo** (right), history of science, were named three of the 30 winners of the Paul & Daisy Soros Fellowships for New Americans. A merit-based graduate school program for 30 immigrants and children of immigrants, the Soros Fellowship grants up to \$90,000 per student in support of graduate studies. Hasan, who comes from Pakistan; Nicolae, whose family is from Romania; and Okolo, whose family comes from Nigeria, were chosen from a pool of over 1,800 applicants and selected for their potential to make significant contributions to the United States. The grants will support the students’ studies.



HAVE YOU HEARD COLLOQUY?



The *Colloquy* podcast is a conversation with scholars and thinkers from Harvard’s PhD community. Produced by GSAS Communications in collaboration with Harvard’s Media Production Center, the show continues and adds to the conversations found in *Colloquy* magazine. Each month, GSAS alumni and students share their research on topics ranging from the COVID pandemic to racial justice, earthquakes, inflation, and many other fields. Check it out at gsas.harvard.edu/colloquy-podcast. **Have a comment or suggestion for a future show? Drop us a line at gsaspod@fas.harvard.edu!**



A VOICE UNLIKE ANY OTHER

"INCOMPARABLE." THAT'S HOW THE FORMER US POET LAUREATE CHARLES SIMIC REFERRED TO **HELEN VENDLER, PHD '60**, IN A GLOWING REVIEW OF HER 2015 COLLECTION OF ESSAYS ON POETRY, *THE OCEAN, THE BIRD, AND THE SCHOLAR*. AT AGE 89, VENDLER REFLECTS ON THE POETIC FORM, ITS ABILITY TO CONFER A KIND OF IMMORTALITY, AND WHY THE ARTHUR KINGSLEY PORTER UNIVERSITY PROFESSOR EMERITA CALLS HERSELF A CRITIC RATHER THAN A SCHOLAR.

***The Ocean, the Bird, and the Scholar* is a collection of two decades of your critical reviews and essays, but it's also personal. You talk about growing up and discovering poems, to which you refer as "histories of human consciousness." What did you mean by that?**

A lyric poem is a dynamic form. It ends often in a different place from where it began. Think of George Herbert's poem "The Collar." When it begins, he's railing at God. "I struck the board, and cried, 'No more; / I will abroad!'" By the end he writes, "Methought I heard one calling, *Child!* / And I replied *My Lord.*" Poems are not position papers. They are transcripts.

Almost every word in a poem offers a progression of the mind thinking. And it's the private mind because it's

not directed primarily at the reader. It's trying to make something a series of impressions that will click into a satisfying form. Eventually, of course, the poet has to think of the reader and say, "Would anybody understand this? Or is this too peculiar a word?" When Eliot writes "polyphiloprogenitive" in "Mr. Eliot's Sunday Morning Service," he's using a word that nobody knows. If you're a poet, to do something like that is a deliberate insult, in a way, to the reader. Nonetheless, it's necessary to the poet at that moment as the response of his sensibility to the occasion.

There's such a temptation, once in a while at least, for every poet to put the contents of even a difficult mental dynamic on paper if it enacts the contour of

“Poems are not position papers. They are transcripts.” —HELEN VENDLER, PHD '60

the mind at that moment. It's a mimetic act, and it's tracking a living process.

So is poetry, in terms of literary forms, the most direct way of experiencing another consciousness?

For me it's the most direct way. The English poet and critic Matthew Arnold said that lyric poetry is “the dialogue of the mind with itself.” There is conflict; there is drama. The actors on the stage are the words of the poem. Each comes in and makes a little bow and then suddenly the language becomes archaic or technical or ecstatic or melancholy. It's thrilling because you never know what series of words the poet is going to call up on stage. And the fact that poets create that language from scratch, that they begin with a blank sheet of paper, is to me a miraculous thing, especially when, as a modern receiver of the words, you're hearing a voice from maybe 400 years ago. I can't ever believe it's happening.

I was surprised to read that you think of yourself as a critic rather than a scholar.

Why is that?

Scholars are people enraptured with fact—linguistic, historical, scenic. They love getting text and context in an edition or a biography totally right. The work has a clear contour of correctness.

I have some of that in me, certainly. But I want also to be able to say what I think about a poem's strategies. As Robert Lowell writes in “Epilogue,” “Yet why not say what happened?” Why *not* say what you think about poems by Wallace Stevens, which you are constrained from doing within an edition? George Herbert says of himself, “I (who am never loath / To spend my judgment),” and his poems bear that out. I have always wanted to “spend my judgment.” And the critical mind wants a firm

descriptive and evaluative result. Does the poem work or not? Do I want to read more by this person or not? I just couldn't refrain from investigating and making evident to others the evolution of a poet's idiom. And it was great fun too.

Looking back on your career, you write, “If there was any conscious drive in me to alter the field of criticism, it was to insert into the analysis of lyric an analysis of its motivating emotions and convictions, and to demonstrate their stylistic results.” Why have style—and the feelings that inspire it—been so important to you both as a critic and a teacher?

When I came to Harvard, from my undergraduate major in chemistry, I was just astonished to see what a scholarly paper in literary studies looked like. It might enumerate Dickens' interesting and eccentric characters, but that would be the end of it. The creative impulses inventing them remained unmentioned. Where did they come from? Why are they present? What did Dickens have in mind in inventing them, a different set for each novel? I mean, none of those questions was ever asked as such. Nor was it ever said that this poem is so touching because of its discontinuity: it breaks itself in half, syntactically from participial expression of the present to narration of a shared past. Strategies of style were almost never discussed. When style was mentioned, it was in large, generic terms rather than in the minute ways in which lyric poems invent and modulate a style.

And that was the thing that interested me—that the poet could create on paper a style that was not like anyone else's, that was unique in the history of the art. Poems, when original, became exceptions to the fact of death. These voices hadn't died. Their thoughts didn't die. Their emotions didn't die. My training for the PhD didn't

normally ask why they survived; rather, it offered, by and large, the old *vie et oeuvre*, historical biography and a contextualized account of major publications.

It has been greatly rewarding, throughout my career, to see students discover original genius and to watch them become absorbed in the work of one poet or another. They are fascinated; and then they become drawn in more deeply; and then they may decide to do a senior thesis on that poet or take a creative writing course themselves. Their individual growth was very interesting to watch. Since I had only one child, I wondered what I would do with my maternal instincts when my son left home. But the instincts survived, as I saw successive young adults appear in the classroom to read poetry. And I do feel that I liked very much being with the young.

CURRICULUM VITAE

Harvard University

A. Kingsley Porter University Professor
1990–present

Professor, 1985–1990

Visiting Professor, 1981–1985

Boston University

Professor, 1969–1985

Associate Professor, 1966–1969

Smith College

Assistant Professor, 1964–1966

Swarthmore and Haverford Colleges

Lecturer, 1963–1964

Cornell University

Instructor, 1960–1963

Harvard University

PhD in English and American

Literature, 1960

Emmanuel College

ABScI in Chemistry, 1954



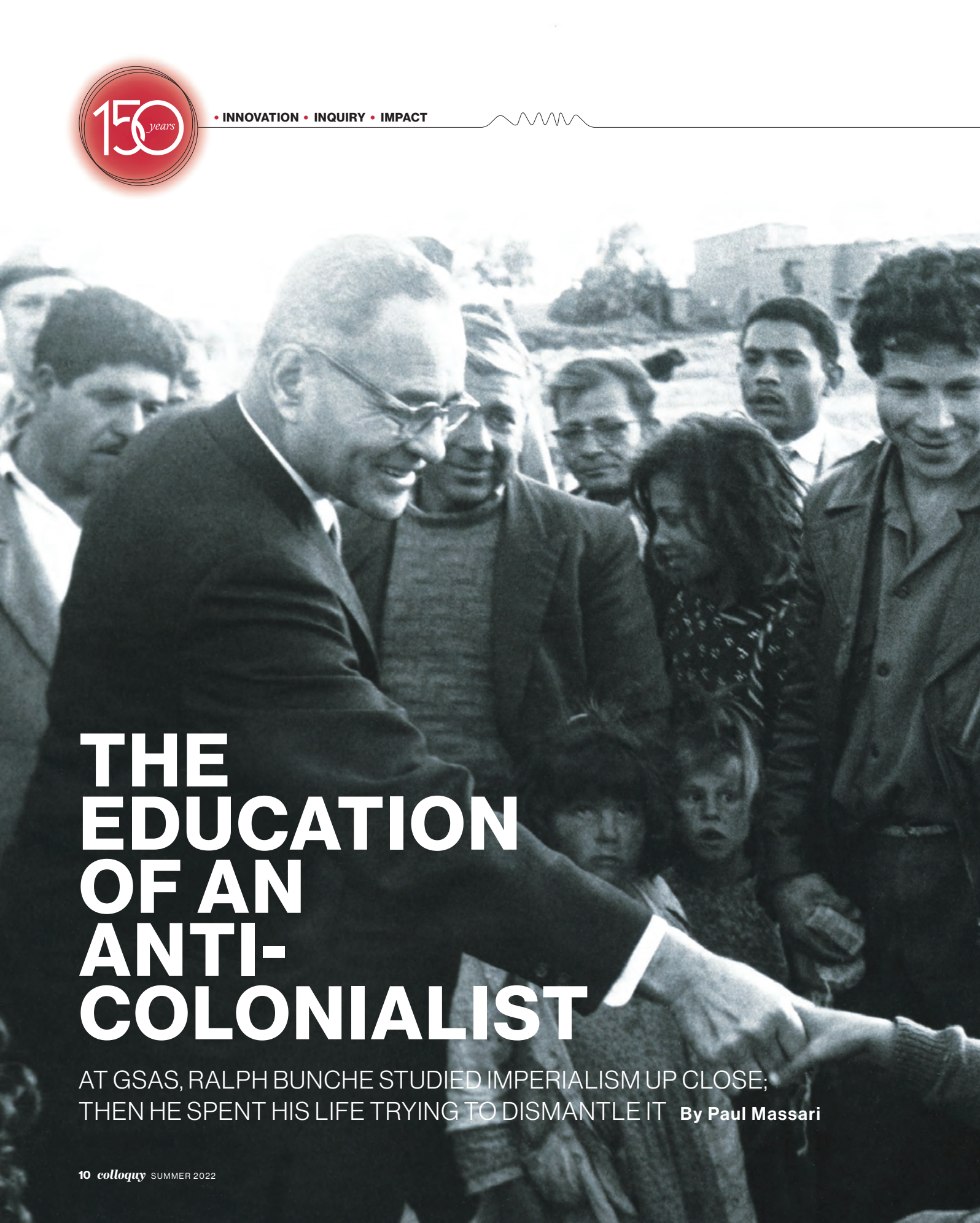


Since 1872, Harvard's Graduate School of Arts and Sciences has welcomed into its community those who question long-standing assumptions and ways of thinking and who devote themselves to the deliberate, exacting, and careful search for new knowledge. During this anniversary year, *Colloquy* will feature stories of some of the visionary scholars,

innovative educators, and creative leaders from the School's past, present, and future. All embody the spirit of inquiry, passion for innovation, and commitment to positive impact that have defined the School's mission since its founding and which will expand in ways we can only now imagine in the years to come.



