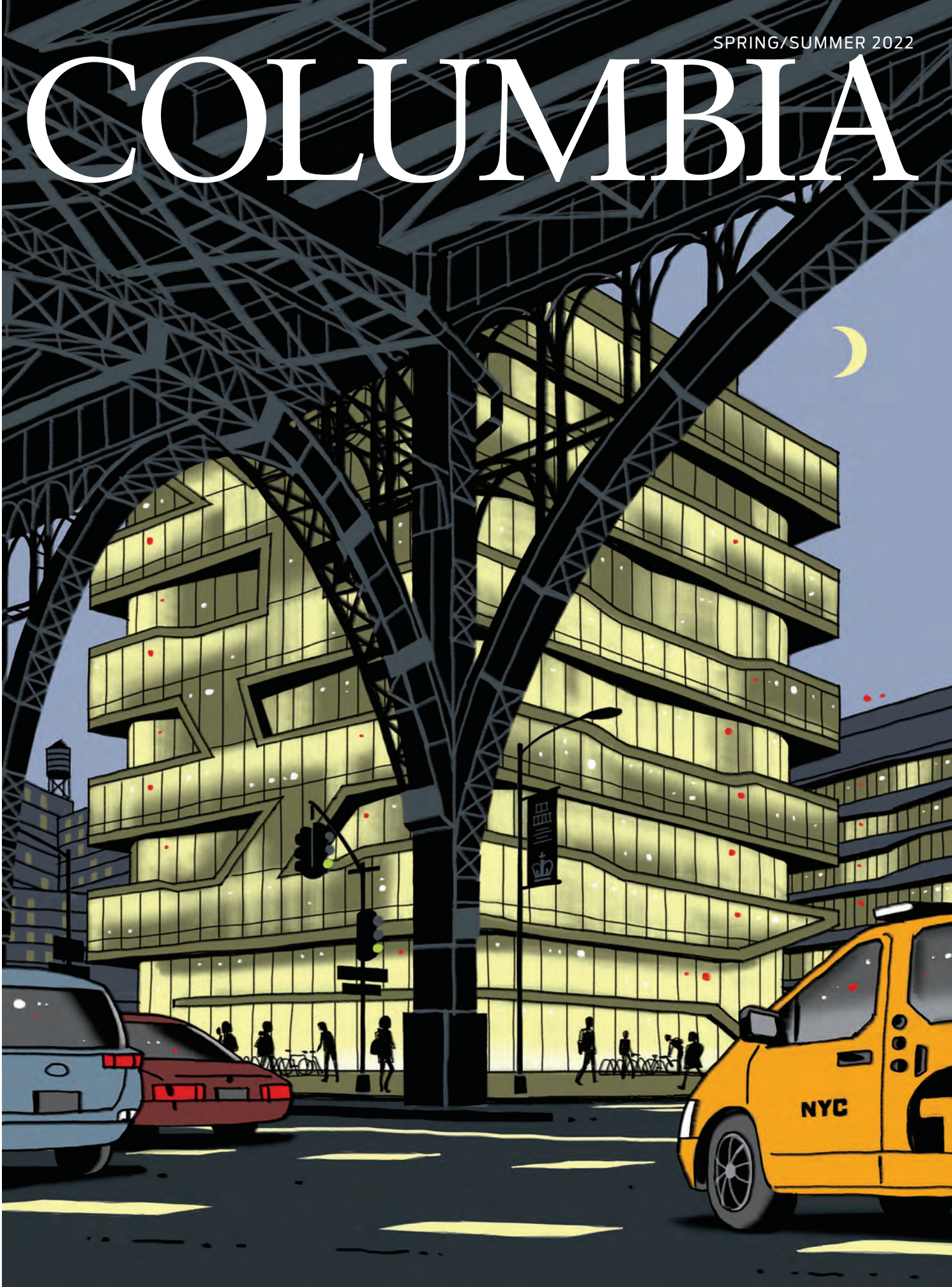
SPRING/SUMMER 2022

COLUMBIA



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JÖRG MEYER

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Jarrell Daniels '22GS

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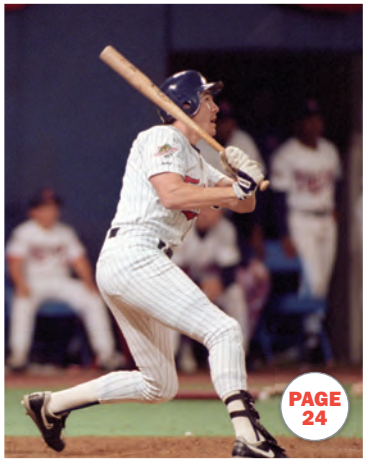
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COVER ILLUSTRATION BY JORGE COLOMBO

COLUMBIA MAGAZINE

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COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

TOP: RONALD C. MODRA / SPORTS ILLUSTRATED VIA GETTY IMAGES; CENTER: BRIAN STAUFFER; BOTTOM: COURTESY OF LEEZA MANGALDAS

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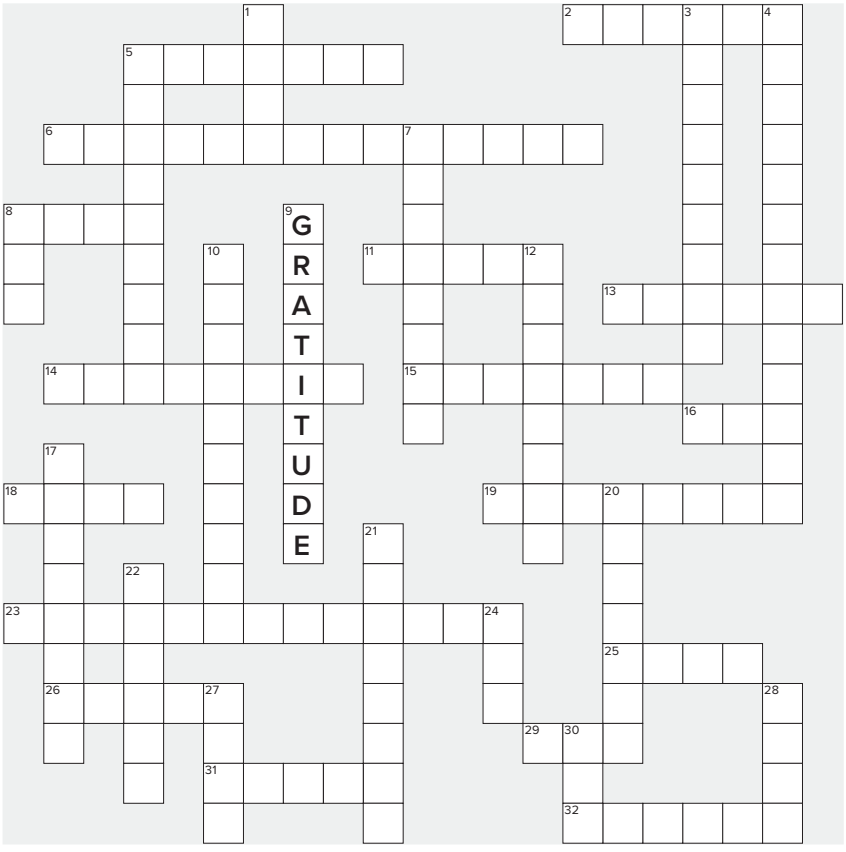
THE COLUMBIA COMMITMENT

The Columbia Commitment Crossword Puzzle

Columbia University celebrates the completion of The Columbia Commitment, our five-year campaign focused on ideas and impact. We thank the Columbia community for making it a success.

This crossword puzzle honors some of our key campaign advancements, recognizing generations of generosity and our Columbia legacy. It's our way of looking back on all we've done together and saying thank you!



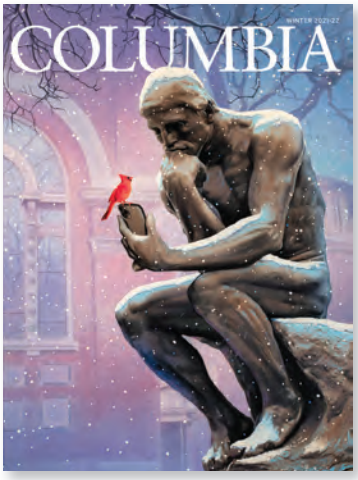
Across

2. (With 29-Across) Annual 24-hour period of Columbia fundraising—more than $27 million in 2021!
5. They taught you everything you know
6. Home of Jerome L. Greene Science Center, Lenfest Center for the Arts, and, as of January 2022, Columbia Business School
8. "Roar, _____, Roar!"
11. (With 19-Across) Columbia _____ _____, an initiative to mobilize Columbia's expertise to tackle global challenges around the world
13. Valet, or 27-Down's view from her perch
14. Established in 1754 as King's College
15. Member of the Board at Columbia University
16. _____ Opened the Door: a network of Columbia women that launched with a historic conference in 2018
18. To feel concern or interest; or patient _____, a top priority at Columbia University Irving Medical Center
19. (With 11-Across) Columbia _____ _____, an initiative to mobilize Columbia's expertise to tackle global challenges around the world.
23. Dedicated to improving our Earth, it's the first new degree-granting body at Columbia in 25 years
25. In 2020, Columbia launched the Shawn "_____" Carter Lecture Series at an event with the series' namesake
26. (With 21-Down) Named for Columbia alum and 44th U.S. president, this group of rising leaders come from around the world to take classes and network at Columbia
29. (With 2-Across) Annual 24-hour period of Columbia fundraising—more than $27 million in 2021!
31. (With 27- Down) If you're on the Morningside campus, this iconic lady may be watching over you
32. Meeting our campaign goal has been possible because of these generous people

Down

1. Fair, or _____ Societies, a campaign commitment to build a more equitable and inclusive world
3. Follows Data Science or Knight First Amendment
4. Columbia _____ _____, hubs of activity in nine world cities
5. (With 30-Down) What scholarships provide, or the focus of the Columbia Student Support Initiative
7. Speed, or Columbia's Ride to End Cancer
8. Notable alumni of this Columbia graduate school include Ruth Bader Ginsburg, Eric Holder, and current University President Lee C. Bollinger
9. Thanks, or what we have for you!
10. The Columbia _____, the theme of this puzzle and title of our successful campaign!
12. Dispersion, or African American and African _____ Studies, a new department launched in 2018
17. Lin-Manuel Miranda's celebrated musical, or 1778 Columbia College alumnus
20. US founding father, or namesake of a center of undergraduate life on the Morningside campus
21. (With 26-Across) Named for Columbia alumus and 44th U.S. president, this group of rising leaders come from around the world to take classes and network at Columbia.
22. Effect; or, by supporting Columbia, you've made an incredible _____ on our campuses and in the world
24. _____ Memorial Library
27. (With 31-Across) If you're on the Morningside campus, this iconic lady may be watching over you
28. MAs, MBAs, JDs, and _____ are earned by Columbia's graduate students
30. (With 5-Down) What scholarships provide, or the focus of Columbia's Student Support Initiative

Answers on Page 8



FEEDBACK

TRANSLATION OVATION

I had just spent two hours with some eight other people considering the original text and translations of Hebrew-language poems by the Israeli author Yosef Ozer — pondering the multiple meanings of a good number of the Hebrew words and straining to comprehend their resonances and evocations of biblical tales and rabbinic teachings — when I opened my new issue of *Columbia Magazine* and found to my great delight a wide-ranging and masterful article on the craft and art of translation ("The Impossible Art?," Winter 2021–22).

Now I was privy to a discussion on a larger canvas with some of the most distinguished literary translators in the world on the challenges they faced in making their translations and the strengths and deficiencies of each translation path.

I wanted to make sure the members of my poetry group could similarly benefit from Paul Hond's sensitive rendering of the choices before the translator, so I quickly dispatched a link to the convener of the group, and he in turn sent the piece on to the larger community.

Columbia Magazine is really superb, and the range of issues addressed reflects the global scope of Columbia and the engagement of its faculty and students in all the challenges before us in these unsettled times. I will wager that it is among the best of this country's alumni magazines.

Mindy C. Reiser '69JRN, '70SIPA
Washington, DC

Thank you for Paul Hond's well-written article on literary translation. As the various translators quoted in it say, translation is indeed an "art," it is "writing," and, rather than following any particular rules, it should "make the magic happen again in another language."

Not mentioned in the article are the various degrees of "impossibility" posed by rhythm. Since every language has its own prosody, free verse and even prose have rhythms for which translators may try to find loose analogues. For metrical poetry, translators usually (and more impossibly) try to find stricter analogues to the original rhythms. But most impossible of all is the translation of sung lyrics. If the music is to remain unaltered, a merely analogous rhythm will not suffice: the translation must have the exact same rhythm as the original.

Faced with these impossibilities, why do we translate? Why have I and my wife, Ronnie Apter, translated some thirty operas, operettas, choral works, and songs into performable English? Because it is challenging, because it is fun, and because it is the only way those not completely fluent in the original language — which even for English is most of the world — can fully appreciate great works of written art.

Mark Herman '63SEAS
Nashville, TN

3 WEB STORIES YOU SHOULD NOT MISS

10 Great Books Written at the Hungarian Pastry Shop

How Zora Neale Hurston's Love for a Fellow Columbia Student Changed American Literature

10 Iconic Buildings and Spaces Designed by Columbia Architects

Read at magazine.columbia.edu

Your thoughtful article about literary translation brought back my experience as a French major at the College. For my senior thesis, I wrote about the challenge of translating Molière. The professor, Donald Frame, let me take the easy route by focusing on the play *Le médecin malgré lui* (The doctor in spite of himself) — the easy route because Molière wrote that play in prose. In my defense, some of the best translations of great works of verse, such as E. V. Rieu's rendition of the *Iliad*, have also punted on this, delivering the power of the original in a prose version rather than attempting to render the verse into comparable English poetry.

Thomas W. Lippman '61CC
Washington, DC

I loved the article about literary translation, because I am a Columbia graduate and a published literary translator. I got my start in the field at Columbia with Gregory Rabassa and Eugenio Florit, both of whom encouraged me to translate Spanish-American poetry. My conversations with Florit, a Cuban poet and critic, about Cuba's national hero, José Martí, led me to translate Martí's poetry; my thesis with Andrés Iduarte led to my books *José Martí and US Writers* and *José Martí, the United States, and Race*; and my coursework with Rabassa initiated an interest in literary translation that has produced

three books of Cuban literature in translation.