• INNOVATION • INQUIRY • IMPACT

A black and white photograph showing a group of people. In the foreground, a man with glasses and a dark suit (Ralph Bunche) is shaking hands with a young child. Other people, including a woman and a man, are visible in the background, looking on. The scene appears to be outdoors, possibly at a school or community event.

THE EDUCATION OF AN ANTI- COLONIALIST

AT GSAS, RALPH BUNCHE STUDIED IMPERIALISM UP CLOSE;
THEN HE SPENT HIS LIFE TRYING TO DISMANTLE IT **By Paul Massari**



Scholar and diplomat, servant of the emerging world order, he has opened up new vistas in the demanding quest for international justice and peace.

— CITATION READ BY PRESIDENT LYNDON B. JOHNSON
PRESENTING THE MEDAL OF FREEDOM TO RALPH J. BUNCHE,
DECEMBER 6, 1963

S

SINCE ITS FOUNDING IN 1872, Harvard's Graduate School of Arts and Sciences (GSAS) has been an incubator for some of the great scholars, thinkers, and leaders of the last 150 years. The work of the School's alumni in an astonishing range of disciplines—from quantum physics to gender studies—has changed the way human beings think and live. It is hard to argue, though, that any GSAS graduate has had an impact on the lives of more people than Ralph Johnson Bunche, PhD '34.

“By tailoring the language in the 11th and 12th Chapters of the UN Charter, Bunche made it possible for the United Nations to recognize the peaceful self-determination of those being exploited by colonialism,” said then-Senator Joe Biden in 2003. Speaking in favor of a congressional resolution, “recognizing the importance of Ralph Bunche as one of the great leaders of the United States, the first African American Nobel Peace Prize winner, an accomplished scholar, a distinguished diplomat, and a tireless campaigner of civil rights for people throughout the world,” Biden called Bunche a “visionary man of peace,” as well as “one of the 20th century's foremost figures.”

The foundation for this remarkable career was laid at GSAS, where, as a PhD student in the 1930s, Bunche journeyed to Africa and saw firsthand the impact of colonialism on its subjects. “Powerful industrial nations have raped Africa under the false pretense of soldiering the white man's burden,” he wrote in *A World View of Race*, published soon after he finished his doctoral dissertation on French



colonialism in Africa. “The directive motive in this process is human greed.”

Bunche’s experience at Harvard led to a lifelong effort to dismantle the regimes under which over *half* of the world’s people lived during the first decades of the 20th century. The knowledge he created and the relationships he formed at GSAS enabled him to become an architect of the new international order that prevailed after World War II—one in which hundreds of millions of colonized peoples gained their independence. Long after he left Cambridge, Bunche’s doctoral work continued to shape his efforts to end imperialism, lift up new nations, and quell the conflicts that often arose at their birth.

A WORLD VIEW OF RACE

The orphaned child of a low-income Black family that relocated from Detroit to the West Coast, Bunche graduated top of his class at Los Angeles’s Thomas Jefferson High School and at the University of California. He won a fellowship for graduate study at Harvard and enrolled at GSAS in 1927, thanks largely to the efforts of the women in LA’s Iroquois Friday Morning Civic and Social Club, who raised money for his travel and living expenses.

Upon completion of his master’s degree in 1928, Bunche was awarded another fellowship and the opportunity to continue his work as a PhD candidate. He paused his studies, though, to join the faculty of Howard University, the top historically Black institution in the country, where he was invited to found and build a political science department. After only one year at Howard and in the stultifying segregation of Washington, D.C., however, Bunche went on leave and returned to GSAS to begin the research that would send him to Africa for the first time.

At the suggestion of Raymond Leslie Buell, an assistant professor and then tutor in Harvard’s government department, Bunche determined to study the administration of Dahomey, a French colony, and the territory of Togoland, which had transitioned from German to French control as part of the mandate system established by the League of Nations after the First World War. Under Article 22 of the League’s charter, mandates entrusted the “tutelage” of “peoples not yet able to stand by themselves under the strenuous conditions of the modern world...to advanced nations who by reason of their resources, their experience or their geographical position can best undertake this responsibility.”

“The mandate system is essentially a way to extend colonial rule indefinitely while making an argument about a ‘civilizing mission,’” says Christopher Dietrich, a professor

BY TAILORING THE LANGUAGE IN THE 11TH AND 12TH CHAPTERS OF THE UN CHARTER, BUNCHE MADE IT POSSIBLE FOR THE UNITED NATIONS TO RECOGNIZE THE PEACEFUL SELF-DETERMINATION OF THOSE BEING EXPLOITED BY COLONIALISM.” —JOE BIDEN, 2003



at Fordham University who studies diplomatic history. “It doesn’t state that independence is the ultimate goal. More importantly, there’s no way for the inhabitants of a colonized territory to petition the League of Nations directly. The only official reporting mechanism that exists comes from the imperial powers themselves.”

Buell was the author of the massive two-volume work *The Native Problem in Africa*, which became the standard for the study of colonialism for two decades. Bunche aimed to test Buell’s conclusions that the subjects of a mandate—which was supposed to be dedicated to the “well-being and development” of its people—were generally better off than those in a colony. He traveled to London and Paris to study colonial records and then to Geneva, where he connected with officials at the League of Nations. Bunche then journeyed to West Africa, where he conducted extensive field research.

He was deeply troubled by what he found.

“He calls the mandate system of the League of Nations ‘annexation thinly disguised,’” says Dietrich. “He finds forced labor, forced taxation of native labor, and not enough oversight of colonial practices. It’s a sterling example of exploitation.”

In the end, Bunche found little practical difference in the governance of a mandate and a colony. “To the Togolese,” he wrote, “the French in Togo are merely some more colonial administrators with a new and strange language and a knack for collecting taxes. In truth, this new status means little to them now and will continue so for many years.”

Bunche’s research won him the 1934 Toppan Prize at Harvard for the best dissertation in government—and made him the first Black American to earn a doctorate in that field. A meticulous study conducted with the prospect of an academic career in mind, the work on French colonialism in Africa would actually form the basis for a diplomatic career that shaped the fate of nations in the second half of the 20th century.

Bunche’s PhD research set him on a path that would eventually result in global change, inspiring and informing his work for peaceful national self-determination throughout

THE YOUTH AND THE MAN

On the steps of the family home with sister Grace; a star basketball player—as well as validictorian—at the University of California; with African diplomats in 1959; disembarking with his family in 1963; at the first session of the United Nations General Assembly in 1946

his career. “The first line in his dissertation, that ‘imperialism is a policy of conquest,’ never leaves his mind,” says Dietrich. Scholars and Bunche experts point to several specific instances when his time at GSAS had a more direct influence on events in his life—and in the world.

THE SCHOLAR AS DIPLOMAT

Bunche was recruited to work with the US Office of Strategic Services during World War II, eventually moving to the State Department. In 1945, he joined the US delegation on the project that would be the most far-reaching achievement of his extraordinary career: the drafting and negotiation of the charter for the United Nations (UN).

Going into the 1945 San Francisco Conference that would give birth to the UN, it was unclear whether there would be any mention at all in the charter of the right of the world’s colonized peoples to self-government. Dietrich says that Bunche’s doctoral work, which centered around his critique of the League of Nations mandate system and focused on the experience of subject peoples, was a driving force in his work on the UN charter.

“[Bunche’s] goal is to reform the mandate system,” Dietrich says. “The desire to understand the perspective of the subject peoples’ needs and wishes and to move towards independence, that’s the root of his work on the UN charter and the Trusteeship Council in the 1940s.”

On the train to the San Francisco conference, Bunche drafted what would become chapter 11 of the UN charter,



A LEADER AMONG LEADERS

Receiving the Medal of Freedom from President Johnson in 1963; chatting with close friend Eleanor Roosevelt at an awards dinner in 1949; with Henry Moon, Roy Wilkins, and Will Rogers, Jr. at the NAACP convention in 1949; on a postdoctoral trip to Congo in 1937; with Rev. Dr. Martin Luther King, Jr. and Coretta Scott King at the UN in 1964

Bernadotte in mediating the conflict between Jews and Arabs that had broken out in the British mandate of Palestine. Here again, the knowledge of the mandate system that Bunche accumulated during his doctoral work at GSAS made him indispensable to the negotiations.

The assignment nearly cost Bunche his life. It won him the Nobel Prize.

then slipped the text to the Australian delegation to circumvent the US delegation's reluctance to submit it. The final version was the "Declaration Regarding Non-Self-Governing Territories," which pledged colonial powers in principle to the development of self-government and free political institutions for the people in the territories they controlled.

Bunche wanted to go further. In the first session of the UN General Assembly in 1946, he worked successfully to pass a resolution that committed nations in principle to report back to the UN on the economic, social, and educational conditions in their colonies. James T.L. Dandridge II, vice chairman of the board of directors of the Diplomacy Center Foundation and president of DACOR Bacon Foundation, says that Bunche's work on the UN charter had a dramatic impact on colonized people around the world during the second half of the 20th century.

"Chapter 11 is where he had the opportunity to say, 'Okay, we're going to now come up with timelines on development,'" says Dandridge, a lifelong foreign service officer who met Bunche as a college student at Howard University. He says, "You're going to report back to the UN on where you are on developing an education system, where you are on developing a transportation system, where you are on developing all the systems people are going to need for self-governance. Thanks to Bunche's work, you have virtually out of nowhere a whole hemisphere of countries that go from colonies to independence over the ensuing decades."