Anne Fountain '73SIPA, '73GSAS
San Jose, CA

Your list of alumni translators is indeed impressive, but you have left out an important one: Walter Blanco '67CC. Although he was a professor of English, he developed a passion for ancient Greek, which led him to produce translations of the histories of Herodotus and Thucydides. His ambition was to render these classics into crisp, modern American English, and it is generally agreed that he succeeded. His translations have been published in the prestigious Norton Critical Editions series and merit his inclusion in your honor roll of outstanding homegrown talent.

Marion Leopold '66GS, '68GSAS
New York, NY

I was delighted by Paul Hond's article "The Impossible Art?" — as well as Melinda Beck's wonderful illustrations — but was surprised and a little disappointed by the fact that Edith Grossman, a major and compelling translator from the Spanish (and author of the now classic translation of Cervantes's *Don Quixote*) was mentioned only four pages in and squeezed into a mere thirteen words. Grossman is also the author of the superlative *Why Translation Matters*, which could have served as useful fodder for Hond's otherwise salutary overview.

Jim Story '71SIPA, '71GSAS
New York, NY

I have never paid close attention to who translated the works I read, but Paul Hond's extraordinarily well-researched piece

KEY TO ABBREVIATIONS

CODE	SCHOOL	CODE	SCHOOL
BC	Barnard College	NRS	School of Nursing
BUS	Graduate School of Business	OPT	School of Optometry
CC	Columbia College	PH	Mailman School of Public Health
DM	College of Dental Medicine	PHRM	College of Pharmaceutical Sciences
GS	School of General Studies	SEAS	Fu Foundation School of Engineering and Applied Science
GSAPP	Graduate School of Architecture, Planning, and Preservation	SIPA	School of International and Public Affairs
GSAS	Graduate School of Arts and Sciences	SOA	School of the Arts
HON	(Honorary degree)	SPS	School of Professional Studies
JRN	Graduate School of Journalism	SW	School of Social Work
JTS	Jewish Theological Seminary	TC	Teachers College
KC	King's College	UTS	Union Theological Seminary
LAW	School of Law	VPS	Vagelos College of Physicians and Surgeons
LS	School of Library Service		

MELINDA BECK; OPPOSITE PAGE: TANYA BRAGANTI

awakened me to them. Having read, at the beginning of the pandemic, John E. Woods's translation of Mann's *The Magic Mountain*, I am looking forward to reading Susan Bernofsky's when it comes out.

I was fortunate to have had Moses Hadas for Humanities. His course was instrumental in my choice of art history as a major, even though my strengths were in math and science.

For me, your excellent editing has been revelatory.

Robert Chapla '68CC
Newbury, VT

Like Michael Scammell, I got a lesson in the art of translation from Vladimir Nabokov — in my case while studying Russian literature at Cornell. Calling Nabokov "opinionated," as Scammell does, is similar to calling Jack Kerouac "somewhat antisocial." In fact, Nabokov would regularly go on tirades — some related to Russian literature, many not. He introduced Gogol's novel *Dead Souls* with a diatribe against the "incompetent" translator of the edition available at the Cornell bookstore, who he suggested belonged in a Siberian gulag. Nabokov said he was looking for a competent translator to work with him on a new edition of *Dead Souls*. I did not volunteer.

Fred Steinberg '56BUS
Greenwich, CT

A PUBLIC-HEALTH VISIONARY

Any history of the Mailman School with no mention of the late Allan Rosenfield, who established the Center for Population and Family Health and who led the school as dean from 1986 to 2008, is incomplete ("Health on the Horizon," College Walk, Winter 2021–22).

In my many years working with amazing people at Columbia, Rosenfield was the all-around best — as a clinician, as a brilliant public-health visionary, and as a doer. Most of all, he was a wonderful human being.

Nancy Boccuzzi '83PH
Boca Raton, FL

A friend recently completed a novel in Serbian. He then translated his novel into English. He found that as an author and as a translator he experienced many of the same epiphanies. A poem he translated from English into Serbian rang truer to him in translation, and he wished he could change the original English.

For me, I found a poem by Rumi ("Che danestam ke en soda") whose title could be translated as "What did I know?" or "What could I know?" I sought out a translator to provide something more than the literal lyrics. Having found none, I decided to craft my own poetic version. Since this was a writing from the world of mystics, and since I've visited that world as well, who better to speak for Rumi?

Joe Nalven '65CC
Poway, CA

LIMITED RESOURCES

Thank you for a thorough and insightful article about the effects of climate change on human society ("6 Things You Need to Know About Climate Change Now," Winter 2021–22). But there is potentially a far more nefarious problem than climate change lurking just over the horizon. That problem is resource depletion. While the laws of thermodynamics guarantee that, upon removal of combustion heat sources, there will be at least a partial reversal of temperature increases, the depletion of resources is a one-way trip. Ice that melts can refreeze, but there are diminishing returns from mineral extraction and use. Therefore, as the world heads down the path of universal electrification, it has to be assured that the requisite materials are forever available. It may be necessary to abandon capitalism's mantra of continual GDP growth. It may be necessary to rebuild all housing with smaller, super-insulated, net-zero structures. It may be necessary to adapt in many other ways to much less energy-intensive lifestyles.

Tom Milbury '83SEAS
New City, NY

CRYPTO IN KILOWATTS

Your interview on cryptocurrencies and Bitcoin, "The Future of Your Money" (The Big Idea, Winter 2021–22), did not do justice to the environmental impact of Bitcoin "mining." This was an ironic omission indeed, considering that the issue also featured David J. Craig's excellent article "6 Things You Need to Know About Climate Change Now."

According to researchers at the Centre for Alternative Finance at the University of Cambridge Judge Business School, the current energy consumption of Bitcoin is 136 terawatt-hours per year — more than the

total consumption of the Netherlands or Argentina. A single Bitcoin transaction uses more than two thousand kilowatt-hours of electricity, more power than the average American household uses in ten weeks. Bitcoin is responsible for 0.30 percent of the world's energy consumption.

Bitcoin consumes so much energy because new Bitcoins and control of the Bitcoin blockchain go to the organization that can mine the fastest, which directly translates into consuming the most electricity. There is fundamentally no limit to how much power Bitcoin can consume, and miners who try to conserve energy end up losing money. This is not something that can be solved by using renewable energy sources.

It's true that there are other approaches for running cryptocurrencies, but none of them have had the market success of Bitcoin's "proof of work" approach.

If this is indeed the future of our money, then we will surely destroy our environment and our civilization in its pursuit.

Simson Garfinkel '88JRN
Arlington, VA

SOLUTIONS UNDER THE SUN

Thank you for focusing attention on the important work of SIPA graduates in providing solar power in Sierra Leone and Liberia, where electricity is rarely available otherwise ("Power Brokers," Network, Winter 2021–22). As both a former US ambassador and past Peace Corps volunteer in Sierra Leone, I can attest to the critical need that their company, Easy Solar, is addressing, not only to improve the quality of lives but also to improve the economic prospects of those countries. This is another fine example of the value of a Columbia University education to the wider world.

Thomas Hull '72TC, '73SIPA
Grantham, NH

COURTESY OF CECELIA RIDDETT

SINATRA SIGHTING

Reading "Hidden Histories of Columbia" (Winter 2021–22), I was reminded of the time in 1967 when Frank Sinatra came to campus to film a gala scene in Low Library for the movie *The Detective*. I was a junior at Barnard and a campus guide at Columbia. I was encouraged to be in Low Library to watch the proceedings, an assignment I relished. As the afternoon progressed, I was privy to a discussion among some Columbia coaches who wanted to give Sinatra two commemorative sweatshirts, one for him and one for his then wife, Mia Farrow. The big question was who would make the presentation. I was standing right there, looking as available as possible. And they asked me to do it. So I got to have a nice tête-à-tête with the Chairman of the Board, who was very gracious. He said I reminded him of Mia; I was nineteen at the time.

Cecelia Riddett '69BC
New York, NY

TOMB AIDERS

My husband and classmate excitedly brought to my attention the Backstory from the Winter 2021–22 issue ("The Battle for Grant's Tomb"). While my efforts pale in comparison to Frank Scaturro's passionate campaign for Grant's Tomb, a Columbia connection continues. John G. Waite Associates, Architects, has been engaged to design the latest restoration of the tomb. I am the project manager and a fan of both the monument and my fellow alum Frank Scaturro.

Anne E. Weber '82GSAPP
Princeton, NJ

QUESTIONS? COMMENTS?

WE WELCOME THEM ALL!

E-MAIL US AT:
feedback@columbia.edu

Letters may be edited for brevity and clarity.

COLLEGE WALK

NOTES FROM 116TH STREET AND BEYOND

Kravis Hall, as seen looking west from Geffen Hall.

TIMOTHY SCHENCK

Open for Business

The B-school's new home lights the way for business education

The thing that most excites architect Charles Renfro '94GSAPP about the new Columbia Business School complex in Manhattanville, which opened this spring, is what will come out of it. Because no one knows better than Renfro what went into it.

It's been eleven years since the University selected the firm of Diller Scofidio + Renfro to lead the two-building, 492,000-square-foot project, and Renfro is more than familiar with the thought and care behind every detail: the wide, spiraling, light-flooded central staircases, the bountiful study nooks and social spaces, the soothing color palette (light gray, blue-gray, taupe), the cozy furnishings, the cantilevered classrooms wrapped in floor-to-ceiling windows. Even the wallpaper near the elevators on each floor, patterned with architectural drawings of New York City bridges, was chosen with a purpose, echoing the school's emphasis on community bridge-building and professional networking.

On a recent Thursday, Renfro, dressed in gray plaid pants and jacket, a striped shirt, and no tie, stood in the lavish daylight of the new buildings and expressed his faith that a design promoting collaboration, sustainability, and well-being could foster an ethos of social and ecological responsibility. "I was excited to hear about the programs, especially those focused on problem-solving in the world," said Renfro. He distinguished the Columbia design from a "masters of the universe" aesthetic of "wood paneling, fireplaces, and Scotch" found on some other campuses. "That's not what this school is, and that's one of the reasons we were really interested in working with Columbia on these buildings."

The Diller Scofidio + Renfro portfolio — the firm is led by Renfro, Elizabeth Diller '18HON, Ricardo Scofidio '60GSAPP, and Benjamin Gilmartin — is formidable and far-reaching. It includes major projects in Asia, Europe, Australia, and New York, where ventures like the High Line, the Shed (the arts center at Hudson Yards), the Juilliard School at Lincoln Center, the renovation of MoMA, and Columbia's Vagelos Education Center have reshaped cultural and educational life in the city.

The business school is made up of David Geffen Hall (eight stories) to the east, and to the west, across a one-acre public park called the Square, Henry R. Kravis Hall (eleven stories). Both have the same "layer cake" design and the same dreamy, flowing connections between floors to encourage interaction and break down the traditional hierarchy of faculty offices above and classrooms and student spaces below. The architects refer to the two towers as fraternal rather than identical twins. Both offer generous light and space, so that no matter where you are in the buildings you sense the city outside. Bracketed by the elevated subway tracks on Broadway and the Riverside Drive Viaduct, the design takes full advantage of the surrounding steel infrastructure. From Kravis looking west onto the Hudson, the arched overpass looms in dramatic proximity. "We wanted the design to pull the neighborhood and its attributes *into* the building," Renfro said.

Samberg Commons in Kravis Hall.

For students especially, the contrast with the B-school's previous home in cramped Uris Hall — a building considered so mediocre that at its 1962 groundbreaking, architecture students gathered outside to picket — could not be sharper. They praise the spaciousness of the Manhattanville buildings, the light, the panoramic views, the "awesome sunsets," the game room, the dining areas, even the restrooms. They say they barely notice they're indoors, and many are in no rush to leave after class. "I've met more people here in the past month than I did all semester at Uris," said MBA candidate Sahar Abdullah. Another MBA student, Greta Simons, said, "It's nice to have such a dedicated space — it shows the school's investment in us." And Julian Pfrombeck, a postdoc who studies age diversity and social pyramids in the workplace, said, "This is a great start for the school after COVID — the buildings are very inviting for social interaction, and that feels so right, especially in this moment."

By encouraging partnership, creativity, and openness, Renfro hopes that the facility will serve not just the students' social and emotional needs but also the B-school curriculum. "The buildings are teaching tools," Renfro said. "They're extensions of the program itself."

— *Paul Hond*

Rhapsody in Blue and Yellow

Columbia's leading scholar of Ukrainian literature holds fast to hope

A month into the Russian invasion of Ukraine, Mark Andryczyk, head of the Ukrainian-studies program at Columbia's Harriman Institute, was seated on Revson Plaza not far from the International Affairs Building, where he teaches Ukrainian literature. The plaza overlooks Amsterdam Avenue, and Andryczyk, fifty-three, gazed south beyond 116th Street at the buildings and traffic as he calmly and humbly described the plight of an entire people.

"Putin stated that Ukraine doesn't exist, that it's not really a country," said Andryczyk, who is a research scholar at Harriman, a premier center for the study of Russia, Eurasia, and East-Central Europe. "So he is trying to wipe out Ukrainian identity. The Russian military is going after museums, archives, intellectuals." Andryczyk, his face etched with worry, suspected that his friends in Ukraine — prominent pro-democracy writers, poets, and academics, many of whom he has brought to Columbia over the past decade for events at Harriman — were on the Russian military's list of targets. He also feared for his in-laws, who live in western Ukraine, where missiles were falling.

Andryczyk, well-versed in Ukrainian history, views the attacks and the evidence of civilian massacres and other war crimes as another grim chapter in the long battle over Ukrainian sovereignty, which includes the Great Famine of the 1930s, when Stalin's policies caused millions of Ukrainians to starve to death. He minces no words in his assessment that Ukraine's slow grind toward democracy over the past thirty years "terrifies Putin, because if Ukraine speaks with a voice that is heard by the world, then eventually Russia will have to finally address a long history of atrocities. There has never been an apology for the horrors committed in the name of this Russian imperial project," he said.

DIANE BONDAREFF

Andryczyk grew up in a Ukrainian-American community in Philadelphia. But it was only when he traveled to Ukraine after college in the early 1990s, just after the fall of the Soviet Union, that he fell in love with the culture. "It was an extremely exciting time," he said of the period he spent in Kyiv, the capital, and Lviv, a major cultural center. "This was a land that had been restricted for so many years, and now there was this freedom for artists to create, all this pent-up energy opening up to the world."

At Columbia, Andryczyk teaches three classes: late-nineteenth- and early-twentieth-century literature; Soviet Ukrainian culture and literature of the 1920s; and literature of the post-Soviet era, his specialty. Many contemporary Ukrainian authors are his personal friends, and in 2017 Andryczyk published an anthology of their translated poetry and prose "so that English-speaking students could experience these wonderful writers," he said.

Some of those writers were now in peril. Serhiy Zhadan, an internationally renowned poet, had been posting daily on social media from the heavily bombed city of Kharkiv. "He's trying to keep people's spirits up, delivering humanitarian aid and presenting poetry and music," said Andryczyk. "He compared the city to

Mark Andryczyk

an anthill that was kicked over: there's destruction, but everyone's working on something."

Another friend, Volodymyr Rafeyenko, an award-winning novelist who had moved to Kyiv eight years ago to escape Russia's military aggression in Ukraine's Donbas region, was rescued from a bombarded area outside Kyiv and taken to a safer part of Ukraine. "My wife was one of the people working on trying to get him out," said Andryczyk. Rafeyenko, a native Russian speaker who taught himself Ukrainian, had recently published a novel in Ukrainian about a refugee from the Donbas who escapes to Kyiv and learns the Ukrainian language, which changes his memory and his connections to his family. It's called *Mondegreen: Songs About Death and Love*, and Andryczyk translated it into English. It was published in March.

"He was supposed to be at Columbia for a launch and a tour of North America in the spring," Andryczyk said. "We still hope he'll come over here."

Andryczyk's glance then wandered back to the Amsterdam Avenue corridor. "Look," he said, his expression brightening. He pointed at the apartment building on the corner of 116th. In a fourth-floor window there hung the blue and yellow bands of the Ukrainian flag. "That's wonderful to see," said Andryczyk.

Then he got up and returned to the classroom to teach the literature he loves. — *Paul Hond*

SHOW OF SOLIDARITY

Following what Columbia President Lee C. Bollinger called "the horrors of the Russian government's invasion of Ukraine and the unspeakable acts of criminal violence, brutality, and violations of international law," Low Library was illuminated this spring in the Ukrainian national colors. The gesture came as the University announced the expansion of its displaced-scholars program to include refugees from the war in Ukraine. Bollinger, in a message to the Columbia community, wrote, "We are eager to welcome these students and scholars to our campuses."

TOP: OLEKSANDR FRAZE-FRAZENKO; BOTTOM: EILEEN BARROSO

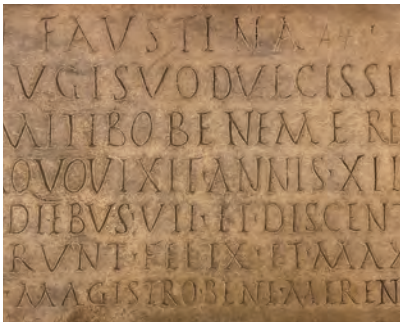
Archival Revival

An insider's tour of some of Columbia's rare treasures

When Courtney Chartier became the director of Columbia's Rare Book and Manuscript Library (RBML) last fall, she was astonished by the scope of the collection. The RBML, on the sixth floor of Butler Library, boasts everything from medieval Arabic math texts to Renaissance manuscripts to quill-pen epistles of the Founding Fathers to the typed memos of the shapers of the modern world. Where else can you find letters of Aaron Burr and Aaron Copland '71HON, Ralph Waldo Emerson and Ralph Bunche '50HON, or the papers of Thomas Edison and Thomas Merton '38CC, '39GSAS?

We asked Chartier, who was previously head of research services for the archives of Emory University, to share some of her favorite discoveries.

EPIGRAPHY STONES "RBML has about 130 samples of Latin inscriptions incised in marble and lead. These date largely from the first two centuries CE and come mostly from Rome. Some weigh over a hundred pounds. The epigraphs tell you about the lives of the deceased. This one is from a woman to her husband, 'a well-deserving teacher.'"

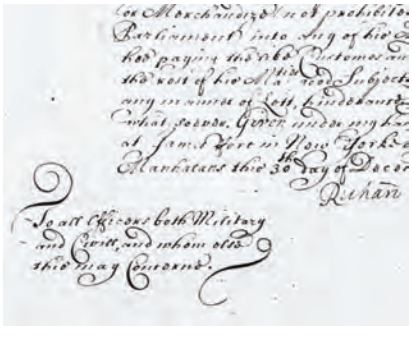


AMIRI BARAKA RECORDINGS "We have the papers of poet and activist Amiri Baraka, and the collection also contains recordings of his performances, interviews, and experimental films. It's fascinating to be able to see an artist turn from one medium to another."

1968 "We are also the home of Columbia's institutional archives, and the '68 collection is really astonishing. It has all kinds of interesting documentation of the campus protests from the point of view of the administration and faculty as well as the students, so that you get the whole picture of what was happening."

ARTHUR MITCHELL PAPERS "Choreographer and dancer Arthur Mitchell '16HON founded the Dance Theatre of Harlem (DTH), a direct result of the civil-rights and Black Arts movements. On display in Butler is a four-thousand-piece puzzle honoring DTH on its twentieth anniversary in 1989. It's an incredible artifact and an exciting visual celebration."

JOHN JAY PAPERS "John Jay 1764KC was one of the authors of the *Federalist Papers* and later the first chief justice of the United States. The collection includes correspondence with John Adams and Thomas Jefferson. If you like US history, you can read a biography of Jay or you can come in and read his letters to George Washington."



TONI MORRISON'S FILES "In the records of Random House are many treasures, but none are more significant to twentieth-century literature than the files of Toni Morrison '84HON, an editor at Random House from 1967 to 1983. One highlight is Morrison's scorching response to a critique of Angela Davis's autobiography."

TOP: EILEEN BARROSO; BOTTOM: COLUMBIA RARE BOOKS AND MANUSCRIPT LIBRARY

The Trials of Solitary Confinement

Columbia's Justice Lab takes aim at a controversial practice

"You are just in a cell going crazy, hoping to sleep your day away, or eat," says one man locked in solitary confinement at the state prison near Graterford, Pennsylvania. Another tells his interviewer: "I sit on the bed and do absolutely nothing … I'm not going to lie to you, I feel abandoned and alone at the same time."

Known colloquially as "the hole" and euphemistically as "segregated housing," "restrictive housing," or "special housing," solitary confinement is a form of punishment in which people are locked in parking-space-sized cells twenty-three hours a day, with no meaningful human contact for weeks, months, years, or decades. Prison officials call the practice a necessary tool for safety. Reformers call it inhumane.

In 2017, researchers from Columbia's Justice Lab, a group of scholars dedicated to fighting mass incarceration and advocating for better conditions in American prisons, launched one of the largest studies ever of solitary confinement. Led by founder and director Bruce Western, the chair of Columbia's sociology department, the team spoke with more than a hundred incarcerated men during and after their time in solitary. They also obtained twelve years of administrative records from the entire Pennsylvania Department of Corrections.

With this unprecedented access, Justice Lab researchers have now published three papers covering different aspects of solitary confinement, including its physical and mental toll, its relation to prison overcrowding, and its role in the social dynamics of prison life. The study also investigates racial disparities in the punishment. One startling finding is that 11 percent of all Black men in Pennsylvania born between 1986 and 1989 had spent time in solitary confinement by age thirty-two.

"We found strong evidence of psychological distress as well as a lot of material hardship, including hunger, exposure to extreme heat or cold, and sleeplessness," says Western, who is the co-principal investigator of the study with Jessica Simes, an associate research scholar at the Justice Lab and a sociology professor at Boston University. The corrections-department

records showed that the median time that people spend in solitary in Pennsylvania is thirty days. This despite the UN's Nelson Mandela Rules for the treatment of prisoners, which, as Simes notes, prohibit solitary except in the most extreme cases and consider more than fifteen consecutive days a form of torture.

"My enduring impression is of an incredible, almost impossible-to-capture experience of deprivation and harm," says Kendra Bradner, director of the Justice Lab's project on probation and parole reform, who along with Western and Simes conducted the cellblock interviews.

Originally devised by Pennsylvania Quakers to bring the isolated, self-reflecting offender to penitence, solitary confinement was instituted in 1829 at Eastern State Penitentiary in Philadelphia, famously visited in 1842 by Charles Dickens, who found the technique "cruel and wrong" and described the typical victim as "a man buried alive." With evidence linking solitary to mental breakdowns and suicide, the practice faded from use, but it reemerged in the 1980s with the rise of mass incarceration (the US, which represents 4.2 percent of the global population, now holds nearly 20 percent of the world's prisoners). The apotheosis of the revival was the 1990s explosion of "supermax" prisons — facilities made up entirely of solitary-confinement cells — and the use of solitary continues today as a means to punish a variety of behaviors and to control the prison population generally.

Yet for all the horrors of solitary confinement, the physical safety of corrections officers is also a constant concern, and the Justice Lab interviewed twenty-two prison guards to get a fuller understanding of the conditions confronting the staff. Western says that there are other ways to ensure staff safety and points to the absence of American-style solitary in other liberal democracies. "I've visited European prisons where the solitary-confinement units are empty," Western says. "We use solitary for weeks and months, while Europeans use it for three or four hours to cool people off. That tells me we could be doing something very different."

Justice Lab senior fellow Vincent Schiraldi sees present-day solitary as a natural outgrowth of our polarized politics. "When you have public policy based on the kind of anger and punitive sentiment that we had with mass incarceration, it's not surprising that our facilities got meaner," says Schiraldi,

ALEX NABAUM

a senior researcher in the School of Social Work who has been head of juvenile corrections for Washington, DC, and commissioner of the New York City department of corrections under Bill de Blasio '87SIPA. Both the inmates and the guards "have absolutely legitimate concerns, but they're not interested in hearing from each other," he says. "Either you 'hate' the guards and 'love' the inmates or vice versa. That's a big problem."

In the face of intractable bureaucracies and political inaction, the Justice Lab has been sharing its findings with prison officials, many of whom came up "walking the tier" as corrections officers and who insist they need solitary confinement to protect themselves and everyone else. "We're trying to provoke a conversation among these guys, and the response varies," says Western. "Some people are very open to this, but they want to understand what they could do differently."

The great challenge for reformers, then, is to find alternatives that reduce the harms caused by solitary while being responsive to the concerns of staff.

"How we treat our prisoners speaks to how we respond to human frailty and vulnerability and marginality, and that spills over into all our social policymaking," says Simes. "We need to find common understanding that prisons are meant to remove people's liberty — not their health or their humanity."

— Paul Hond

BRUCE GILBERT

Albright (center) in 2018.

Diplomacy and Diplomas

Madeleine Albright '76GSAS, '95HON was one of Columbia's greatest ambassadors

"As a former student and current professor, I have always loved Commencement ceremonies, especially the awarding of diplomas, the lovely music, and the multicolored academic robes," Madeleine Albright '76GSAS, '95HON told the SIPA Class of 2021 last year. "And what could be better than when the diploma and the robes are from Columbia?"

Albright, who died on March 23 at age eighty-four, was a giant of US diplomacy and statecraft. A protégé of Columbia professor Zbigniew Brzezinski (who became national security adviser under President Jimmy Carter), Albright served as the US ambassador to the United Nations from 1993 to 1997 and as the first woman secretary of state, under Bill Clinton, from 1997 to 2001. In the later years of her remarkable life, which began in Czechoslovakia two years before the Nazi invasion of 1939, she was a mainstay in Columbia affairs. She spoke at Low Library in 2018 about her late friend the Czech statesman and political dissident Václav Havel '90HON; discussed her book *Fascism: A Warning* at the Columbia Club of Washington, DC, in 2019; discoursed with President Lee C. Bollinger for the 2020 Columbia Alumni Leaders Experience (touching on fascism, globalization, and international relations); and recorded a message for Columbia's 2021 *College Bowl* team ("The whole Columbia community is behind you. Roar, Lion, Roar!").

Last May, when Albright regaled the SIPA Class of 2021 via Zoom, she listed the hurdles facing tomorrow's diplomats: the weakening of democracies, the fallout from COVID-19, the impacts of climate change, and the threats of cyberterrorism, regional wars, and hyper-nationalism. "I am now in my ninth decade on earth," she said. "I've seen too much suffering to be naive, too much decency to despair, and more than enough surprises to want money back on my crystal ball." It was a lot to place on the shoulders of the graduates, Albright conceded, but given the tests of the pandemic and growing demagoguery, she saw her listeners as resilient and well-prepared.

"Ahead of you now is another set of tests even more severe, even more important," she said. "The question arises: Are you equal to the challenge? I know that you are."

Second Acts

Eleven stories of life, learning, and personal reinvention

Dov Scheindlin

THEN: PROFESSIONAL VIOLIST NOW: SIPA STUDENT

For thirty years, I've made my living as a professional violist. I studied at Juilliard and have played all over the world, but I've spent most of my career in New York, where I'm a member of the Orpheus Chamber Orchestra and the Metropolitan Opera Orchestra.

When COVID-19 hit, the music world shut down. I started to get nervous about the future and wondered what I would do if I wasn't playing the viola. I knew that I wanted to make the world a better place and that there's a limit to what music can accomplish. Almost on a lark, I decided to apply to SIPA, which is just a few blocks away from where I live.

I'm now finishing my first year in the master of international affairs program, concentrating in economic and political development. It's been liberating to think about the world in such a different way and invigorating to be around so many idealistic young people. It's honestly kind of a rebirth.

I'm not sure yet what I want to pursue after graduation, but I know that I want to help bring prosperity and agency to people who need it. I'm in a very lucky position: music has come roaring back, so I've been able to juggle my two roles while I figure out my next steps. I've had a rich and varied career in music, but I'm having such a great time discovering this new side of myself.

As told to Rebecca Shapiro

Portraits by Jörg Meyer

Faith Grady

THEN: MAKEUP ARTIST NOW: GS STUDENT

Before the pandemic, I spent four years working as a makeup artist in Los Angeles — first as a beauty stylist at Nordstrom and then freelancing in the advertising industry and for celebrity clients. Some especially memorable projects were assisting on a music video with singer-songwriter Gracie Abrams and working on promotional campaigns for Netflix and Hulu.