In 1947, the UN's first secretary-general, Trygve Lie, tapped Bunche to assist the Swedish diplomat Count Folke

KILLING WORK

With Bernadotte, Bunche worked to draft a peace agreement between the new state of Israel, then at war with Palestinian Arabs as well as forces from the nations of Egypt, Lebanon, Transjordan, Syria, and Saudi Arabia. Perhaps the most controversial part of their proposal was to site the city of Jerusalem in the Arab sector of the recently partitioned territory that had been Palestine. Shortly thereafter, Bernadotte was assassinated by the Stern Gang, a Jewish paramilitary organization. Bunche, who was scheduled to join Bernadotte, had been targeted as well but was delayed getting into the city from Jerusalem's Kalandia Airport.

There was little time for him to contemplate his mortality. It was now Bunche's responsibility to mediate peace. He immersed himself in the negotiations and was available to speak day and night whenever new information or instructions were received. He spent countless hours drafting and redrafting new compromises. When formal negotiations ground to a halt, he sought more informal, human interactions with his counterparts, staying up late to play billiards and talk casually. The work was incremental, exhausting, and at times demoralizing.

"I talk, argue, coax and threaten these stubborn people day and night, in the effort to reach agreement," he wrote to his wife, Ruth. "I make a bit of progress here and another bit there, but it is so slow and so arduous. Sometimes I feel that I should just tell them to go home and forget about an armistice...This is killing work."



As the group got closer to an agreement, Bunche tried humor—and, perhaps, a bit of intimidation—to break the impasse.

“Bunche invited the Israelis to come to his bedroom late at night,” Dandridge says. “Then he invited the Egyptians. He opened a drawer and showed them some ceremonial plates that he had made. Then he said, ‘I got these lovely plates so that when we finish and sign a peace agreement, I’m going to give one to each of you as a souvenir. And if we don’t come to an agreement, I’m going to break the plates across your heads!’ Everyone laughed and there was direct communication between the Israelis and the Egyptians. Soon after, they signed the peace agreement.”

The first African American to be awarded the Nobel Peace Prize nearly turned it down. When notified of the award in December 1950, Bunche initially wrote a letter to decline, stating that “peacemaking at the UN was not done for prizes.” He relented, though, at the urging of Lie, who told him that the recognition would be good for the still young international institution.

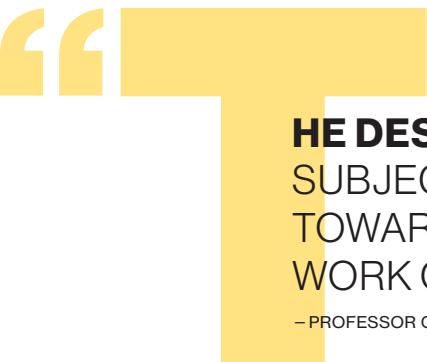
Despite offers to join the administrations of presidents Truman and Kennedy—and an offer to join the Harvard

faculty—Bunche continued to work at the UN throughout the 1950s and 1960s. His legacy includes other landmark successes, such as his role in the establishment of UN peace-keeping operations. It also includes some failures, such as his inability to mitigate the bloody crisis of Congolese independence. Until his death in 1971, Bunche continued to work for peace and the liberation of the people of color historically subjected to colonial rule.

In 2003, Lawrence Finkelstein, who served with Bunche as a member of the US Delegation to the San Francisco Conference on the UN Charter, remembered his old friend:

The world today sorely needs Ralph Bunche’s gifts, his worldview, his passion honed by tact, his intelligence informed by experience, his prestige at home and abroad, and his devotion to his favorite Scriptural passage: “They shall beat their swords into ploughshares, and their spears into pruning hooks; nation shall not lift up sword against nation, neither shall they learn war any more.”

Nearly two decades later, Finkelstein’s words—and the contributions of one of GSAS’s most remarkable graduates—resonate more strongly than ever. 🌹 -Paul Massari



HE DESIRE TO UNDERSTAND THE PERSPECTIVE OF THE SUBJECT PEOPLES’ NEEDS AND WISHES AND TO MOVE TOWARDS INDEPENDENCE, THAT’S THE ROOT OF [BUNCHE’S] WORK ON THE UN CHARTER...IN THE 1940s.”

— PROFESSOR CHRISTOPHER DIETRICH, FORDHAM UNIVERSITY



MOVING UP

RAJ CHETTY WANTS TO PUT THE 'MOBILITY' BACK IN 'SOCIAL MOBILITY'

By Paul Massari | Illustration By John Jay Cabuay

RAJ CHETTY MOVED TO OPPORTUNITY. When he was nine years old, his family migrated from India to the United States, where their educational and career prospects improved dramatically. His mother became one of the first women in his South Indian community to become a physician. His father became a different sort of doctor, earning his PhD from the University of Wisconsin-Madison and embarking on a career as an econometrician and statistician. His two sisters grew up to become professors at Emory University in Atlanta.

Chetty himself earned his PhD from GSAS in 2003 and is now the William A. Ackman Professor of Economics at Harvard, where he focuses on economic inequality and social mobility. He says that his passion for the study of these areas stems from the contrast he saw while still a child in the fate of his family and that of his relatives back in India.

“It was very clear that my parents’ brothers and sisters didn’t have access to the kinds of opportunities my family did,” Chetty says. “One of them works in Singapore to help support his family in India and can’t be with his kids as they’re growing up. Another one had a very difficult manual labor job in New York City for many years and faced all the challenges that come with that type of work. It seemed to be largely through luck or choices their parents happened to make or even just where they grew up. And so I began to become quite interested in studying how you could expand opportunity more broadly.”

Today, Raj Chetty is at the forefront of a new generation of social scientists

transforming the way we understand—and address—the problem of social immobility. After decades of analyzing massive data sets, Chetty says that the communities in which children grow up—the education they get, the social capital they inherit, and the relationships they form—have an enormous influence on whether or not they ascend the socioeconomic ladder during the rest of their lives. Neighborhoods matter, Chetty asserts, and in the years to come he hopes to make it possible for more families to change the trajectory of their children’s lives.

GROWTH IS NOT A GUARANTEE

This is not your grandfather’s economy, particularly when it comes to socioeconomic mobility. According to Opportunity Insights, the Harvard nonprofit research and policy institute co-founded by Chetty, a child born in 1940 had about a 90 percent chance of earning more than their parents by age 35; only about 50 percent



of children born in the early 1980s have surpassed their parents' earnings.

In their search for the roots of social mobility, Chetty and his colleagues at Opportunity Insights analyzed US Census data on all children born in the United States in the early 1980s. The result of this work was the Opportunity Atlas, an interactive tool that enables the user to “trace the roots of today’s affluence and poverty back to the neighbor-

hoods where people grew up.” In a 2020 research summary, “The Opportunity Atlas: Mapping the Childhood Roots of Social Mobility,” Chetty and co-authors John Friedman, Nathaniel Hendren, Maggie Jones, and Sonya Porter reported that “on average, moving within one’s metro area from a below-average to above-average neighborhood in terms of upward mobility would increase the lifetime earnings of a child growing up in

a low-income family by \$200,000.”

Danny Yagan, PhD '12, associate professor of economics at the University of California, Berkeley, says that Chetty’s research has reshaped the way that scholars understand mobility and inequality.

“Before Raj’s work, we didn’t know how social mobility had changed over time,” he says. “We didn’t know how upward mobility varies by race and ethnicity.

Now we have systemic evidence on what correlates with upward mobility. The vast majority of Americans used to grow up to earn more than their parents; now it's a coin flip, mostly because economic growth has become skewed toward top earners."

Classical and neoclassical economists would say the solution to the problem of social immobility is to unleash the power of the free market. Keep taxes low. Get the government out of the business of picking winners and losers in the economy, and economic growth will improve everyone's standard of living.

Chetty says that although markets allocate resources well and encourage innovation—for example, the astonishingly rapid development of a vaccine in the fight against COVID-19—economic growth alone is not a guarantee of social mobility. He points to the different outcomes for residents of two great American cities: Atlanta and Minneapolis. From 1990 to 2010, Atlanta had a higher rate of job growth than all but a handful of large metropolitan areas in the United

States. Chetty and his colleagues analyzed census and tax data, however, and found that children who grew up in low- and middle-income families in Atlanta had low levels of income as adults. In fact, the city has one of the lowest rates of upward mobility in the country. Minneapolis, on the other hand, had relatively low job growth during the same period of time but some of the highest levels of income for adults who grew up there.

So what happened? How could an economy that produced so many jobs be a hub of social immobility? And how could an economy that produced relatively few be a bastion of opportunity for the people who live there? The answer, according to Chetty, is that cities like Atlanta import talent while cities like Minneapolis cultivate it.

"You might think, 'We've just got to bring more good jobs to the city,'" he explains. "'We've got to get the Amazon headquarters to our city and then things are going to be great.' But in a capitalistic economy, everybody wants to hire the best talent they can. And if your institutions are

not giving people the talent and the skills they need to get those jobs, a new company headquartered in Atlanta will simply hire people who grew up in other places. On the other hand, people who grow up in places with excellent schools and strong communities can prosper even if there's unremarkable job growth. That's why I think there's not that much of a link between job growth and economic mobility."

If growth alone doesn't guarantee mobility, then what else could help move people up the ladder? Chetty says that place-based investments are critical to increasing opportunity in areas where it is currently low. Programs from education and job training to housing and health can have tremendous impacts on people's long-run outcomes, and concerted investment at the community level is necessary for addressing the consequences of decades of disinvestment and other harmful policies. In addition, he says that it's also important to consider the role of residential segregation and explore how we can help more low-income families access better neighborhoods today, if they wish to do so.

MOVING TO OPPORTUNITY

Around two million families take part each year in the federal government's \$20 billion housing voucher program, the goal of which is to provide access to better housing and better neighborhoods to break the cycle of poverty. But after Chetty's team created the Opportunity Atlas, they discovered a puzzling pattern.

"We laid the data on where families who received vouchers were living over the Opportunity Atlas data on where kids did well," Chetty says. "Despite getting that assistance, these families were still living in low opportunity neighborhoods where we saw through our historical analysis that kids were not likely to break out of poverty in the next generation."

There are lots of good reasons why a family might not want to leave their



Amina Rose (L) and her mother Monica (R) moved to a new neighborhood as part of the Creating Moves to Opportunity program run by Chetty's team and the Seattle Housing Authority.