At the start of the pandemic, the entire beauty industry came to a standstill. To fill the time, I enrolled in community college, thinking that I might eventually transition to the business side of the industry. As soon as I was back in a classroom, I remembered how much I loved learning. I had always been in honors classes but was so burned-out by the end of high school that I went straight to a trade school.

I started thinking more seriously about a four-year degree and looking beyond the beauty industry. Some software-engineering friends introduced me to the idea of computer science, and I taught myself the basics and found that I loved it. I applied to five East Coast schools, and Columbia felt most like home. I'm now finishing my first year, and it's been an unexpected but incredible experience.

Tristen Kim

THEN: ACTOR NOW: COLUMBIA NURSING STUDENT

I started acting when I was a college student in South Korea, studying theater, French, and Japanese. I was cast in a small community-theater production, and found that I loved it. That play ended up on the Korean equivalent of Broadway, which led to television roles, as well as short films and commercials across Asia. Like many young actors, I decided to drop out of college and move to Los Angeles to try to make it in Hollywood.

Acting has truly been a source of healing in my life; it's gotten me through difficult times and helped me overcome traumatic experiences in my past. So when I started to think about a career that would complement acting, nursing seemed like a natural fit. I was committed to continuing my artistic goals but also wanted a stable job that allowed me to serve people. I finished my undergraduate degree in neuroscience, completed my prerequisites at USC, and then applied to Columbia's RN program.

I've spent a lot of time working in the hospitality industry, and I think that experience, as well as my acting, will be helpful as I start my nursing career. Nurses have the most interactions with patients; they're the ones going room to room to check if things are OK. I thrive on those personal interactions, even in fast-paced and stressful environments.

Will Savage ’19CC

THEN: MINOR-LEAGUE BASEBALL PLAYER NOW: VP&S STUDENT

I was drafted in 2016 by the Detroit Tigers and spent four years playing in the minor leagues. I grew up in New York City, so it was eye-opening to live in different parts of the country, staying with host families and forming friendships with people of very different backgrounds. Getting to play baseball at that level was a dream come true. But it’s not easy. Players often leave their families as teenagers and have to deal with the daily threat of losing their jobs. I’ll always remember how deftly my teammates handled that pressure.

When the minor-league season was canceled because of COVID, it felt like a natural time to apply to medical school. I also got my undergraduate degree from Columbia, so I was returning to a familiar place. But I think that my time away was really valuable. I hope that it will make me a better doctor.

Catherine Jennings ’19GS

THEN: MIDDLE-SCHOOL SCIENCE TEACHER NOW: VP&S STUDENT

I spent eleven years teaching middle-school science, first at a public school in Knoxville, Tennessee, and then at a private school in Brooklyn. I got into education because it felt both familiar and important — my mother, an exceptional educator, was actually my seventh-grade science teacher. I didn’t know of a lot of women doctors, or women going to medical school, so the representation wasn’t there for me.

I loved teaching, but after a while I started to feel stagnant. Medicine was always in the back of my mind, but by then I was in my mid-thirties, and I felt too old to go back to school. Eventually, I realized that I was the only one standing in my way, and that starting over to pursue my passion was a powerful message I could give my students.

I have no regrets about my long teaching career. It has made me a better student, because I do what I would tell my own students to do: I advocate for myself and use all the resources available to me. I’m also certain that it will make me a better doctor. I’m entering my fourth year of medical school and planning to go into obstetrics and gynecology. I know that I’m going to serve patients from all walks of life, with varying degrees of health literacy and knowledge about their own bodies, and I really want to empower them to understand and take control of their health. My time as a teacher has prepared me to meet each patient where they’re at.

Kaelo Justin Iyizoba

THEN: PHARMACIST NOW: SOA FILM STUDENT

In Nigeria, where I grew up, there's a lot of societal and familial pressure to find a practical career — something like law or medicine. My sister was a pharmacist, so I decided to follow in her footsteps. I studied pharmacy for five years, did an internship, and then practiced for a year. It was OK, but my heart wasn't in it. I wanted to do something more creative.

When I wasn't studying, I was watching movies or television. I started looking into coursework that would lead to a job in the entertainment industry and came across Columbia's film program at the School of the Arts. I didn't think that I had much of a chance: my journey to film school was not straightforward, and a program of Columbia's caliber felt out of reach. But I really wanted to try.

I'm now in my second year of the MFA program, and with each passing day, my voice as a filmmaker grows. The film industry in Lagos — called Nollywood — has exploded in recent years, but the focus is on quantity over quality. I want to tell authentic stories that amplify voices from Nigeria and the rest of the continent and that will also travel far beyond them.

A lot of my classmates came to Columbia after many years of studying art. I had none of that experience, but I actually think that's to my advantage. I take things at face value, without overintellectualizing them. I don't look at things through the traditional lens.

Jarrell Daniels ’22GS

THEN: INCARCERATED NOW: GS GRADUATE

Graduating from Columbia — with a double major in African-American studies and sociology — is something that I never could have imagined. I plan to go on to law school and eventually run for public office, with the hope of driving institutional and justice-system reform. I know firsthand how difficult it can be to survive prison and succeed afterward.

I was arrested and charged in a forty-one-count gang conspiracy case with nine of my friends when I was eighteen, and I was sentenced to six years in prison. While serving my final ninety days at the Queensboro Correctional Facility, I saw a flier for a new program being offered in the prison called Inside Criminal Justice — a semester-long seminar, cosponsored by Columbia’s Center for Justice, that brings together incarcerated people and prosecutors. I had never taken a college course, but I saw it as a way to redeem myself and prepare to return to society. I wanted people in power to see that my life wasn’t disposable.

I was so motivated to get a degree that I actually returned to the same prison after my release to complete the course. I spent a year in community college and then transferred to the School of General Studies in 2019. That same year, I founded the Justice Ambassadors Youth Council — an eight-week program designed to bring justice-involved youth together with city officials

to identify and discuss community challenges and then co-develop policy proposals aimed at addressing them.

It's almost impossible to thrive after leaving prison. I know that my story is unusual — I'm one of seventy million felons, most of whom don't have access to institutions like Columbia or its resources. As a Black man with a criminal record, I have two strikes against me. I see education as the only equalizing factor, the only way to prevent that third strike.

Reed Kessler

THEN: OLYMPIC EQUESTRIAN NOW: SIPA AND GS STUDENT

I've been riding horses competitively since I was a child. I grew up riding with my family, and my godmother, Katie Prudent, is one of the most decorated female equestrians of all time. I was lucky to have a few big career highlights at a young age. I won the US national championship in show jumping in 2012, when I was seventeen. That same year, I became the youngest equestrian athlete to compete at the Olympic Games.

I made wonderful memories competing, but I reached a point where I didn't feel as fulfilled and I wanted to go back to school. Alongside my athletic career, I'm an ambassador for JustWorld International, an organization that partners with local NGOs to provide educational opportunities to underprivileged children. That experience sparked my interest in human rights and foreign policy, which led me to Columbia.

As a slightly older student, the fast track to a bachelor's and a master's in the SIPA/GS dual-degree program was incredibly appealing to me. I'm concentrating in international security policy and am currently interning at the United States Mission to the United Nations. I'm interested in a career in either foreign or civil service at the State Department or in peace operations at the UN.

My athletic career was instrumental in getting me where I am today, and I know it will continue to prepare me for what lies ahead. I learned discipline, perseverance, patience, and strategic planning — all skills that make for a successful student and civil servant.

Daniel Munden

THEN: NASA ENGINEER NOW: COLUMBIA LAW STUDENT

I spent a little over four years working at NASA as a structural analyst, which means that I helped to design, analyze, and test spacecraft to ensure that they wouldn't fail during launch and operation. I designed parts of the Orion — a spacecraft that will eventually be used in the Artemis mission to return astronauts to the moon — and I developed mechanical specifications for the Nancy Grace Roman Space Telescope.

It was thrilling to have that kind of hands-on experience. But working in the DC area, I became aware of how much impact the law and legislative process has on high-level decision-making at places like NASA. I decided to apply to law school because I wanted to be a part of that, to add that to my skill set.

I haven't decided yet what I want to do when I graduate; eventually, I might return to NASA in a different capacity. For now, I'm getting used to learning in a different way, and to a whole lot more reading.

Danica Selem

THEN: ARCHITECT NOW: SOA THEATER STUDENT

My father was a theater director from Split, a historic city on the Dalmatian coast of Croatia. All my early memories are from the theater — doing my homework in the wings and staying up late to watch rehearsals. I was always interested in the process of making theater, but I wanted to forge my own path.

I decided to study architecture, which combined many of the things I loved: art and art history, design, politics, and social science. I did my undergraduate studies in Croatia, then came to the US to earn an MA at the Pratt Institute in Brooklyn.

While I was in graduate school, I realized that I viscerally missed working with bodies and movement in real spaces. I started a research and performance group called Bodies Intersect Buildings, which explores how architecture shapes our physical, social, and emotional behaviors. And I taught architecture at Cornell, where I designed two elective seminars on the themes of body and space, and created performances in collaboration with students from the music department.

I realized that, despite my best efforts, I was getting back to my theatrical roots. A friend asked me to assist with a play she was directing, and it felt like coming home. I'm now finishing my first year in Columbia's MFA program in theater directing, and I couldn't be happier. I just directed a beautiful play, *The Woman and the Banana Tree*, written by a classmate, and I am working on several other projects. I'm in love with the live aspect of theater — the fact that so many people have to align to make a singular event happen — which feels especially important in this moment.

Maher Benham '75GSAS, '22NRS

THEN: MODERN DANCER NOW: NURSE PRACTITIONER

I started dancing when I was four years old, and it's been the through line of most of my life. I trained with Martha Graham, whom I consider my mentor and spiritual mother, and I still teach her dance techniques to this day. I've traveled the world, studying dance traditions — including as doctoral research for a PhD program in cultural anthropology that I completed at Columbia — and founded my own modern troupe, the Coyote Dancers.

In 2003, I started a dance, yoga, and music academy called the Hummingbirds School, geared toward people with special needs. I was inspired by my nephew, who was born prematurely with cerebral palsy. When he was small, he used to come to my dance classes and move to the music in his wheelchair.

Nursing was something that had always interested me, and my work with dancers with special needs made me consider it more seriously. Making such a big change wasn't easy; I'd never studied science before and had to take two years of prerequisites before even applying. When I started the program, I thought that I might not be taken seriously. But everyone at Columbia was so respectful — both faculty and students.

Nursing and dance sound like two totally different things, but I don't think that they are. Exercise, yoga, and meditation can help people live healthier lives and prevent disease. And I believe fundamentally that art heals — physically, emotionally, and spiritually. When the audience sees you leap, they feel like they can surmount all the obstacles in their lives. When I bring dancers into a nursing home full of patients suffering from dementia, I start to see a light in their eyes. My mission is to combine the two sides of my life in a meaningful way, and Columbia has prepared me to do exactly that.

Take Me Out to the Brain Game

What neuroscience and psychology can tell us about baseball — and ourselves

By Paul Hond Illustration by Brian Stauffer

Gene Larkin '84CC was shaking. "I've never been so nervous in my life," he says.

It was October 27, 1991, and the Minnesota Twins and the Atlanta Braves were tied 0–0 in the bottom of the tenth inning of the seventh game of what many consider the greatest World Series ever played. With fifty-five thousand fans rocking the Metrodome in Minneapolis and another fifty million watching on TV, the Twins loaded the bases with one out. If they could bring the runner home from third base, victory would be theirs. But the next man up was known for his speed, not his bat, and Twins manager Tom Kelly decided to make a switch: with the series on the line, he went over to Larkin, a twenty-nine-year-old bench player with knee tendonitis, and said, "It's your turn."

Larkin had been summoned to pinch-hit six times in the postseason and had reached base once. Knowing he might be called again, he'd started doing stretches and swinging a bat in the fifth inning, though in fact he'd been preparing ever since he was a boy in North Bellmore, on Long Island. Back then, like any kid playing ball in his yard, he'd pretend he was at bat in Game 7 of the World Series with a chance to win the whole thing. Now, somehow, the fantasy had materialized in all its surreal intensity, and as Larkin lumbered from the dugout into the thousand-watt lights, he was shaking so badly that he was sure everyone could see it.

But when he stepped into the batter's box and looked out at the pitcher, Alejandro Peña, something strange happened: Larkin entered a tunnel of calm. "It was just so weird," he says. "I went from the most nervous person ever to 'I've been in this batter's box thousands of times.'" The Braves outfielders were playing shallow to cut off the winning run, and Larkin was looking for a first-pitch fastball to send over their heads.

For most mortals, making *any* contact with the ball would have been next to impossible. A pitch traveling at ninety miles per hour from the pitcher's hand to the catcher's glove takes about four-tenths of a second, and it takes a full two-tenths of a second for the brain to send a signal to the muscles to respond. "That leaves your brain with two-tenths of a second — half an eye blink — to be able to see the pitch as it's coming in and decide whether or not to swing," says Zach Schonbrun '11JRN, author of *The Performance Cortex: How Neuroscience Is Redefining Athletic Genius*. The decision is complicated by other factors: the type of pitch (fastball, curve, slider), its location (high, low, inside, outside), the situational stress (in Larkin's case, extreme), the noise of the crowd (ditto). "Anything that clouds the hitter's focus eliminates the possibility of squarely hitting the ball," Schonbrun says. "There's just not enough time during a pitch for a hitter to readjust."

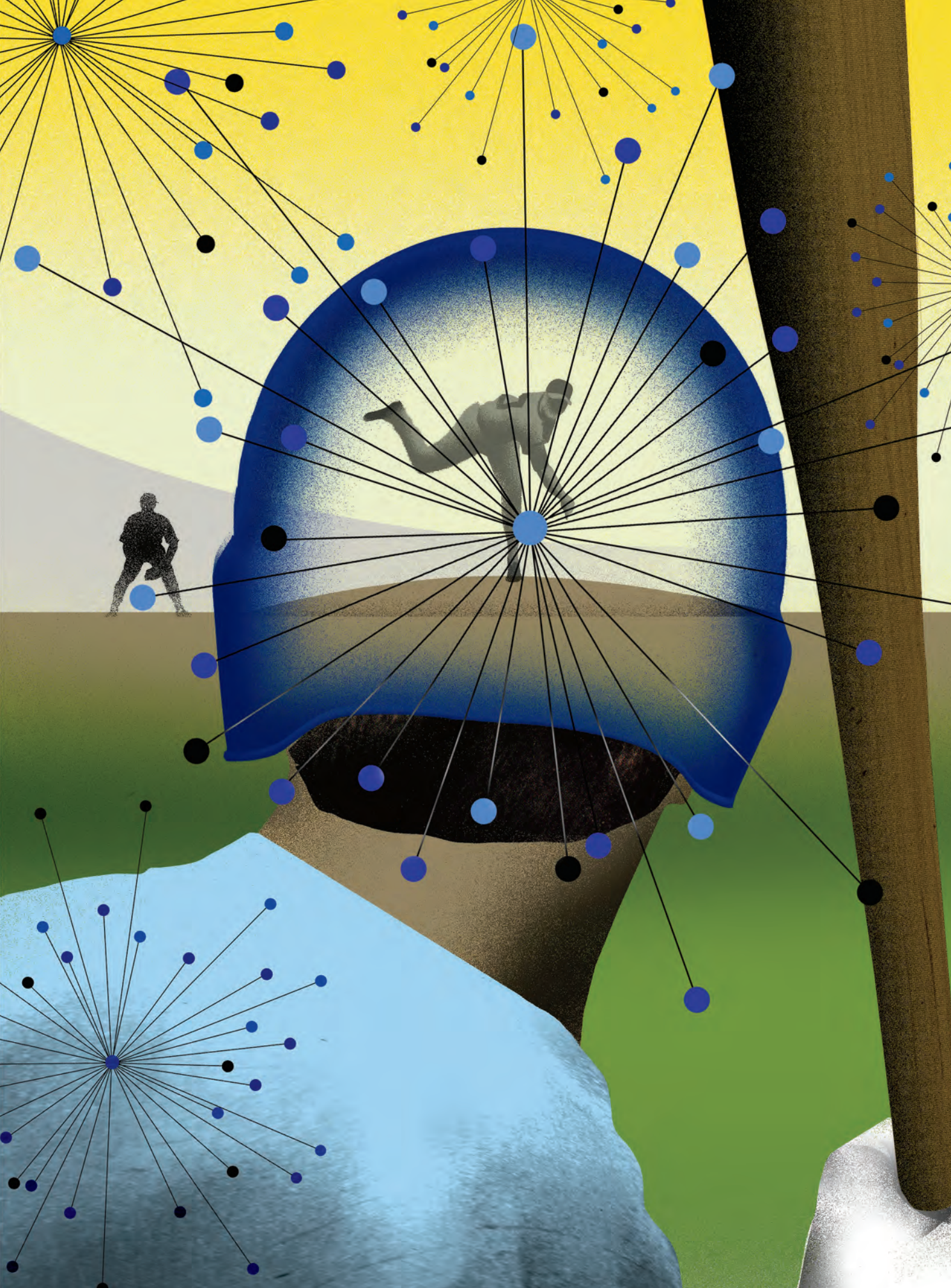
As Peña stared down at his catcher for the sign, Larkin cocked his bat repeatedly. His task was to bring the thickest part of the bat, called the barrel — about two and a half inches in diameter — into precise contact with a speeding 2.9-inch-diameter projectile.

Peña kicked and delivered, and as the ball left his hand, Larkin reacted: his retina transmitted information to his visual cortex, which signaled his motor cortex, which sent nerve impulses down his spinal cord to his muscles. His arms extended, the barrel met the ball, and in that instant of contact, Larkin knew.

The fans knew too, and so did the CBS television announcer, Jack Buck, who at the crack of the bat said, "The Twins are going to win the World Series!" — and then, as the arcing ball landed on the turf beyond the outfielders: "The Twins have won it! It's a base hit! It's a 1–0, ten-inning victory!"

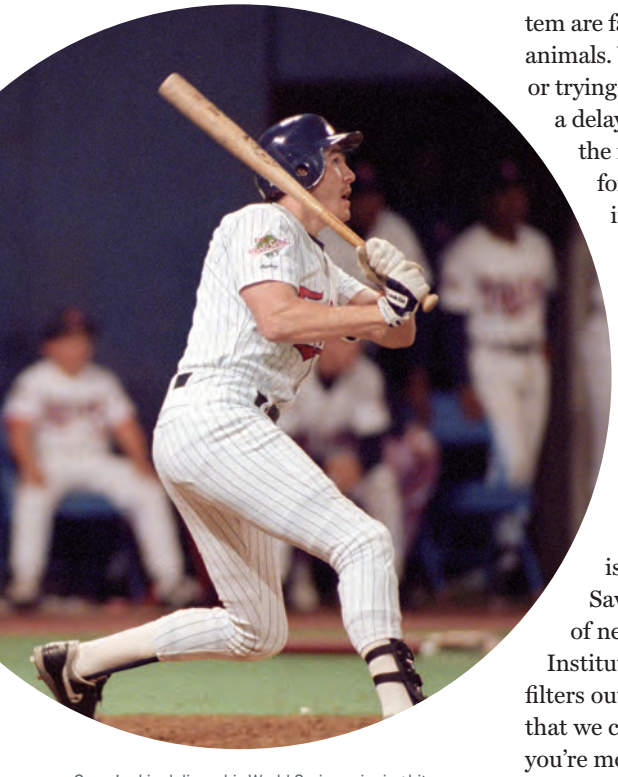
The Metrodome nearly burst its roof as Larkin, arm raised, loped to first base while the man on third scored the winning run, and Larkin's teammates rushed onto the field to mob him. "I went from nervous as hell to calm to exhilarated in ten seconds," he says.

For decades, Columbia psychologists, biomedical engineers, and therapists have been probing the secrets of athletic excellence, the integration of mind and body that allowed Larkin to succeed. And today, at Columbia's Zuckerman Institute, neuroscientists are revealing the mechanics of movement itself, from basic voluntary actions to tasks requiring quick decisions, elaborate coordination, and memory. This research into the orchestration of neurons and



muscles, the poetry of motion, could not only help us improve our performance at work and at play but also lead to treatments for motor impairments caused by injuries, stroke, and diseases such as Parkinson's. Unlocking athletic success, and controlled movement generally, is both a brain game and a mind game, a cerebral double-header, and it all begins with that three-pound ball of nerve cells in our skulls.

"To understand the brain is to understand action," says Daniel Wolpert, a neuroscientist at the Zuckerman Institute and a leading authority on motor control. "We tend to think our brain is there for us to perceive the world, but the brain's most basic function is to move our bodies, whether to evade a threat or to interact with others through speech or gestures. The only way to affect the world is through the control of movement."



Gene Larkin delivers his World Series–winning hit.

For an athlete trying to hit a ball or shoot a basket, action is complicated by the potential range of our movements: "It's hard to control things precisely," Wolpert says. "With two hundred joints and six hundred muscles, we have many degrees of freedom. Every time we try to use our muscles there's variability." Wolpert calls this variability "noise" — the inherent inconsistency that prevents us from generating the same exact motion each time we swing a bat or chop a carrot. "Motor noise increases the faster you move. If you do something very slowly, you can do it precisely. If you try to do something quickly — like swing a bat — it adds more variability to the movement."

Another problem is that the electrical connections in the human nervous system are far slower than those of smaller animals. Whether we're biking in traffic or trying to hit a moving ball, there is a delay between the eye seeing and the muscles reacting. "It takes time for the retina to respond, for the information to get to your brain, and for the body to respond," says Wolpert. "That means that when you want to make fast movements in sports, you have to predict ahead of time. Prediction is fundamental. You have to anticipate where the ball will be."

The element of prediction is as complex and subtle as it is central, explains Nathaniel Sawtell, an associate professor of neuroscience at the Zuckerman Institute who studies how the brain filters out unimportant information so that we can focus on a task. "Any time you're moving around in the world, you're bombarded by sensory input that's a result of your own movements, and you need to be able to tell whether a sensory input is due to an external event or your own actions," Sawtell says. "And so the brain has to constantly generate predictions of what sensory input to expect from a given movement. If you pick up an object that looks light but is really heavy — say, a cup you thought was empty but is in fact full — your arm will jerk up, which shows that you made a prediction about the cup's weight.

"The simplest actions involve complicated coordination, and you want to use these predictions. Still, every so often, you screw it up."

Larkin, plucked from the bench with the bases loaded in the tenth inning of the deciding game of the World Series, faced these challenges and more. "You can take all the batting practice before a game, do all the mental exercises, and study all the film on the pitchers," says Larkin, who retired as a Twin in 1994 and today lives in Eden Prairie, Minnesota, where he works as a financial planner. "But when you're in the batter's box and there's a guy sixty feet and six inches away throwing ninety-five miles per hour, you are on an island, and no one can help you."

So what, exactly, was happening in Larkin's brain as the ball left Peña's fingertips?

That's what Jordan Muraskin '15SEAS wanted to know. As a PhD student at Columbia, Muraskin worked in the lab of Paul Sajda, a professor of biomedical engineering who focuses on what occurs in our brains when we make split-second decisions. The Sajda lab uses EEG (electroencephalography, in which electrodes attached to the scalp record electrical activity in the brain) and fMRI (functional magnetic-resonance imaging, which measures cerebral blood flow) to create temporal and spatial maps of the brain in action. In 2013, Muraskin, a Yankees fan, and postdoctoral researcher Jason Sherwin, a Cubs fan, employed this technology to launch a landmark study of the brains of athletes.

The cumbersome medical equipment precluded any trials with live pitching. Instead, Muraskin and Sherwin used physics equations to create computer simulations of the trajectories of three types of pitches: fastballs, curveballs, and sliders. Their test subjects, wearing video goggles and EEG caps and placed inside an fMRI scanner, saw a gray screen with a green ball coming at them in the motion of one of the three pitches. The fMRI would show *where* things were happening in the brain as the pitches came in, and the EEG

RONALD C. MODRA / SPORTS ILLUSTRATED VIA GETTY IMAGES

would show *when*. Muraskin and Sherwin detected variations in the way the brain noticed different pitches. Excited, they took the idea to Sajda, a Mets fan.

Sajda loved it, and Muraskin had his doctoral thesis: he would combine the data from the EEG and the fMRI to illuminate what happens in the brain when people make hair-trigger decisions. He was particularly interested in comparing the brain activity of athletes to that of novices, and so he recruited members of the Ivy League champion Columbia baseball team (the Lions won Ivy titles in 2013, 2014, and 2015) to put on the goggles and "play ball" while the machines recorded the fluctuations of blood and electricity in their brains.

The results were eye-opening. In one finding, the investigators discovered activity in the fusiform gyrus, in a region called the fusiform face area (FFA), a part of the brain first named in 1997. "The theory was that faces are so important to us that there's a part of the brain specially dedicated to them," says Sajda. Later studies showed that the FFA also lights up in birdwatchers when they glimpse a bird. "The discussion became: maybe this area responds not just to faces but also to other objects that are important to us, and we file them there because there are neural connections between this area and the motor cortex that allow us to respond quickly. In the ballplayers, the pitches activated the FFA, which is really interesting: a pitch is not an object, it's a ball moving in time. Yet it's so important to the player that the brain learns to represent it in these privileged areas."

In another experiment, the subjects were told to expect fastballs and to swing at them. If a curveball came, they were to *not* swing. This test activated a part of the brain called the pre-supplementary motor area, which is typically involved in *inhibiting* response. "When hitters are primed for that fastball, they're a loaded spring," Muraskin says. "Stopping that swing is as forceful a physical action as following through."

According to Mark Churchland, an assistant professor of neuroscience at the Zuckerman Institute and an expert on voluntary movement, two things happen in the motor cortex before our bodies make a voluntary move. "The first stage is purely preparatory, and while it doesn't commit you to ultimately making the movement, it's necessary for movement, and that takes at least fifty milliseconds," Churchland says. "Then there is the triggering stage, when you're committed to the movement you're going to make. As a hitter you might be able to struggle and check your swing, but basically, once you've pulled the trigger, you're going to make that movement. You can kind of see athletes struggling with whether to pull the trigger. There can be a real cost to making a movement you didn't want to make."

> "The simplest actions involve complicated coordination."

With that truth in mind, Muraskin and Sherwin adapted their research on athletes and created deCervo, a company that develops simulation apps to help athletes, referees, and law-enforcement officers improve their decision-making. A deCervo video course for police officers incorporates real bodycam footage and provides feedback on the speed and aptness of users' actions. The principles apply across fields, and one of the most compelling findings from the Sajda lab research was that the motor areas that govern inhibition were far more active in the ballplayers than in the non-players.

"What it looks like mechanistically is that what makes some hitters better than others isn't how fast they swing but how fast they can *stop* their swing," says Sajda.

In baseball this is known as having "a good eye" — the ability to judge the path of a pitch as soon as it's released, and, if it's out of the strike zone, to *not* pull the trigger. But such radical motor control isn't the only tough demand on a batter. Early on, a player must overcome the primal fear of getting drilled by a whistling baseball. "This game is a crazy pursuit, because when you're batting you're always inches from getting hit," says Jordan Serena '15CC, a Columbia baseball star who played for three years in the Los Angeles Angels farm system and now runs the hitting program at Rogue Baseball Performance, a sports-training facility in Colorado. "Your brain sees a ball coming at your face, and it wants to save you. It wants you to move. But you're playing a sport where you have to stand there, without freezing up or flinching, in case the ball comes down into the strike zone. Hitters at all levels freeze at the plate on certain pitches."

The reflex of "freezing" in response to a sensory threat signal — a loud bang, the sight of a predator — has been observed throughout the animal kingdom. Richard Mann, a professor of biochemistry at the Zuckerman Institute who studies the neural circuitry that governs coordinated movement in fruit flies, runs a lab that recently uncovered the chemical source of this "startle response": serotonin, a neurotransmitter known for its role in regulating mood. "Serotonin can change the physiology of the neurons that it acts on," says Mann. "We think it gets released in the ventral nerve cord of the fruit fly, which is the equivalent of the spinal cord in vertebrates. We're trying to identify the primary neurons that serotonin has to work on to cause the fly to freeze." Mann posits that a good hitter must be able, whether innately or through training, to suppress the startle response.