WHEN WE PROVIDED ADDITIONAL SUPPORT TO FAMILIES—POINTED OUT TO THEM WHERE THE HIGH OPPORTUNITY NEIGHBORHOODS WERE IN SEATTLE AND GAVE THEM ASSISTANCE TO TRANSITION TO THESE PLACES—IT DRAMATICALLY SHIFTED WHERE THEY CHOSE TO MOVE.”

community, even if it discourages social mobility—friends and relatives, for a start. But what if families *did* want to move but encountered barriers that discouraged them from doing so? What if they don't have time to find a new apartment in an unfamiliar neighborhood? What if they're confused and frustrated by the paperwork and process of connecting with a landlord that accepts housing vouchers? What if they just don't have the money to move?

Chetty's group wanted to see what would happen if some of the barriers to relocation were removed, so they partnered in 2018 with the Seattle and King County housing authorities to pilot a randomized intervention: Creating Moves to Opportunity (CMTO). Andria Lazaga, director of policy and strategic initiatives for the Seattle Housing Authority, says that in the lead up to CMTO, her organization was unsure of how best to use its limited resources to enable families with vouchers to access neighborhoods they had traditionally been locked out of.

“Our efforts have largely been focused on improving the neighborhoods where families already live,” she says. “When Raj and his partners released their findings on the positive impacts for kids in families with low incomes of growing up in certain areas, we were excited to have guidance on where to focus. But we still didn't know how best to break down barriers and support access to these neighborhoods or the extent to which families want to live there.”

During the pilot program, a thousand families came to the housing authority to apply for vouchers through the normal process. Half of them, however, got additional support including assistance with the housing search, connections to landlords, and a small amount of short-term financial assistance. “Think of it as removing some of the frictions that might make it hard to move to a higher opportunity place,” says Chetty. “We ended up finding that, when we provided additional support to families—pointed out to them where the high opportunity neighborhoods were in Seattle and gave them assistance to transition to these places—it dramatically shifted where they chose to move.”

In the control group, which didn't receive the additional assistance, only 15 percent of families moved to high opportunity areas. In the treatment group, however, the number jumped to 55 percent. “More than half ended up moving to places where we estimate as a result they will go on to earn about \$200,000 more over their lifetimes,” says Chetty.

Lazaga says more than half the families who participated in CMTO indicate that they are happier since they moved. “We weren't surprised to hear this since the navigators working with families centered their approach from a belief that they know what's best for them; it's the systems that get in their way,” she says.

Dr. Stefanie DeLuca, a sociologist at Johns Hopkins University, did ear-

ly qualitative research with families to understand how CMTO worked. The data she gathered suggested that the reason the program was so successful in helping families move was not primarily the financial incentives or information about opportunity areas—it was the emotional support and communication strategies employed so effectively by program staff.

“They made families feel heard and included in the process of their moves,” DeLuca says. “They helped families feel optimistic and believe that they could succeed in moving to neighborhoods where they wanted to live and that were beneficial for their children's futures.”

As a result of the Seattle pilot, the US Department of Housing and Urban Development has now allocated \$70 million to replicate CMTO in nine other cities across the United States. The results of the program are so promising that, at a time of open hostility between Democrats and Republicans, Chetty says a bill to expand the housing voucher program by an additional \$5 billion per year to provide the kind of support offered by CMTO has garnered bipartisan support.

“If I come along and tell you that you can take \$20 billion,” he says, “and, by providing a little bit of additional support, you can make those dollars far more effective in achieving the goals of breaking the cycle of poverty, Republican or Democrat, that sounds like a good idea.” ♦♦

-Paul Massari



• INNOVATION • INQUIRY • IMPACT



PHYSICIST,

WITH LASERS AND STEM CELLS, NABIHA SAKLAYEN HOPES TO TRANSFORM MEDICINE **By Deni Ellis Béchar** | Photographs By John Soares



HEAL

THYSELF



WHEN SHE WAS SIX YEARS OLD AND LIVING IN

Bonn, Germany, a school assignment about planets ignited Saudi Arabian-born Nabiha Saklayen's fascination with science. She wanted to learn more about astronomy, and her mother, Ferdousi Banu, an elementary school teacher, brought home "beautiful, very illustrative books," Saklayen recalls. "That was my early introduction to physics, chemistry, and biology," she says. "It was fascinating to me that there were so many scientific languages with which to view the world." Over the years that followed, she came to love how physics in particular could be a "universal lens" through which other sciences might be understood. "Being trained in physics and math can be a powerful way to enter different realms of science."

Today, Saklayen's passion for using physics to explore other fields has brought her to a cross-disciplinary frontier. The 2017 GSAS PhD is the CEO and co-founder of Cellino, a Cambridge startup using laser physics, optical imaging, machine learning, robotics, and biology to develop a type of medicine that transforms the body's own skin and blood cells into stem cells and then many other types of tissues that can be used for healing and repair. "Regenerative medicine," she says, "will soon become a very important pillar in medicine overall."

So far, no stem cell therapy has received the Food and Drug Administration's approval. Two challenges bar the way: safety and scalability. To solve both, Cellino has created a robot laboratory to automate cell production and ensure quality, harnessing physics and other disciplines to make stem cell manufacturing safe, efficient, and affordable so millions of people can seek treatments that might, for the first time, reverse degenerative conditions.

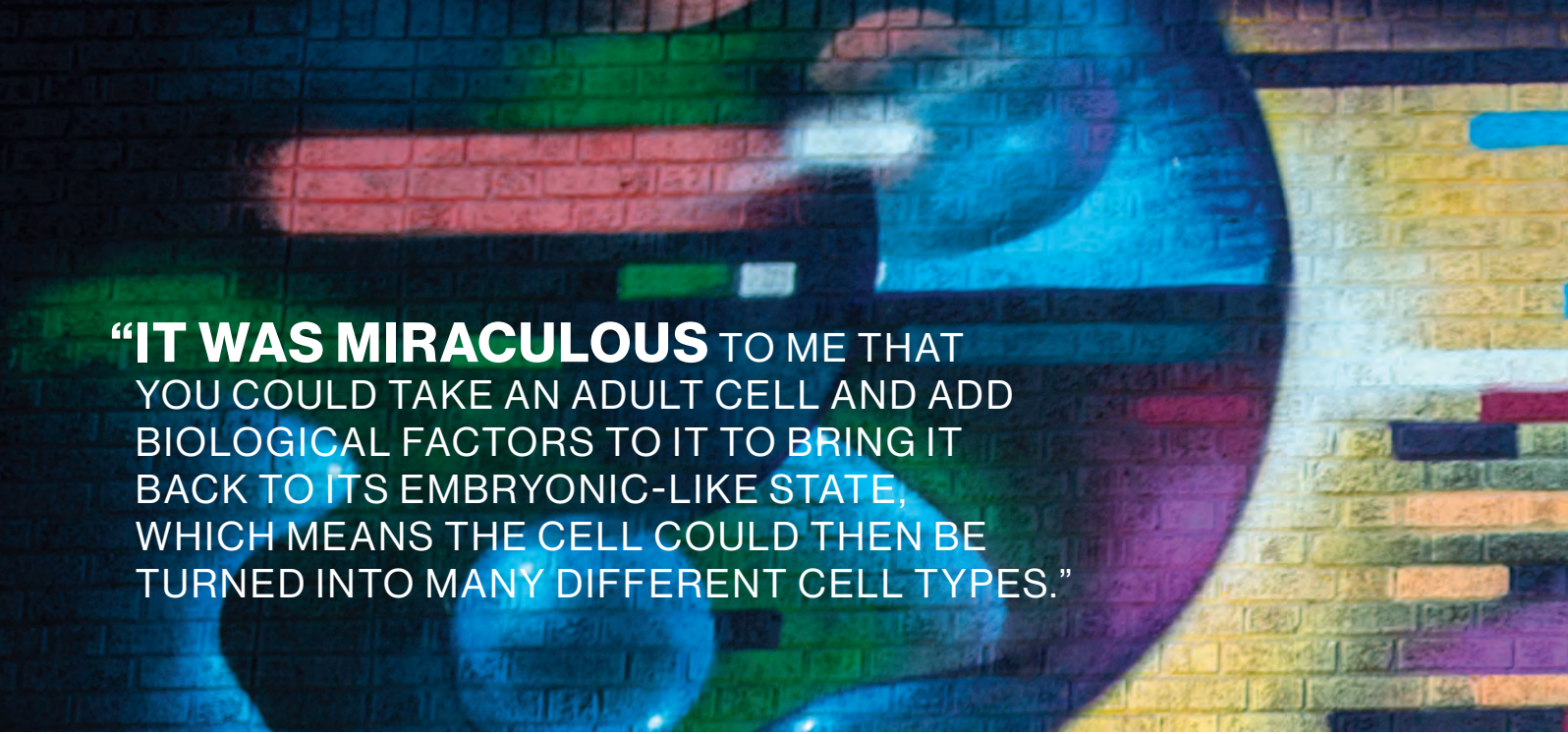
DRIVE AND COMMITMENT

In 1989, when Saklayen was born in Riyadh, Saudi Arabia, her mother carefully chose her name. In Arabic, Nabiha means "eminent" or "intelligent." Over the years, Saklayen's dedication to her studies proved worthy of her name. Attending high school in Sri Lanka, she explored her interests—theater, creative writing, Model United Nations, and the Bengali music her mother taught her to play—even as she strove to master physics. "I love a good challenge, and physics was harder than math or chemistry or biology," she says. Her love of challenges, she believes, comes from her mother. "Growing up, I saw her rising to challenges all the time," she recalls. Born in a small town in northern Bangladesh, her mother was the first woman in her family to convince her parents to let her attend university—a decision to take risks that, Saklayen says, "directly translates into my journey and my opportunities."

During Saklayen's time in Sri Lanka, the 2004 Indian Ocean earthquake and tsunami struck, killing more than 35,000 nationally and 220,000 people worldwide. (In a twist of fate, Saklayen's family canceled a beach trip because she was sick.) As deprivations and frustrations mounted, Sri Lanka's civil war reignited after years of ceasefire. "There were a lot of suicide bombings happening in the part of the city where I was living and going to school and where my parents were working," she says. "It was a tough time to be a teenager. In the back of your mind, you're always wondering, 'Am I in danger? Could something happen?'" At the dinner table, her family talked about making the most of every day. "My drive and commitment to my work and my education really crystallized while I was in high school," she says.