The fruit fly has been informing our own molecular makeup ever since evolutionary biologist Thomas Hunt Morgan established his famous "fly room" at Columbia in 1910 and demonstrated the physical basis of heredity,

revolutionizing the field of genetics. In the Mann lab, students and postdocs study the growth and function of the six legs of the fly, tracing the development of motor neurons from stem cells and trying to understand the circuitry that makes a fly walk. "When our limbs make a move, we have to coordinate all the different joints, flexors, and extensor muscles, then coordinate between the left and right legs, then the different segments," says Mann. "Flies also do this — they use their legs to walk, groom, fight, and mate, and they have to coordinate all the movements. There are about fifty motor neurons for the leg and about fourteen muscles, so it's not that complex a system. But it's all translatable to vertebrate circuitry.

"There can be a real cost to making a movement you didn't want to make."

"Coordinating the muscles is where the rubber meets the road. No matter how complex your brain is, the execution is what matters, and in baseball, like any activity, every step of the process is important: how well you see, how well you calculate the speed and trajectory of something coming at you and then integrate that and respond to that within milliseconds. It's astounding, right?"

On a September afternoon in 1921, the most famous man in America came to Columbia to take an exam. At twenty-six, George Herman "Babe" Ruth, outfielder for the New York Yankees, was a scientific curiosity. That year, Ruth would compile perhaps the best hitting season of any player in history: he would swat fifty-nine home runs (topping his own record of fifty-four set in 1920, which had smashed his record of twenty-nine set in 1919), drive in 171 runs, score 177 (still the most by any player since 1894), amass 457 total bases (an all-time record), and bat .378. Everyone wanted to know: how did he do it?

One day, after a game at the Polo Grounds (the Yankees' home field) in which he'd hit one of his fabled long home runs, Ruth, still in his baggy gray uniform, accompanied the sportswriter Hugh Fullerton, on assignment for *Popular Science Monthly*, to Morningside Heights. The two men stopped at the Columbia campus and entered Schermerhorn Hall, home to the school's psychological research laboratory.

Ruth's visit stemmed from a burgeoning effort within psychology to analyze motor responses to predict success in athletics and other fields. Columbia was one of the centers of the young science. In 1891, James McKeen Cattell, whose early work had focused on how quickly a person could identify letters, words, and colors, was named head of Columbia's new psychology department. Among his students was Robert S. Woodworth 1899GSAS, whose analysis of motor behavior and skilled performance led to his groundbreaking dissertation, "The Accuracy of Voluntary Movement." And in 1915, the department hired E. W. Scripture, a pioneer in reaction-time experiments on athletes.

In Schermerhorn, two researchers, Albert Johanson 1916CC, 1922GSAS and Joseph Holmes, greeted Ruth and led him through a battery of standard psychological tests. For three hours, the Babe was the picture of steadiness as he performed the tasks. He jabbed a tiny peg into tiny holes as quickly and accurately as he could, tapped a key with his finger as fast as he could, pushed buttons in response to flashes of light, looked into a machine in which groups of letters of the alphabet were exposed for one fifty-thousandth of a second and called out the letters the instant he saw them. As Fullerton would write, Johanson and Holmes "figuratively took [Ruth] apart, watched the wheels go round; analyzed his brain, his eye, his ear, his muscles; studied how these worked together; reassembled him, and announced the exact reasons for his supremacy as a batter."

The article was published in the October issue, which featured Ruth on the cover. "The secret of Babe Ruth's ability to hit is clearly revealed in these tests," Fullerton proclaimed. "His eye, his ear, his brain, his nerves all function more rapidly than do those of the average person. Further, the coordination between eye, ear, brain, and muscle is much nearer perfection than that of the normal healthy man." The *New York Times* picked up the story, touting the conclusions in a breathless headline: RUTH SUPERNORMAL, SO HE HITS HOMERS / PSYCHOLOGISTS PROVE CO-ORDINATION OF EYE, BRAIN, NERVES AND MUSCLE IS VIRTUALLY PERFECT.

A hundred years later, that verdict appears as bloated as a mid-career Babe after an all-nighter at the Cotton Club. "There's a narrow range of reaction times that all people fall into, whether it's you, me, or Babe Ruth," says *Performance Cortex* author Schonbrun. "I think if they'd brought in the backup second baseman of the Detroit Tigers, they'd have found similar results." Richard Abrams '79SEAS, a cognitive psychologist at Washington University in St. Louis who in 2006 put Cardinals slugger Albert Pujols through similar tests, agrees. "It's not clear how the results could be used to predict success in sports," he says. "While people who perform poorly are not likely to become good athletes, my guess is that there are people who perform really well who also won't become baseball players."

So what really separates the great players from the good ones? Daniel Wolpert, the motor-control expert, believes that part of the answer lies in nature.

"I expect that great players have less variability in their motions and better learning algorithms than people like me, and are probably born that way," he says. "I've tried to learn sports, and however much I try, I can't improve in the way that others do."

For Larkin, who was the first Columbian to make the majors since Lou Gehrig, there's an X factor in performance that can't be easily quantified using electrodes or vision tests. "You have to have an inner bravado at home plate and really believe that you can compete with the guy on the mound, no matter how good he is," he says. "If you don't, your chance of success is almost zero."

But how to get there? Mark Louie '19TC, a licensed professional counselor and assistant athletics director for championship performance at Columbia Athletics, emphasizes self-awareness: having a clear goal and knowing what you need to succeed. "If you have self-awareness and you know what motivates you and what your strengths and weaknesses are — if you know you're going to perform better with certain resources available — then you can control some of those variables and give yourself the best opportunity to perform at a high level," says Louie, who works with Columbia's coaches and over 750 student-athletes.

Louie says that the best guarantor of success — whether it's hitting balls, arguing a court case, or playing music — is mastering the skills that allow for optimal performance. "Mastery comes from deliberate and specific practice and is connected with increased resilience and confidence, which can prevent you from internally defeating yourself," he says. "Confidence is a huge component of any performance."

"Confidence is built by being very selective in how you manage your memories (not dwelling on past failures), how you talk to yourself in the present, and how you think about your future," says Nate Zinsser '82TC, director of the performance-psychology program at West Point and author of *The Confident Mind*. "In high-pressure situations you can't become preoccupied with the desired outcome; you have to be thinking about the process that will lead to that outcome, such as where to focus your eyes. You must be *present* — not thinking about how big the moment is but asking, 'What should I pay attention to?' That approach has to be practiced in low-pressure situations so that it becomes a habit. You have to practice your mindset as well as your movements."

Julia Colangelo '12SW, a mindset coach and founder of Hello Flow, a consulting and educational company based in Maui, sees in Larkin's momentous at-bat a classic example of "flow," a state of consciousness named by the Hungarian-American psychologist Mihaly Csikszentmihalyi to describe the sensation of being so completely immersed in a task that nothing else seems to exist. Colangelo teaches that flow can be generated through practiced preparatory behaviors — in Larkin's case, doing stretches and swinging the bat. "By setting up the proper conditions, Larkin made himself available for flow if the opportunity presented itself," she says.

Research has shown that during the flow state, the prefrontal cortex — the part of the brain associated with complex planning and decision-making — shuts down. "That's why Larkin, when he got to the plate, entered a flow state," Colangelo says. "He was *prepared*: he knew what was being asked of him and what was needed. Once the flow state was triggered, his prefrontal cortex shut off, and when that happens you no longer have self-doubt, inhibition, or fear. You can perform at your highest level without being self-conscious or worried. You radically trust yourself. You can train your brain to do this with repetition and preparation."

Larkin's own self-assessment confirms this. "As a full-time role player for most of my major-league career, I took pride in being as best prepared as possible, physically and mentally, before I got in the batter's box," he says. "It's all about preparation."

Often, Larkin looks back on The Hit and tries to analyze his abrupt shift at the plate from wild anxiety to a pure, laser-focused serenity.

"The only thing I can put together is that I didn't think Peña could strike me out — I just didn't," he says. "I just had to put the ball over the outfielder's head or hit a ground ball between the infielders, so believing he couldn't strike me out gave me a sense of calm.

Babe Ruth undergoes tests for bat speed and breathing at Columbia's psychology lab.

"The bottom line is, I believed I could get the job done, and I was fortunate enough to get the right pitch at the right moment."

More than thirty years after Larkin's World Series heroics, the three key drivers of that event survive. The bat he used is displayed on his living-room mantel. The ball rests in a case in Cooperstown, New York, in the Baseball Hall of Fame. And the most important one — his brain — still lights up at the memory of the pitch coming toward him.

MARK RUCKER / TRANSCENDENTAL GRAPHICS, GETTY IMAGES

ANIMALS ON

THE MOVE

IN THE ARCTIC, CLIMATE CHANGE IS UPSETTING THE MIGRATORY RHYTHMS OF MANY SPECIES, DISRUPTING POLLINATORS, AND SPELLING TROUBLE FOR ECOSYSTEMS AROUND THE WORLD

BY DAVID J. CRAIG

The Alaskan tundra, a vast, windswept, and treeless region at the edge of the Arctic Circle, is a place of stunning natural beauty. In winter, the area is blanketed by darkness, and polar bears, wolves, foxes, and lynx rule the snow-covered landscape. In summer, when the sun floats above the horizon for nearly twenty-four hours a day, temperatures routinely hit the mid-sixties, and the tundra springs to life. Patches of grass, wildflowers, moss, and shrubs emerge from beneath the melting snow; thundering herds of caribou, moose, and musk ox travel north to feast on the lush vegetation; and millions of birds from all over the world, drawn by a bounty of insects, worms, and berries, swoop in to mate and raise families.

But this pristine landscape, and the intricate web of life that it supports, is under stress. Climate change is warming the Arctic twice as fast as the rest of the planet and is altering the habitats not only of its native species but of the countless migratory wayfarers who summer there.

Natalie Boelman '04GSAS, an ecologist at Columbia's Lamont-Doherty Earth Observatory, has spent more than a decade monitoring wildlife in the region, seeking to understand how animals are responding and adapting to the rising temperatures. Not content to follow a single species, as many ecologists do, Boelman has overseen a series of large studies to assess how the entire biome is being altered by climate change.

"Everybody knows that the polar bears here are in trouble," she says. "But what about the grizzlies, the caribou, the songbirds, the waterfowl, the rodents, and the insects? How are they coping? And how are their fates interconnected and tied to the physical environment? That's the bigger picture."

To get a comprehensive look at animal life on the tundra, Boelman and her colleagues combine traditional boots-on-the-ground fieldwork with innovative data-collection techniques. They have set up dozens of microphones and audio recorders to detect the presence of birds by their songs and calls, have installed cameras at key locations to document the comings and goings of various species, and have outfitted a multitude of animals with tiny GPS sensors that transmit their locations to satellites.

Periodically, the scientists map the huge amounts of data they gather about animal movements against detailed climate information and images of the landscape collected from space. "We look to see if global warming and related changes in the timing of seasons and in vegetation cover are affecting where the animals go to feed, mate, and raise their young, as well as when they arrive at those locations and depart," Boelman says.

Dozens of animal species that survive on the tundra are already known to be endangered — including caribou, foxes, grizzly bears, moose, polar bears, bison, musk ox, red-breasted geese, and spoon-billed sandpipers — but Boelman's ambitious, big-data approach to ecological research has yielded additional discoveries. She and her colleagues, who include scientists from a half dozen universities and numerous US and Canadian government agencies, have found that because spring now begins here two weeks earlier than it used to, the migration schedules of some birds, including golden eagles, are falling out of sync with the shifting seasons. The researchers fear that this could leave the eagles too little time to raise their young before the summer's abundant food supplies run out. Warmer temperatures have also brought swarms of bloodthirsty mosquitoes, which are

PREVIOUS SPREAD: TOM WALKER / ALAMY

Above: Snow geese migrate to Alaska from across the US to mate each spring.
Below: The red fox is among a small number of species that live year-round on the tundra.
Previous spread: A bull moose in northern Alaska.

Natalie Boelman at Columbia's Lamont-Doherty Earth Observatory in Palisades, New York.

TOP: DOUBLE BROW IMAGERY / SHUTTERSTOCK; BOTTOM LEFT: DANITA DELIMONT / ALAMY; BOTTOM RIGHT: FRANCESCO FIONDELLA

"EVERYBODY KNOWS THAT THE POLAR BEARS HERE ARE IN TROUBLE. BUT WHAT ABOUT THE GRIZZLIES, THE CARIBOU, THE SONGBIRDS, THE WATERFOWL, THE RODENTS, AND THE INSECTS?"

Among the animals facing rapidly changing conditions in northern Alaska are, clockwise from above: the semipalmated sandpiper, the red phalarope, the grizzly bear, caribou (shown here on the banks of the Porcupine River in Alaska's Arctic National Wildlife Refuge), and the Arctic bumblebee.

PHALAROPE: WILLIAM H. MULLINS / SCIENCE PHOTO LIBRARY; BEAR: IMAGEBROKER / ALAMY; CARIBOU: TED KERASOTE / SCIENCE PHOTO LIBRARY; SANDPIPER: USFWS; BEE: MALACHY FLISK / ALAMY

weakening female caribou and causing them to be late getting to their calving grounds. This could endanger their offspring, since calves need time to learn to walk before the first snowfall.

Wolves and black bears, meanwhile, are growing more lethargic in the summer heat, which may impair their ability to hunt. Such divergence in the behaviors of predators and prey can spell serious trouble for any ecosystem. And problems on the tundra could have cataclysmic ripple effects. Whether migratory birds can successfully breed, for example, is vital for ecosystems worldwide, says Ruth Oliver '19GSAS, an ecologist and data scientist who led a study on the migratory patterns of American robins while earning her doctorate in Boelman's lab. "We rely on birds to return from Alaska each fall because they play a vital role in pollinating flowers, dispersing seeds, and controlling pests," she says.

Boelman's latest Arctic studies look at how diminishing snow cover is influencing animals' movement patterns, how noise from encroaching oil- and gas-drilling rigs is affecting the behavior of calving caribou, and how birds are being disturbed by wildfires that are occurring more frequently as a result of climate change.

Boelman hopes that her research will help wildlife managers, conservationists, and members of Alaskan Indigenous communities in their efforts to protect this delicate ecosystem.

"The tundra is being hit with a sledgehammer," she says, "and if we're going to have any chance of preserving it, we need to gain a much better understanding not only of how its components fit together but how they may be starting to come apart."

How COVID-19 Infected Democracy Some world leaders used the pandemic as an excuse to silence critics, roll back civil liberties, and consolidate power. Can the damage be undone?