During Saklayen's senior year, she received a full scholarship to Emory University, where she majored in physics and minored in mathematics. She was drawn to biophysics, however, after losing her beloved grandmother to diabetes. "That was the first time I truly appreciated that medicine does not have all the answers yet," she says. Saklayen made biophysics her focus when she enrolled at GSAS in 2012 so that she could help create tools that would support biologists and lead to new applications in medicine and cell engineering.

At Harvard, Saklayen developed laser-based methods to deliver cargo—such as molecules that edit genes—into cells. Cells are complex and sensitive, and penetrating them with foreign material often kills them if not done delicately. Using lasers, Saklayen made tiny bubbles to create temporary pores in their membranes, allowing cargo to enter. "At some point in the middle of my PhD," Saklayen says, "my technology was taking shape, and I got very excited and started emailing biologists all across campus." The multidisciplinary environment of Harvard's GSAS, with dozens of graduate programs, was ripe for collaboration. "Everyone had a shared vision around working



“IT WAS MIRACULOUS TO ME THAT YOU COULD TAKE AN ADULT CELL AND ADD BIOLOGICAL FACTORS TO IT TO BRING IT BACK TO ITS EMBRYONIC-LIKE STATE, WHICH MEANS THE CELL COULD THEN BE TURNED INTO MANY DIFFERENT CELL TYPES.”

together to develop new technology to change science in a meaningful way,” she says. “That vibrant environment played a huge role in pushing me down this entrepreneurial path. I only had to walk across the street to talk to some of the best biologists in the world.”

Saklayen began envisioning new applications for her lasers after meeting Laurence Daheron, the head of the iPS Core Facility at the Harvard Stem Cell Institute. Daheron said that technologies were needed to engineer induced pluripotent stem cells (iPSCs), those from which all other cells grow. “I started to read the literature about induced pluripotent stem cells,” Saklayen says, “and I was blown away.” She was becoming aware of a revolution in biology set into motion in 2006 by Shinya Yamanaka’s lab in Kyoto, Japan. It showed that cells—when treated with four molecules naturally produced by the body—could be converted into pluripotent stem cells. “It was miraculous to me that you could take an adult cell and add biological factors to it to bring it back to its embryonic-like state, which means the cell could then be turned into many different cell types, such as neurons, retinal cells, heart cells,” Saklayen says.

Soon, Saklayen was collaborating with renowned biologists Derrick Rossi, assistant professor in the Stem Cell and Regenerative Biology Department at Harvard Medical School; David Scadden, the Gerald and Darlene Jordan Professor of Medicine; and George Church, the Robert Winthrop Professor of Genetics, who is now a scientific advisor for Cellino. Church recalls being impressed by Saklayen’s work. “She had a terrific vision of cells as the key therapeutic of the near future, the major challenges in cell therapy, and how to fix them,” he says. Once Saklayen had successfully tested her lasers on a range of cell types, including stem cells, she began contemplating a startup. Cellino was launched in 2017 after brainstorming sessions with her two co-founders: Matthias Wagner, a Harvard College graduate and serial entrepreneur specializing in optical technology, and Marinna Madrid, PhD ’18, her lab mate at Harvard.

“Meeting Marinna in graduate school was a pivotal moment in my life and my journey,” Saklayen says. “In college, I was usually the only girl in most of my physics classes. Then I got to graduate school, and it was really powerful to have a lab mate like Marinna. We were both

women of color doing physics, and we worked so well together.”

As Cellino has grown, Madrid has seen the impact of having a company led by women of color. “Other folks from underrepresented minority groups feel more comfortable joining,” she says.

Cellino’s mission, however, didn’t come into focus until 2018, when Saklayen met with Bastiano Sanna, the then CEO at Semma Therapeutics and now head of cell and gene therapy at Vertex. “I was showing him this beautiful data of delivering cargo into cells,” she recalls, “and he said, ‘This is great. This is very interesting, but we’re really struggling—and we, as an industry, are struggling—to remove unwanted cells in cell cultures. Can your technology do that?’” The problem, which struck Saklayen as easy, led her to a realization: “Building a company is not about my interests. It’s about what partners need, what the industry needs, what customers need.”

FROM ARTISANAL TO AUTOMATED

That seemingly simple task—removing unwanted cells—was in fact a Herculean undertaking so crucial to medicine that



**“IT’S NOT JUST THAT WE’RE WOMEN
AND PEOPLE OF COLOR...WE’RE PHYSICISTS TRYING TO
BREAK INTO REGENERATIVE MEDICINE.”** – MARINNA MADRID, PHD ’18, HARVARD GSAS

LASER FOCUS

Saklayen says that Cellino’s technology could help revolutionize treatments for Parkinson’s Disease, diabetes, and degenerative diseases.

it became Cellino’s focus. Its importance lies in the risks and difficulties inherent in iPSCs. After cells are treated with biological factors, not all successfully convert, and scientists must remove those that don’t. “The primary way has been with a highly trained scientist sitting at a bench, looking at iPSCs under a microscope and using a pipette tip to scrape away unwanted cells by hand once a day, several times a day, for weeks, up to three or four months,” Saklayen says. “So, it’s very artisanal.” The job is not only taxing and expensive due to the time required but also demands extensive training. “Very few scientists know how to make iPSCs at very high quality.”

After the initial conversion, iPSCs are again converted either into retinal cells

for age-related blindness or pancreatic cells to treat diabetes. Care is again taken to ensure that they are the right type, have no defects, and that no iPSCs remain since they carry the risk of becoming cancerous if put in the body. For early medical trials, patient-specific cells are required for 5 to 20 patients and can be handmade by a few scientists. “But as your clinical trials progress, you have to dose hundreds of patients,” Saklayen says. “Then, once the therapy is approved, you could get into thousands per year. There aren’t enough scientists who can make hundreds and thousands of batches of patient-specific cells by hand.”

To culture iPSCs safely and efficiently, Cellino’s team—comprised of 35 experts and counting—has combined knowl-



edge from several disciplines to create a mechanized lab. “Our approach is to take this artisanal manual process and automate the various pieces,” Saklayen says. In their current prototype, one robot injects cells into custom well plates that another moves through the various stations before the plate is inserted into a machine that scans the cells and uses a laser to kill those that are unwanted.

A major focus at Cellino has been developing machine learning algorithms to identify which cells have successfully converted. “Our laser systems have single-cell precision, so you could, if you wanted to, remove individual cells or entire colonies,” Saklayen says. Cellino is developing a closed cassette approach, which is a significant innovation since, in

the artisanal production of iPSCs, cells must be converted in high-grade clean rooms to prevent cross-contamination each time scientists work on iPSCs from a different patient. Cellino, however, will be doing imaging and laser removal of cells inside the cassettes. “If successful, Cellino technology will allow simultaneous manufacturing of multiple patient samples, hence reducing manufacturing cost and increasing the speed of running iPSC therapy trials,” says Kapil Bharti, a senior investigator at the Ocular and Stem Cell Translational Research Section at the National Institutes of Health.

Saklayen’s team aims to have the automated closed-cassette system ready for market by 2025. With the goal of starting its FDA interactions next year, Cellino

hopes to participate in trials with Bharti and others at the NIH in the future. “The patient populations we’re looking at for our first two products—age-related macular degeneration and Parkinson’s—they’re massive,” Madrid says. In the United States alone, 11 million people have age-related macular degeneration and 1 million have Parkinson’s. For age-related macular degeneration, which causes blindness, Cellino will create retinal cells, and for Parkinson’s, it will make dopamine-producing neurons. Small early trials have already shown promise for therapies treating these diseases as well as diabetes and epidermolysis bullosa, a rare inherited condition causing fragile skin. But numerous degenerative diseases—involving every organ—might also be treated. “For us, as an industry, we’re dreaming about cures,” Saklayen says.

Today, even as Cellino expands, it is an outlier. “I don’t see other biotech companies in Boston led by two women of color, and I think that’s really special and powerful and indicative of the future, which is going to be very exciting as people from different walks of life, with different perspectives, enter biotech to create paradigm shifts that will hugely benefit patients,” Saklayen says. “And it’s not just that we’re women and people of color,” Madrid points out, “but we’re physicists trying to break into regenerative medicine.” As outliers in the world of biology, Saklayen, Madrid, and Cellino itself are in many ways the products of the GSAS’s multidisciplinary melting pot.

When Saklayen looks back on her journey, she sees that physics has in many ways served her well as a universal lens, allowing her to explore across disciplines, finding novel solutions to create new therapies.

“Over the next 10 years, we’re going to see many of these therapies hit the finish line. This is a phenomenal time,” she says. “It’s going to change the world.” 🍷

-Deni Ellis Béchard

Illustrious, Innovative, and Unique

2022 CENTENNIAL MEDALISTS STAND OUT FOR BREADTH, DEPTH OF IMPACT

BY ELIZABETH GEHRMAN | ILLUSTRATIONS BY MATT COOKE



Since its founding in 1872, the Graduate School of Arts and Sciences (GSAS) has been an incubator for some of the great scholars, scientists, and leaders of the past 150 years. This year, as they have since 1989, the GSAS Centennial Medals recognize four of these remarkable graduates and the impact they have had on their fields—and the wider world.

“When the Committee regarded the many candidates for this year’s Centennial Medals, we were again astonished at their remarkable success in so many fields,” says David Staines, a professor of English at the University of Ottawa and chair of the Graduate School Alumni Association Council’s Medals Committee. “We finally selected four distinguished recipients with outstanding records of illustrious, innovative, and unique achievements.”

This year’s winners include a scholar of American culture in its many forms, a human rights advocate, a biotech pioneer, and a mathematician and free-speech advocate. “As we look to the School’s 150th anniversary this fall, the Centennial Medalists embody the spirit of innovation, passion for inquiry, and commitment to positive impact that will be the themes of our year-long celebration,” says Dean Emma Dench. “These remarkable graduates exemplify the visionary scholars, innovative educators, and creative leaders that flourish at GSAS and go on to shape the future. Congratulations to all of this year’s medalists!”



“
**I FOUND IT VERY
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AROUND SMART
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NOT THE SAME
AS MINE.** – NEIL HARRIS

”

Neil Harris, PhD '65

A JACK OF ALL TRADES must be master of none, goes the old saying. In the case of Neil Harris, however, the maxim couldn't be further from the truth. “Neil is so incredibly well-read across so many areas,” says Martha Tedeschi, the Elizabeth and John Moors Cabot Director of the Harvard Art Museums. “He was interdisciplinary before it was trendy to be so.”

Harris, the Preston and Sterling Morton Professor Emeritus of History and Art History at the

University of Chicago, has contributed to scholarship in areas as diverse as apartment buildings, transportation in children's picture books, the art of P.T. Barnum, French illustrators of World War I, the development of museums in the United States, and the Jazz Age magazine *The Chicagoan*. “He's interrogated aspects of American culture that, when he started, fell outside of a strict academic discipline,” continues Tedeschi, who has known Harris, a friend

of her father's, since she was a child. "His work allowed many of us in the fields of history and art history to think more broadly about our purviews."

It was at Harvard that Harris began discovering his diverse interests. "First, I was educated by my fellow students," he says. "I found it very stimulating to be around smart people whose interests were not the same as mine. Second, my little carrel in Widener Library gave me free access to the stacks, so I could make discoveries. Having the ability to roam the stacks was exhilarating. I approached it as a kind of adventure."

Harris's life since completing his PhD in history has also been an adventure. "I like to do one thing

and then move on to another," he says. "What unites my various areas of interest, though—aside from curiosity—is that they're all aspects of American cultural history."

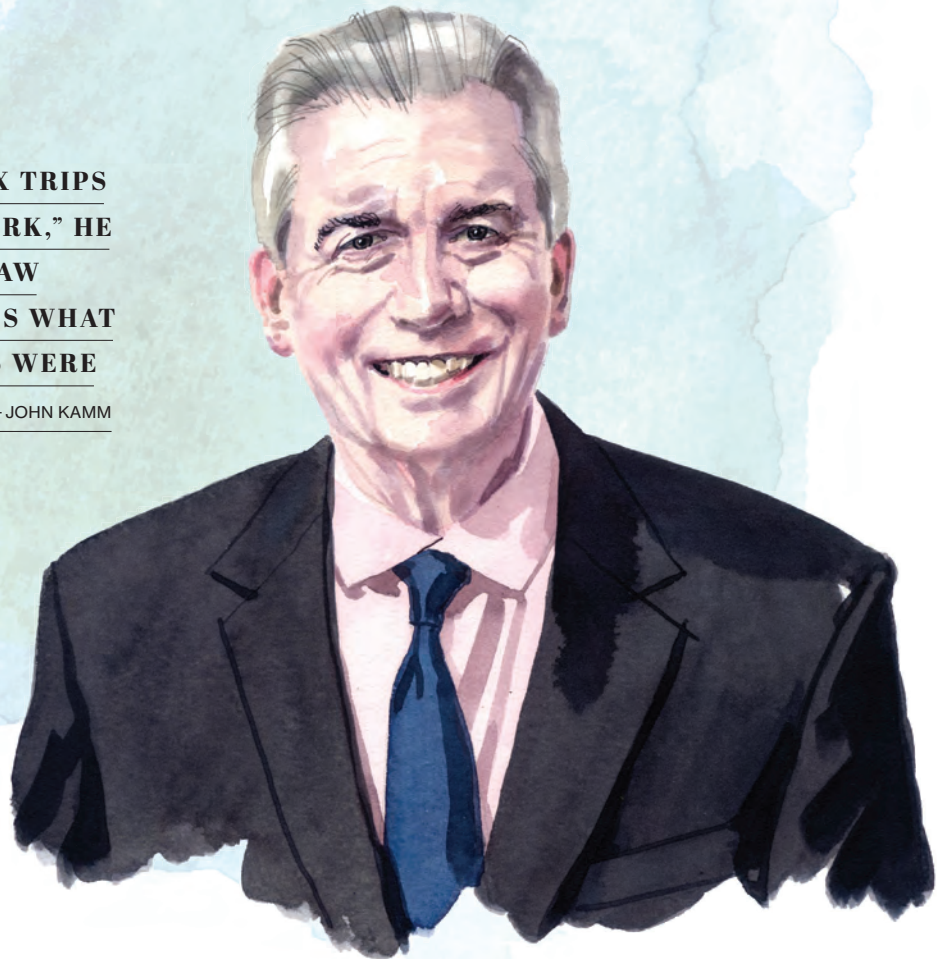
"He was chair of the history department twice at the University of Chicago," says Tedeschi, "so it's not like he was working at the fringes. Yet he found a way to make serious inquiries into things most of us were still assuming were just part of vernacular life."

It's not just his contributions to scholarship that have had an impact though. "What impressed me about Neil was how much time and care he took nurturing undergraduates," says Thomas Cummins, who taught at the University of Chicago for more

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**IN 1976, I MADE SIX TRIPS
UP NORTH FOR WORK,” HE
RECALLS, “AND I SAW
WITH MY OWN EYES WHAT
CHINESE CITIZENS WERE
GOING THROUGH. — JOHN KAMM**

”



than a decade and is now the Dumbarton Oaks Professor of Pre-Columbian and Colonial Art at Harvard's Department of the History of Art and Architecture. "Of course, his writings are a true legacy, but just as important, he instilled in many students what it means to love history, to write history clearly, and to do it with integrity and intellectual justice."

Harris admits he hadn't heard of the Centennial Medals until being notified he had won. "But when I saw the list of people who have received it, I felt very gratified," he says. "It suggests that other people find what you did interesting and worthwhile."

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MANY STUDENTS WHAT IT MEANS
TO LOVE HISTORY, TO WRITE
HISTORY CLEARLY, AND TO DO IT
WITH INTEGRITY AND INTEL-
LECTUAL JUSTICE.** – THOMAS CUMMINS

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John Kamm, AM '75

JOHN KAMM'S LIFE – and the lives of the many people his work has touched—might have been very different if not for one sabbatical. Having studied Mandarin as an undergraduate at Princeton, he took a job teaching English at a small school in Macau, later doing fieldwork and teaching in Hong Kong's New Territories. "While there I got interested in Cantonese opera," says Kamm, now founder and chairman of the Dui Hua Foundation, which seeks clemency and better treatment for at-risk detainees in China, including religious and political prisoners, women, and juveniles. "The preeminent scholar of Chinese opera was at Harvard, so that's where I wanted to go for graduate school. But when I got to Harvard she had taken off, so I started studying Chinese economics and law instead."

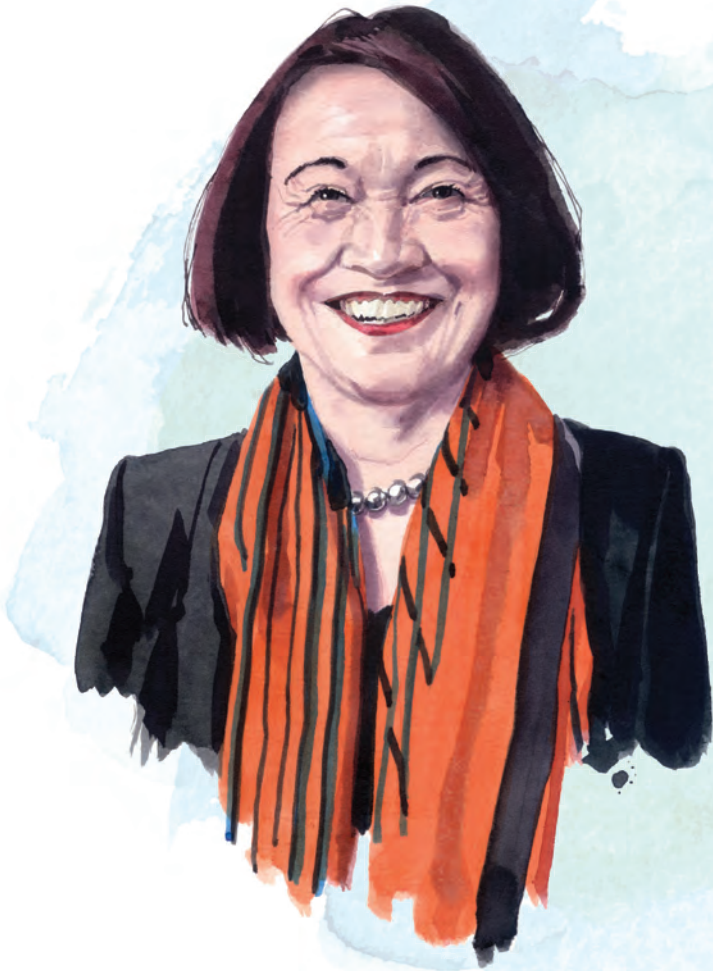
When Kamm returned to Hong Kong in 1975, newly armed with a master's in regional studies—East Asia, he was in the "right place, right time," he says, "to take advantage of China's budding economic opening."

He married and started working for the US-China Business Council and as a writer and editor at an English-language magazine that covered business in China. He became increasingly aware of the isolation of mainland China and the repression

of its people. "In 1976, I made six trips up north for work," he recalls, "and I saw with my own eyes what Chinese citizens were going through." He continued to learn about human rights abuses as a businessman with the Occidental Chemical Company beginning in 1981, but it wasn't until the "shattering" Tiananmen Square protests of 1989 that he made up his mind to take action.

Less than a year after the protests, Kamm intervened very publicly on behalf of Yao Yongzhan, a student leader, and though his pressing the matter was initially met with shock and horror on the part of the party official he approached, Yao was quickly released after only a year in prison. Over the next decade, Kamm worked to free several hundred others, and in many cases succeeded. In 1990, he founded Dui Hua.

"Dui Hua means 'dialogue,'" says Xiaofei Tian, an associate professor of Chinese literature who has always admired Kamm's work. "It's not enough to simply finger-point about upholding international standards," she says. "If you want to effect change, it's important to respectfully talk to mainland China's government and legal system. So it's a very wise, pragmatic approach. I think that's why he's so successful."



Vicki Sato, PhD '72

VICKI SATO grew up in Chicago's inner city, with parents whose dreams of college were cut short by World War II. "I had never even heard of the Seven Sisters," she says. "My hope was to go to Northwestern." She was in honors classes, though, so when an older student at her school got into Radcliffe, she decided to give it a shot. "It was almost a lark," she says, but her acceptance ultimately led to a groundbreaking career in a field that didn't even exist when she sent in that application form.