Joel Simon, a fellow at Columbia's Tow Center for Digital Journalism and the former executive director of the Committee to Protect Journalists, discusses his new book, *The Infodemic: How Censorship and Lies Made the World Sicker and Less Free.*

Q You contend that COVID-19 delivered a major blow to free speech and human rights around the world. Can you explain?
During the first few months of the pandemic, most governments were determined to downplay the threat of COVID-19. They did this because they hoped to limit the duration of economically costly lockdowns and because they wanted to cover up their own failures to contain the virus and to care for the huge number of people who were falling ill. Governments went to great lengths to suppress information about the extent of outbreaks. The leaders of some democracies, including the US, pumped out disinformation that undermined what scientists and public-health experts were saying about the situation. Other governments, such as those of Russia, Egypt, and Iran, employed more traditional means of censorship, suspending the distribution of newspapers, blocking websites, and arresting journalists and bloggers. Ironically, some autocrats, while claiming that their countries were largely insulated from the ravages of COVID-19, simultaneously claimed that they needed expansive new powers to fight the disease and enacted laws banning public demonstrations and a variety of other political activities.

These actions had catastrophic public-health consequences, causing untold numbers of deaths. But they also damaged societies in ways that could prove to be permanent. They eroded many people's civil and political rights and gave governments more control over public discourse in general.

China in particular drew a lot of criticism for suppressing information about COVID-19 at the start of the pandemic. But China's role in this story is, as you tell it, more complicated.
When the virus first emerged in Wuhan, the Chinese government tried hard to conceal news of the outbreak. But then, as the disease began to spread throughout the country in early 2020, Beijing adopted a different strategy: it stopped denying the danger posed by COVID-19 and instead mobilized a massive effort to combat it. China employed draconian tactics to this end. Officials barricaded some COVID-19 patients inside their homes without access to adequate food or medical care. But the government also succeeded in keeping infection and death rates quite low, and this gave China an improbable public-relations victory on the world stage. It enabled China to boast that its authoritarian governance model is ideally suited to confronting major crises like pandemics.

How have citizens of other authoritarian countries fared?
They've suffered terribly. For the most part, the leaders of authoritarian regimes have focused their energies not on protecting their citizens' health but on giving people a false sense of security and exploiting the pandemic to usurp more power. In *The Infodemic*, my coauthor, Robert Mahoney, and I examine the recent histories of Russia, Nicaragua, Iran, and Egypt and show that they've all followed the same basic playbook in dealing with COVID-19. Officials in these countries have dis-

JOHN W. TOMAC

couraged coronavirus testing to conceal the number of infections; they've intentionally misattributed COVID-19 deaths to influenza and other medical conditions to keep pandemic death counts artificially low; they've relentlessly persecuted journalists, doctors, nurses, and ordinary citizens who've spoken out about the impact that COVID-19 is having on their communities; and they've enacted a raft of new laws restricting people's rights of free speech, expression, and assembly.

What are some examples of these new laws?

In Russia, government officials passed anti-assembly laws that are purportedly to prevent the transmission of COVID-19 but have been selectively enforced against the Kremlin's opponents. In Nicaragua and Egypt, journalists live under constant threat of imprisonment for running afoul of new broadly written anti-speech laws enacted as part of COVID-era emergency declarations. And some democratic nations have gotten in on the act, too. In India, the government of the Hindu nationalist leader Narendra Modi arrested journalists for criticizing its response to the pandemic and used anti-assembly laws to break up protests against its persecution of Muslims.

In total, at least ninety-one nations, including Hungary, Poland, El Salvador, Algeria, Indonesia, and the Philippines, restricted press freedom during the pandemic, according to research by Freedom House, a democracy watchdog group. And 75 percent of the world's population lives in countries that have rolled back human rights during the pandemic.

Of course, governments do need some new powers to fight pandemics.

That's right. They need certain emergency powers to restrict people's movements and to implement mask and vaccine mandates, for example. But many governments have used COVID-19 as an excuse to go further and to curb political dissent. They know that the pandemic gives their actions the patina of legitimacy. They've also taken advantage of the fact that the guardrails that typically prevent governments from overreaching — pressure from the US and other democracies, for example — weren't really functioning during the pandemic, since most countries were preoccupied with dealing with their own COVID-19 breakouts. So it's been a free-for-all. The legacy of the pandemic is that autocracies are feeling emboldened and democracies are weakened, and this dynamic may well have been a factor in Vladimir Putin's decision to invade Ukraine, as least as it relates to the timing.

In *The Infodemic*, you express deep concerns about how governments have used surveillance technologies to fight COVID-19.

Many governments have deployed smartphone apps that track people's movements, both to identify individuals who might have been exposed to the virus and to make sure that those who test positive obey quarantine orders. The most problematic of these surveillance systems upload people's GPS location data to centralized databases that also contain medical information the governments have accumulated. Autocracies like China, Saudi Arabia, Bahrain, and Qatar, as well as some democracies, including Israel, Norway, and India, have harvested people's private information using such technologies. And they've done so with too little independent oversight. Global privacy advocates have demanded to know:

Are governments using surveillance technologies for unstated purposes, like investigating crimes? Are there mechanisms in place to prevent officials from using the tools to spy on political opponents? How long are governments storing people's data, and how are they safeguarding the data against hackers? In most countries, answers to these questions haven't been forthcoming.

The voluntary contact-tracing apps available in the US and most other Western countries don't upload your information to government or private servers but simply notify you when you've come in proximity to someone who is infected and also voluntarily using the app. So they carry fewer privacy and security risks. But I think the pandemic has shown that people throughout the free world need to be having a larger conversation about data privacy and digital security. In fighting COVID-19, our governments and their private partners, including diagnostic-testing companies and drug makers, have amassed unprecedented amounts of biomedical information, and I think real questions exist about how that information is being used, stored, and protected. We need to develop new privacy laws and regulatory frameworks to protect this data, because our political and legal institutions haven't kept pace with the technological change.

Among democratically elected leaders, former US president Donald Trump and the current leader of Brazil, Jair Bolsonaro, receive some of the harshest criticism in your book. Why?

Their responses to the pandemic, especially in the first few months of 2020, almost certainly contributed to the US and Brazil now having the highest COVID-19 death counts in the world. Trump and Bolsonaro both pandered to their right-wing political bases by resisting lockdowns, mask mandates, and other public-health measures. To justify their opposition to such policies, they systematically undercut scientists, public-health experts, and journalists who candidly described the danger posed by COVID-19. And since they couldn't silence independent voices outright, as dictators can, they employed a modern propaganda technique that's been called "censorship through noise," which involves spewing so many lies, distortions, and half-truths that people become hopelessly confused and don't know *what* to think about a topic. For a government whose goal is to avoid taking aggressive policy action, it's a highly effective strategy, because you don't necessarily need to persuade the public that your stance

Joel Simon

is correct so much as sow doubt about what the other side is saying. Conservative political operative Steve Bannon once described it thus: "Flood the zone with shit."

Trump's actions, in addition to having disastrous public-health consequences, were bad for democracy. They eroded Americans' trust in science, medicine, and journalism — all institutions that citizens depend on to give them the information they need to hold governments accountable.

Did any democracies respond especially well to the pandemic — perhaps modeling what the US could have done?

I'd say that Australia, New Zealand, Canada, and South Korea all did a pretty good job. Their governments talked about the science of COVID-19 with transparency and therefore were able to build consensus among their citizens about how to respond. Which isn't to say that the policies they ultimately chose would necessarily have been politically feasible in the United States. Some of the strategies they chose were quite aggressive, involving strict lockdowns and aggressive state surveillance, and there's always been a strong element of libertarianism in American culture. But the point is that these countries approached the situation in a democratic spirit: they facilitated reasoned and informed public debate about complex questions such as how to balance people's legitimate interests in individual liberty with their communities' interests in protecting public health.

Before the pandemic, what was the situation like for global free speech and democracy?

By most indexes, both free speech and democracy were already in decline around the world. Studies have shown that the number of countries classified as liberal democracies has declined from forty-one to thirty-two over the past decade and that overall levels of freedom around the world have plummeted for fifteen years straight. From my vantage point at the Committee to Protect Journalists (CPJ), the global press-freedom advocacy organization that I led from 2006 to 2021, I certainly observed governments cracking down on independent news media more and more, with the number of journalists imprisoned or detained rising dramatically. The pandemic didn't start this global assault on human rights, but it accelerated the trend.

Your book is filled with stories of reporters who have publicly called out their governments' COVID-19 missteps, often at great risk to their safety. It's a testament to the spirit of independent journalism.

I began my career as a reporter in Latin America in the 1990s, covering Guatemala's civil war, and as someone who

REBECCA GREENFIELD

grew up in a country where journalists don't typically take extraordinary risks to do their jobs, I've always been humbled and inspired by people who believe in the power of information so deeply that they are willing to go to jail, or even die, for the truth. I later joined CPJ, which provides advocacy and direct support services to persecuted journalists, because I wanted to help reporters all over the world who don't enjoy the same First Amendment protections that Americans do.

During the pandemic, as governments have restricted press freedom more than ever, lots of courageous people have stepped forward to shine a light on the truth, just as they always do. I'm thinking of the amateur Chinese bloggers, the local Tijuana newspaper reporters, and the Iranian doctors and nurses who have all risked the wrath of their governments to speak openly about COVID-19. I wanted to share their stories because I believe that their sacrifices are so noble and so essential.

What inspired you to join Columbia?

I spent twenty-five years at CPJ, starting out as its program coordinator for the Americas before becoming its executive director, and for decades my colleagues and I traveled around the world — everywhere from Argentina to Zimbabwe to Egypt to Pakistan — helping individual journalists. We visited them in jail. Hired lawyers for them. Drew international attention to their cases. Made sure their families had food to eat. The work was satisfying except for the fact that every year there was more of it to do — more arrests to respond to, more violent attacks, more murders. At a certain point, you wonder, why is the situation for journalists getting worse and worse? What are the structural forces driving this? What are the potential solutions?

I came to Columbia last year because I want to study the fundamental causes of the deterioration of global press freedom and hopefully find ways to reverse the trend.

So what are you working on right now?

My main project is to draw up plans for a new global press-freedom center, which could be hosted at a US university, and which would support research on how news organizations and press-freedom groups can be strengthened so that they're better able to defend journalists and push back against government censorship and intrusion. This would likely involve the development of experimental new business models for bankrolling journalism, perhaps involving government or philanthropic support, since the advertising revenues that once propped up newspapers have been whittled away by Google and Facebook. The center would also explore how the news industry's financial travails in recent decades have contributed to the rise of authoritarianism, hyper-partisan politics, and the deteriorating human-rights situation around the world. I'm working closely with Emily Bell, the director of the Tow Center for Digital Journalism, on this.

> "The pandemic didn't start this global assault on human rights, but it accelerated the trend."

You argue in your book that revitalizing local newspapers in the US could help address many of our country's ills, including political polarization and the spread of misinformation.

The US has lost some 2,100 newspapers since 2005, leaving hundreds of communities without any local coverage, and many of the 6,700 titles that remain have been hollowed out by staff cuts. I believe that shoring up the news industry is essential to restoring the health of our information ecosystem. One of the key benefits of local newspapers and websites is that they tend to be less polarized than the national media, as their business demands that they maximize readership within their geographic region rather than target people who share a political outlook but are dispersed across the country. If we can find ways to create more robust local news coverage again, this would hopefully lure people back from less reliable sources of information like social-media sites, build consensus on political issues, and be good for democracy.

Of course, this will take a lot of money, perhaps in the form of direct government investments or tax incentives for purchasing subscriptions to local news publications. There are a lot of ideas out there worth exploring.

What else could be done to advance the cause of journalism in the US?

I'm also collaborating with Jameel Jaffer, the human-rights attorney and director of Columbia's Knight First Amendment Institute, on a project that looks at the alarming trend of journalists being assaulted and arrested by police officers at political protests in American cities. This problem exploded into view during the Black Lives Matter protests of 2020, when 142 American reporters were arrested or detained, and it's continued to be a problem, especially in Los Angeles County, where dozens of reporters were arrested last year.

Jameel and I are developing possible policy and legal responses. Preventing this kind of police abuse is an urgent concern not only for reporters here in the US but also for those in other countries, because when authoritarian rulers see our police forces beating up reporters, they're able to justify their own repression, saying, "See, they do it in America. Why can't we?" — *David J. Craig*

Why COVID-19 sufferers lose their sense of smell

From the start of the pandemic, one of COVID-19's most distinctive symptoms, anosmia — the loss of smell — has puzzled scientists. Olfactory nerve cells lack the protruding surface proteins that the SARS-CoV-2 virus latches onto. How could the virus disable our sense of smell if not by invading the very cells responsible for it?

Now a group of nineteen scientists from across Columbia and several other research institutions have solved this mystery. Their research shows that although the coronavirus does not attack olfactory neurons directly, it can provoke such a powerful inflammatory response in the respiratory tract that the cells shut down. Specifically, the researchers revealed that the immune system provokes a firestorm of molecular chaos that can damage the DNA of these cells, hampering their ability to detect odors and relay messages to the brain.

"Inside of these neurons, chromosomes must arrange themselves into complex physical shapes to do their work," says Marianna Zazhytska, a postdoctoral fellow at Columbia's Zuckerman Institute and one of the paper's authors. "But when the body is fighting COVID-19, this fragile nuclear architecture crumbles."

The new study, which appears in the journal *Cell*, is only the latest to demonstrate that an overzealous immune response is responsible for much of COVID-19's physiological damage, with earlier studies having shown that cells in the lung, heart, kidneys, and other organs are often destroyed not by the coronavirus itself but by inflammation. The Columbia scientists say that their study, which is one of the first to show how neurons can be damaged by COVID-19, could lay the groundwork for understanding and treating other neurological symptoms of the disease, like the mysterious brain fog that afflicts some people for weeks or months after getting the virus.

Stavros Lomvardas '02GSAS, a professor of neuroscience at the Zuckerman Institute and the study's principal investigator, says that this research could even have implications beyond COVID-19. He and his colleagues, who include several medical researchers under the direction of Columbia surgeon Jonathan Overdevest, are now investigating whether the type of genetic damage to olfactory cells observed in COVID-19 patients may also be present, in subtler form, in people with other conditions that involve widespread neuronal degeneration, like Alzheimer's disease.

"We suspect that a deteriorating sense of smell could potentially serve as an early-warning sign for a variety of neurodegenerative disorders," Lomvardas says.