After obtaining her undergraduate degree in biology, Sato went on to graduate school in the same field at Harvard. "My intent was to go to med school," she says, "but junior or senior year, I started working in a research lab, and I liked it and decided I just didn't want the structure of a medical education. So at the last minute I took the GREs instead."

In those days, if you had an advanced degree in biology your career path was clear: research and teaching. "I worked hard at that plan for a long time," Sato says. "I pursued the academic track for over a decade, but what changed for me and changed the field was the advent of recombinant DNA technology. It created a whole new way to practice biology, reshaping the

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**I STOPPED SEEING MYSELF
AS JUST A SCIENTIST AND
BEGAN SEEING MYSELF AS
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MANAGER TOO.** – VICKI SATO

”

career opportunities for scientists like me and giving birth to a whole new industry we take for granted now.”

The intersection of biology and business didn't really exist back then, but a few visionaries—including one of Sato's mentors at Harvard—were beginning to change that. Nobel laureate Walter Gilbert, AM '54, then a professor of molecular biology and a co-founder of Biogen, was especially influential to Sato's career. "At the time it was very frowned upon by serious academics to go into industry," she says. "But I saw Wally having a blast and thought I should go check it out. I loved the diversity of topics one could encounter in companies like that. It was like a playground of science."

Because Biogen was growing fast, she learned a lot about the business side of biotech, as well as the challenges of building a company. "I stopped seeing myself as just a scientist," she says, "and began seeing myself as an entrepreneur and manager too." Sato was vice president of research at Biogen when she left for Vertex Pharmaceuticals, where she eventually became president. She was also on the faculty of both Harvard Business School and Harvard Medical School, where she was the founding faculty chair of the Blavatnik Fellowship in Life Science Entrepreneurship. She has been on many biotech boards and was recently appointed to President Biden's Council of Advisors on Science and Technology.

"I have a very high opinion of Vicki," says Gilbert. "Under her leadership at Biogen and Vertex, several new and important drugs were developed, and at Harvard she created a course on the business of science that inspired students to solve entrepreneurial problems. She's creative and self-motivated and knowledgeable on a broad range of topics, and just wildly enthusiastic about life. She's a powerhouse."

Receiving the Centennial Medal "was a complete surprise," Sato says. "To be recognized by an institution to which I owe so much is incredibly meaningful, and I am extraordinarily honored."

Robert J. Zimmer, PhD '75

ROBERT J. ZIMMER has made his mark in two very different scholarly endeavors. First, as a mathematician—he has a BA from Brandeis and a master's and PhD from Harvard in the field—he developed a theory known as the Zimmer Program, which, according to Zimmer, “aims to understand the relationship between topological or geometric objects and their symmetries.” He gives the examples of a symmetrical basketball, which can be dribbled, and an asymmetric football, which cannot. “It’s basically about the interface of two objects—in this case, the ball and the floor—and the relationships between them,” he says.

The basis for the theory began during Zimmer’s time at Harvard. “I had a great experience there,” he said. “It opened my eyes to a lot of overlap in various mathematical structures, and I learned much more about the connectivity of mathematics as a whole. Harvard had several remarkable mathematicians on the faculty—George Whitelaw Mackey, Oscar Zariski, Barry Mazur—who opened my eyes to new mathematical possibilities. It’s an incredibly deep and beautiful and integrated field.”

Zimmer’s second contribution to scholarship is as an administrator. He has been chairman of the Department of Mathematics, deputy provost, vice president for research and Argonne National Laboratory, president, and chancellor, a post he still holds, at the University of Chicago, with a four-year stint as provost of Brown University in the early 2000s. In 2014, he began noticing a trend in American academia that disturbed him. “It was a time when lots of people were being disinvited to speak because of the risk that they would offend someone,” he says. “I said to myself, ‘We are under no circumstances disinviting anybody.’” He and Provost Eric Isaacs formed the interdisciplinary Committee on Freedom of Expression, which drafted a report that has since become known as The Chicago Principles. The 927-word document articulates the university’s “overarching commitment to free, robust, and uninhibited debate.”

“Free expression enables people who have different points of view to have conversations,” he says. “In recent years, some people are not comfortable with that. But it’s really important and necessary. I wanted there to be a statement by a university of some repute.” In 2016, Zimmer brought his theories about the open exchange of ideas to a larger audience through an op-ed in the *Wall Street Journal*, and as of this year, the principles have been adopted by 84 colleges and universities across the US.

According to Harvard Corporation member David Rubenstein, a co-founder and co-chairman of the private investment firm The Carlyle Group, Zimmer also expanded the “intellectual breadth and depth of the University of Chicago” through initiatives such as adding the first molecular engineering school

in the United States and strengthening the school’s ties to the South Side community and around the globe. “But when history is written,” Rubenstein says, “I suspect he will be most remembered for his commitment to freedom of expression.”

Zimmer, too, says he suspects his receipt of the Centennial Medal is more about the Chicago Principles than the Zimmer Program but is grateful either way. “I have a long connection to Harvard,” he says, “and I have two kids who went to Harvard College, so this award means a lot to me. It’s nice to be recognized by a place you grew up in.” 🍷

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**FREE EXPRESSION ENABLES PEOPLE
WHO HAVE DIFFERENT POINTS OF VIEW
TO HAVE CONVERSATIONS.** —ROBERT ZIMMER

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GSAS AT 150: ALUMNI WHO MADE A DIFFERENCE

TO MARK THE SCHOOL'S 150TH ANNIVERSARY, THE SUMMER 2022 AND WINTER 2023 ISSUES OF *COLLOQUY* WILL RECOGNIZE GSAS GRADUATES, PAST AND PRESENT, WHOSE WORK HAS HAD AN OUTSTANDING INFLUENCE ON THE WORLD. THE ALUMNI UPDATES SECTION WILL RETURN IN ACADEMIC YEAR 2023–2024.



Paul Farmer (1959–2022), PhD '90, anthropology, was a guiding force for the nonprofit organization. Partners in Health (PIH), founded with Jim Yong Kim, PhD '93. PIH served served countries with limited or poorly functioning health care systems. A professor at Harvard Medical School and a physician at Brigham and Women's Hospital, Farmer helped build Partners into an international organization that today has 18,000 staff members in 12 countries, supports 230 facilities in collaboration with local governments, backs a global health equity university in Rwanda, and runs a modern teaching hospital in Haiti.



Abhijit Banerjee, PhD '88, economics; his MIT colleague Esther Duflo; and Harvard's **Michael Kremer**, PhD '92, economics, pioneered a new approach to fighting poverty that has led to direct benefit for millions of poor people worldwide. More than five million Indian children have been helped by remedial tutoring in schools owing to their research. Their studies have also resulted in major increases in spending on preventive health care. In 2019, Banerjee, Duflo, and Kremer received the Nobel Prize in Economics.



Jennifer Doudna, PhD '89, biochemistry, a professor at the University of California, Berkeley, helped discover and develop the CRISPR gene-editing technique, which has rapidly spread to a host of fields, allowing researchers to alter the code of life and develop more resilient crops, new medical therapies, and even envision cures for inherited diseases. For her work, Doudna shared the 2020 Nobel Prize in Chemistry with Emmanuelle Charpentier of the Max Planck Institute in Berlin.



John Hope Franklin (1915–2009), PhD '41, history, helped create the field of African American history. During his long and distinguished career, he held faculty posts at a number of institutions, including Howard University and the University of Chicago, before being appointed in 1983 as the James B. Duke Professor of History at Duke University. His book, *From Slavery to Freedom: A History of African Americans*, published in 1947, is still considered a definitive account of the Black experience in America.



Jean Berko Gleason, PhD '58, linguistics and social psychology, has been a leader in the study of the way humans learn language. Her groundbreaking "Wug Test" forever changed scientists' understanding of how children acquire language. In their book, *Methods for Studying Language Production*, linguists Lise Menn and Nan Bernstein Ratner wrote of the test, "Perhaps no innovation other than the invention of the tape recorder has had such an indelible effect on the field of child language research."



Ephraim Isaac, PhD '69, Near Eastern languages and civilizations, was in 1969 one of the first faculty appointed to Harvard's new African and African American Studies Department. A co-founder of the Ad Hoc Ethiopian Peace Committee and the Peace and Development Organization, Isaac has worked to end conflicts in the Middle East, Ireland, and Africa. In 2010, he helped negotiate a cease-fire between the Ethiopian government and opposition forces after 25 years of fighting.



Craig Mello, PhD '90, cellular and developmental biology, in partnership with the Stanford University geneticist Andrew Fire, discovered RNA interference (RNAi), a mechanism that regulates the expression of genes. While different than the messenger RNA technology used to create the COVID-19 vaccines, Mello and Fire's work on RNAi marked the beginning of the therapeutic use of RNA. The duo were awarded the 2006 Nobel Prize in Physiology or Medicine.



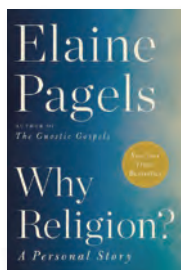
Maryam Mirzakhani (1977–2017), PhD '04, mathematics, in 2014 became the first woman to win the Fields Medal from the International Mathematical Union. According to her obituary at Stanford University, where she was a professor until she died in 2017, Mirzakhani's work had implications for the theoretical physics of how the universe came to exist, quantum field theory, engineering, material science, and cryptography.



E.O. Wilson (1929–2022), PhD '55, biology, was a pioneer in the field of evolutionary biology and a leading voice for the conservation of biodiversity. Harvard's Pellegrino University Professor, Wilson won the Pulitzer Prize in 1979 for *On Human Nature* and in 1991 for *The Ants*. His landmark book, *Sociobiology: The New Synthesis*, explored the influence of genetics and evolution on behavior and opened a new field of scientific study.

AUTHOR PROFILE

WHY RELIGION?



One of the world's most renowned scholars of the New Testament, Princeton University Professor Elaine Pagels, PhD '70, is known primarily for groundbreaking books like *The Gnostic Gospels* and *Beyond Belief: The Secret Gospel of Thomas*, which consider the legitimacy of early Christian texts outside of the four canonical gospels. For her work, she received the National Medal for the Arts from President Barack Obama in 2013. Pagels' most recent book, *Why Religion?*, discusses her scholarship but is a departure from it. Part spiritual biography, part memoir, the book is ultimately the story of Pagels' own search for meaning after suffering the sudden and successive losses of her young son and her husband.

Why did you decide to write something so personal after years of publishing exclusively academic works?

There was a time in my life when I just had to confront the loss of my six-year-old son to an illness and my husband in a mountain climbing accident. Those happened within a year. I just didn't

see how I could live through it. But my husband and I had adopted two children after our son died, and after he also died, I had to raise two babies and become the provider for the whole family. So during that time, in order to keep going, I had to put those losses way in the background.

Around 30 years later, I realized that

I couldn't live fully while continuing to ignore deep elements of my experience. Those feelings don't go away. So I went back and started allowing those experiences to emerge. I thought, "What is it about the work that I do? What is it about any of this, Christianity, that matters?" Since the work I do as a historian of religion is deeply connected with finding meaning, I had to explore how my scholarly work and my personal life converge.

Talk about that. How did you draw on the religious tradition you study to understand tragedy and manage grief in your own life?

When dealing with these overwhelming losses, I couldn't accept what others in such situations often say: "It's God's will," or "Everything happens for a reason," or "God never gives us more than we can handle," as a well-meaning police officer said when he came to tell me my husband had died. I couldn't imagine there was some spiritual "reason" that our six-year-old child died, or that my husband fell while hiking in the mountains. But like anyone else in that situation, I was roiled with a tsunami of emotions, overwhelmed with what felt like endless grief, and also with guilt. As I wrote, I had to struggle to let go of negative responses that only pile more suffering on what already felt impossible to bear.

And when I went back to the sources I'd read so often, I found that what mattered most is what we find in the Sermon on the Mount or what Luke calls the Sermon on the Plain. It's what Jesus taught about how we are to live, and how to treat ourselves and other people. It's as simple as the "golden rule": renouncing judgment, envy, resentment, anger, and hate, living according to the rule



of love, and receiving such responses from others. That's what struck me as the heart of the message—the practice of compassion. I realized it was of great importance to me. It's found both in the New Testament as we know it and in the Gnostic Gospels. And it turns out to be what the Christian tradition has in common with Buddhism, despite their enormous cultural, social, intellectual, and religious differences.

Were you concerned that you wouldn't be viewed as a "serious scholar" any longer after writing a book like this?

I did worry. People think, "Wait a minute, she's gone off the deep end, writing about having strange experiences and writing in such a personal way." But then I thought, "Well, it's just somebody's life; it's what often happens."

A lot of people—like those who endowed the Institute for Advanced Study at Princeton—claim that history is a science and should be written objectively. Well, often it's not. History is not objective in the way that, say, physics is. Narrative writing always articulates a point of view that shapes the way we write. And I think that invites the reader to understand whatever we're writing about.

That doesn't mean, though, that history is simply some kind of fiction. If you're talking about Irenaeus, a bishop in the second century, you have a responsibility to put him in his context, understand his point of view, and present conflicts in ways that make sense on both sides. If you're writing about Bishop Athanasius, who lived in the fourth century, you want to understand what motivated him to create the Christian canon together and to tell Christians never to read other Gospels.

Yet history challenges us to create narratives out of incomplete data, particularly when you're working with ancient sources. It's about finding meaning and trying to interpret how it shapes our cultural legacy—what matters about

it, and what doesn't. These are deeply connected.

Let me end with the question with which your book begins: Why religion? Given its decline in the Western world, why does religion still matter?

Many people think that religion is about what you believe—a view influenced by the way Christianity did create an institutional church in the fourth century CE around a set of doctrines embodied by the Nicene Creed. But I've come to realize that religious traditions are focused on something much more profound than believing. It's not that believing doesn't matter, but the basis of such traditions is practice: the rituals, poems, songs, meditations, prayers, and festivals that connect people into a unified group and speak to them about questions of meaning.

Take the Passover Seder, in which I last spring participated with some friends in Princeton. This, too, becomes a template of meaning in Jewish tradition, showing that those who share it are celebrating a legacy of release from slavery and oppression, and the joy of moving into freedom. The Seder embodies and affirms that movement in ritual, as its stories, prayers, and songs, like so many in other traditions, speak deeply to our emotions.

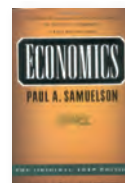
A brilliant colleague of mine at Stanford, the anthropologist Tanya Luhrmann, demonstrates this in her most recent book, *How God Becomes Real*. After investigating the practices of various groups—evangelical Christians, magicians, Zoroastrians, Black Catholics, Santeria initiates, orthodox Jews—she shows that what their various practices create are different kinds of perception and understanding that enable them to engage more deeply with their own experience. So, while people are leaving religious institutions, they're not leaving questions of meaning behind but seeking more effective ways of engaging them, as I have been doing both in my work and in my personal life.

FIVE BOOKS THAT CHANGED THE WORLD

In place of the magazine's usual Recently Published listings, the summer 2022 and winter 2023 anniversary-themed issues of *Colloquy* will draw attention to books authored by GSAS alumni that changed the way human beings understood the world, society, and themselves. The Recently Published section will return in academic year 2023–2024. Want to suggest a book? Contact us at gsascomms@fas.harvard.edu.



W.E.B. DuBois,
PhD 1895, history,
The Souls of Black Folk,
A.C. McClurg & Co.
Chicago, 1903



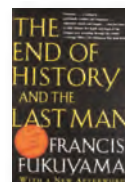
Paul Samuelson,
PhD 1941, economics,
*Economics: An Introductory
Analysis*, McGraw-Hill
Book Company, Inc.,
New York, 1948



Susan Sontag,
AM 1957, philosophy,
On Photography,
Farrar, Straus &
Giroux, 1977



Edward Said,
PhD 1964, English
and American
language and literature,
Orientalism, Pantheon
Books, 1978



Francis Fukuyama,
PhD 1981, government,
*The End of History and
the Last Man*, Free
Press, 1992

connect

150 years
INQUIRY
INNOVATION
IMPACT

SAVE THE DATES!

**Truth and Objectivity
in the Era of Fake News**
November 15, 2022
New York City

Harvard Horizons
April 11, 2023
Cambridge

Alumni Days
April 14 & 15, 2023
Cambridge
gsas.harvard.edu/alumniday

**Democracy and the
Rise of Authoritarianism**
Spring 2023
Berlin

••• Please visit gsas.harvard.edu/honoring-classes-2020-and-2021 in the coming months for details on the event and to register for email updates.

Join the 150th Celebration All Year Long!

CELEBRATE 150 YEARS OF INQUIRY, INNOVATION, AND IMPACT DURING THE GRADUATE SCHOOL OF ARTS AND SCIENCES' SESQUICENTENNIAL CELEBRATION.

- Hear from **Joe Kahn**, AM '90, and **Danielle Allen**, PhD '01, on "Truth and Objectivity in the Era of Fake News," **Claudine Gay**, PhD '97, on "Reversing the Rise of Inequality," **Jennifer Doudna**, PhD '89, on "The Ethics and Opportunities of Genetic Engineering," **Fiona Hill**, AM '91 PhD '98, on "Democracy and the Rise of Authoritarianism," and more!
- Visit the special GSAS exhibit in the Harvard Archives in March 2023.
- See the next generation of GSAS scholars at Harvard Horizons on April 11, 2023.
- Attend Alumni Days, April 14 & 15, 2023, to reconnect with alumni and faculty across the disciplines.
- Meet up with alumni in your area for regional social and cultural gatherings throughout the year.
- Engage with GSAS students and share your expertise through the Virtual Coffee and Firsthand Advisor programs.
- Celebrate outstanding alumni achievement with the GSAS Centennial Medalists on May 24.

We hope you will find *your* way to connect to GSAS during the sesquicentennial!

••• Learn more and follow programming updates at gsas.harvard.edu/150





PHOTO: STEPHANIE MITCHELL/HARVARD UNIVERSITY

EMPOWER SCHOLARS TO REACH THE UNKNOWN

A little rock can tell the story of the solar system. That's what drew Yaray Ku PhD '22 to the Graduate School of Arts and Sciences (GSAS). When she began her research in earth and planetary sciences, Ku wanted to uncover celestial origins. Her advisor guided her to the study of meteorites. Ku became fascinated with the chemical composition of chondrites—meteorites that haven't been heated to a melting point—and devoted her thesis to comparing them to Earth rock. "We believe these chondrites contain the initial composition of our solar system," she says. "Studying isotopic compositions in meteorites tells us the story of Earth and the universe—and that story is four and a half billion years old."

This understanding was made possible by GSAS. "When I started my PhD, I realized there were so many unknowns," she says. Resources including quality advising, graduate fellowships, and the Professional Communication Program for International Teachers and Scholars supported her throughout. Helping emerging scholars follow their research wherever it takes them remains the foundation of GSAS's excellence. For 150 years, GSAS has helped train and develop scholars like Ku, the next generations of thought leaders, scholars, and teachers.

Next, Ku hopes to continue that exploration in a career in communications and education. She wants to make science more accessible to the public and inspire future generations of scholars. She says, "I want to show the world that there are so many kinds of scientists, and not all of them look like Einstein."

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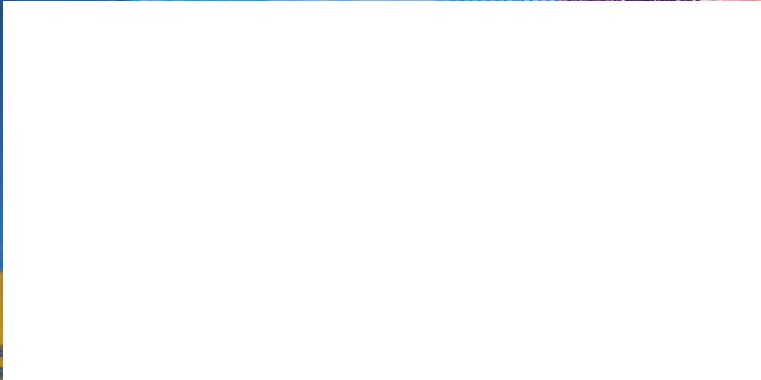
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'SOCIAL MOBILITY'

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TRANSFORMING MEDICINE WITH
LASERS AND STEM CELLS