ANNCUTTINGSELECT / ALAMY STOCK PHOTO

In search of autism's roots

Autism is, for the most part, an inherited disorder: scientists estimate that up to 80 percent of a child's risk of developing it is determined by DNA. But environmental and behavioral risk factors may also play a role, and since rates of autism in the US are at an all-time high, new and expecting parents are eager to learn more about the roots of this complex condition.

For the past two decades, a team of researchers including Michaeline Bresnahan '99PH, Mady Hornig, W. Ian Lipkin, and Ezra Susser '74CC, '82VPS, '93PH, all epidemiologists at Columbia's Mailman School of Public Health, have been searching for nongenetic clues to explain why some kids develop autism and others do not. The researchers, in collaboration with the Norwegian Institute of Public Health and other Columbia scientists, have scrutinized the medical histories of more than one hundred thousand children, as well as those of their parents. Armed with unprecedented amounts of data, the researchers are investigating dozens of hypothesized risk factors for autism — everything from parental age to maternal infections to vitamin deficiencies. *Columbia Magazine* recently spoke to Hornig, who is herself the mother of an adult son with autism, about the team's research.

What are the major risk factors for autism?
Well, a father's age is certainly consequential. My colleague Ezra Susser published a major study on this subject in 2006. Using data collected in Israel, he showed that men who become fathers when they're over the age of forty are six times more likely to have a child with autism than men who father kids before turning thirty. In 2016, I coauthored a larger study that analyzed our Norwegian data together with information from Israel and three other countries, which confirmed the impact of paternal age while adding some new twists. We discovered that women at the beginning or end of their childbearing years — those in their teens or in their forties, roughly — are also more likely to have children with autism. And the biggest risk here is when older men have children with much younger women. There may be something about the big mismatch in age that can disrupt a child's neurodevelopment.

Is this a reason for certain couples to avoid having children?
No, not necessarily. The thing to keep in mind is that autism is an extraordinarily complex condition that's probably influenced by hundreds of genetic, environmental, behavioral, and dietary factors, several of which may have to co-occur and reinforce one another for the condition to arise. So even though parental age is one of the most powerful variables, it probably accounts for 5 percent or less of any child's total risk.

Do any other factors rise to this level of importance?
One of our more recent discoveries is quite significant: we found that if a pregnant woman experiences a high fever in her second trimester, her child's chances of developing autism increase by 40 percent. We're not sure why this is, but molecular evidence suggests that inflammation in the mother's body may be associated with a delay in the formation of blood vessels in the fetal brain during a critical point in the development of the central nervous system.

Does it matter what causes the fever?
We suspect that any number of viral or bacterial infections can probably have this effect, but we'd need to conduct even larger studies to know for sure. Influenza appears to be implicated: the mothers of many of the children diagnosed with autism in our cohort suffered a serious bout of influenza in the second trimester. But the type of infection seems to be less important than its severity, since it's the fever itself — indicative of a systemic, full-body inflammatory reaction — that we found to be strongly associated with autism.

BRIAN STAUFFER

That said, I wouldn't want to be alarmist. A lot of women experience fevers while they're pregnant and go on to have perfectly healthy kids. Again, the risk this poses for any particular child is quite small.

So what's the takeaway for pregnant women or women who plan to get pregnant?
Get a flu shot. Get vaccinated against COVID-19. Wear a mask and practice social distancing. Keep your immune system strong by exercising and eating healthy food. And if you do get sick and have a high temperature, talk to your doctor about possibly taking an anti-inflammatory medication like ibuprofen. Physicians have traditionally cautioned against taking ibuprofen while you're pregnant, because it carries a risk of miscarriage, especially in the first trimester, or possibly deformation of the baby's heart if given close to the time of delivery, but administration of anti-inflammatory medications for fever during the second trimester might be discussed with one's physician.

Are any dietary factors important?
We analyzed the diets of all of the women and children who participated in our project to see if any vitamin or mineral deficiencies contribute to autism. What jumped out of the data was that women who take supplements of folic acid, or vitamin B9, early in their pregnancy are almost 40 percent less likely to have a child with autism. That wasn't a shock, because folic acid, which is found naturally in leafy vegetables, beans, and eggs, has long been known to be essential for fetal brain development. But our research revealed that folic acid supplements only protect a fetus against autism if a mother begins taking them shortly before conception and throughout the first two months of pregnancy, which is earlier than many women start on prenatal vitamins. That's why I suggest that women who are planning a pregnancy talk to their doctors about taking prenatal supplements before they conceive.

Other researchers have claimed that altering an autistic child's diet, such as by removing gluten, dairy, or other potential allergens, can sometimes ameliorate symptoms. Have you found any evidence that a child's diet might contribute to the condition's onset?

Mady Hornig

No, though it's possible that dietary factors play such a role and that we'd just need larger studies with more statistical power to spot them. But we've tended to focus our investigations on pregnant women's health in the Norway cohort, because we believe that the roots of autism are likely established in the earliest stages of brain development, in the womb.

What are you looking at next?
Our findings about the role of fever in causing autism raise all sorts of questions. For example, we'd like to know if psychosocial stressors in the mother during pregnancy may pose a risk by triggering low-grade inflammation in the body that translates into neurodevelopmental risk for the child. The use of antidepressants by expectant mothers has previously been hypothesized as a risk factor for autism, but other data suggest that antidepressants themselves are unlikely to be the culprit; we've considered instead that underlying or untreated depression or anxiety may be the real danger.

Do you expect that we'll see a spike in autism cases as a result of the COVID-19 pandemic?
Yes, sadly, I think that's possible. And not just because many pregnant women have been getting COVID-19, but also because many people, pregnant women included, have been dealing with serious mental stress during the pandemic.

You've spoken publicly about your own experiences raising a son with autism. Is there anything that you wish you'd known back when you were pregnant?
You know, it's interesting, because I just discovered, through my own participation as a subject in an unrelated medical study, that I have a genetic mutation that's known to interfere with the body's absorption of folic acid. So this tells me that it's possible I wasn't getting enough folic acid when I was pregnant back in the late 1980s, even though I was taking the recommended four hundred micrograms per day. Now, did a lack of folic acid cause my son's autism? That's way too simplistic, because there were probably lots of genetic and environmental factors involved. Did it contribute? Maybe. I certainly wish that I'd known I was susceptible to folate deficiency when I was pregnant, because then I could have talked to my obstetrician about it and explored solutions.

What is the genetic variant you have? And are pregnant women routinely tested for it today?
The gene variant, which is carried by about 15 percent of all Americans, is located in the gene *MTHFR*. Pregnant women aren't routinely tested for it, and a physician might initially balk at ordering it, unless he or she is knowledgeable about cutting-edge autism research and knows how to interpret its results. But if a woman can find a

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doctor who thinks the test is beneficial and she has good insurance, she might get it covered.

Are there any genomic tests that can tell an adult if he or she is likely to have a child with autism?
No, because the genetics of autism is still poorly understood. Although scientists have identified more than a hundred genes linked to the condition, we can't say precisely what many of these genes do, nor the degree to which they increase an individual's risk. There are some geneticists who will analyze and interpret men's and women's DNA in an attempt to estimate this risk. However, such analyses don't offer definitive predictions, since we still haven't identified all of the mutations involved in autism. Further, the influence of certain gene variants on autism may also depend on whether an individual is additionally exposed to specific environmental risks that may affect the function of that gene variant during key periods of early neural development. A good source of information on this topic is the SPARK website of the Simons Foundation, a New York–based nonprofit that supports autism research.

Eventually, we'd like to get to the point where we're able to recommend a whole range of preventive steps parents might take to mitigate the damaging effects of specific mutations they carry. But we still have a lot more work to do.

ROSS MCBEE

Magic mushrooms

Scientists use fungi to create bricks that regenerate and bond without mortar

An archway made of living bricks.

In an effort to move away from the devastating environmental impacts of the cement and concrete industries, scientists have been coaxing microorganisms such as fungi and bacteria to grow into rock-solid substances that can serve as sustainable building materials. Such biomaterials, which require little energy to produce, are often fireproof, waterproof, and completely biodegradable.

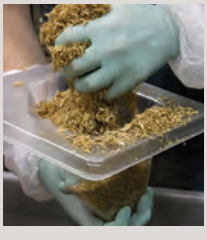
Now a team of researchers led by Columbia synthetic biologist Harris Wang has created fungus-based bio-bricks with an added benefit: the bricks remain alive long after their manufacture, enabling them to bond to each other without mortar and even heal themselves, should cracks appear.

"If a living brick gets damaged, all you have to do is pack some additional fungus into the crack and it will mend itself in a few days," says Ross McBee '22GSAS, who helped lead the project while a graduate student in Wang's laboratory. The team's research appears in a recent issue of the journal *Nature Materials*.

The bio-bricks are made of *Ganoderma* fungus, a type of mushroom commonly found on tree trunks. Columbia scientists say that they could be especially useful in remote settings where construction materials aren't readily available and where there is an urgent need to erect temporary structures, such as at the scenes of natural disasters. They say that nearly limitless quantities of bricks could be produced with just a few sacks of preserved mushroom roots, also known as mycelium.

"All you'd need to find onsite is some starchy plant byproducts to feed the fungus, like straw or corn stalks or hemp," says McBee. "And since the material you make is alive, you can keep generating more and more of it simply by adding more feedstock. Then, after you're done with the bricks, they'll disappear back into nature."

HOW TO MAKE BIO-BRICKS:



1. Mix mushroom roots with starch or another nutrient.

2. Pour the sticky paste into cardboard molds.

3. Days later, remove the finished bricks.

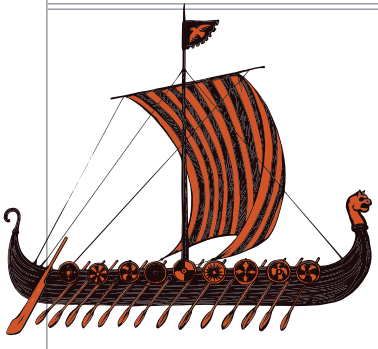
4. Assemble into structures without mortar.

A simple way to reframe bad memories

We tend to think of our memories as fixed and unalterable, as if our brains were tape recorders faithfully archiving past experiences, but psychological studies have shown that our memories are, in fact, quite malleable. Each time we reflect upon a particular event, we may update it — a phenomenon that is widely known to cause problems for criminal investigators seeking reliable information from eyewitnesses and for therapists trying to uncover the roots of trauma.

But what if we could exploit the mutability of memory for our own good, rewiring our most embarrassing, depressing, or guilt-inducing recollections so that they lose their emotional sting? A team of researchers led by Megan Speer, a postdoctoral research scientist in Columbia's psychology department, recently demonstrated how easily this can be accomplished. In a series of experiments reported in the journal *Nature Communications*, Speer and her colleagues asked participants to recall distressing memories from their own lives and to consider how the events in question actually had silver linings — how a romantic breakup freed them to enjoy new experiences, or how the death of a loved one liberated that person from suffering. The participants were then asked to periodically reflect on the redeeming aspects of these events. By the end of the two-month study, the researchers found that the participants had managed to recast their memories in a more positive light, which meant that thinking about the episodes caused them less stress.

Speer says that her research, in addition to identifying a simple strategy than anyone can use to manage painful thoughts, could have implications for treating depression, post-traumatic stress disorder, and other mental-health conditions.



What sheep droppings reveal about the Vikings

It has long been thought that the Vikings, with their advanced shipbuilding skills and colonizing spirit, were the first Europeans to sail across the north Atlantic in search of new territory. Archaeological evidence indicates that they reached the Faroe Islands, an archipelago some two hundred miles northwest of Scotland, around the year 850 and went on to Iceland, Greenland, and Newfoundland soon after.

But a new study by Columbia climate scientists provides the most compelling evidence yet in support of an alternative theory that has been gaining traction among scholars in recent years: it holds that another group of pioneering seafarers — perhaps Celts — beat the Vikings to the Faroe Islands by three hundred years or more.

The Columbia scientists, led by William D'Andrea and Lorelei Curtin '21GSAS, were analyzing ancient lakebed sediment that they had collected in the Faroes to better understand the region's climate history when they made an unexpected discovery. In a layer of mud extracted from a lake near the village of Eiði (pronounced "eye-yuh") and dated to about the year 500, they found sheep DNA and evidence of sheep excrement — surefire signs of the presence of humans, the researchers say, since sheep are not native to the Faroes and could only have arrived with people.

"It's clear that a sizable population of sheep was brought here from somewhere else, because the animals' DNA and fecal biomarkers appear in the sedimentary record all at once — it's like an on–off switch," says D'Andrea.

While previous studies had found that vegetation on the Faroe Islands underwent changes consistent with the introduction of human agriculture before the Vikings' arrival, the Columbia researchers say that their findings provide "unequivocal evidence" of earlier settlement. (No Indigenous peoples are thought to have ever inhabited the Faroes.)

So who first undertook the long and perilous trip in uncharted waters to colonize these islands, and what was their fate? D'Andrea points out that ancient Celtic texts refer to monks and others having settled distant northern islands before the Norse period, but that more evidence is required to place Celts on the Faroes. He and his colleagues are currently analyzing lakebed sediment they collected elsewhere on the Faroe Islands in hopes of finding clues about the origins of the early settlers, how long they survived in their new home, and whether they overlapped with the Vikings. "I'm sure there's more information hidden away in the material," he says.

ARTMARI / SHUTTERSTOCK

Cuttlefish are masters of disguise – but they can't hide their thoughts

Cuttlefish, like their larger, better-known cousins the octopus and squid, are among the world's most intelligent invertebrates, with cognitive abilities that in some ways rival those of primates and the brainiest birds. These sprightly little mollusks, which can range in length from a few inches to two feet, are capable of remarkable feats of memory and learning, even passing an aquatic version of the famous marshmallow test by forgoing the instant gratification of a morsel of prawn in order to later devour a more fulfilling live shrimp.

But perhaps the cuttlefish's most remarkable skill is its ability to quickly alter its skin's color and texture so it can blend into its environment and hide from predators. Unlike other creatures, like the chameleon, that change color slowly, the cuttlefish does so within moments of entering a new environment, in response to the terrain it sees. This provides scientists a convenient opportunity to study how an animal's brain receives visual stimuli and sends messages to other parts of its body. "The animal looks at its surroundings, creates an internal representation of that scene in its brain, and then approximately recreates what it has seen on its skin by expanding a variety of pigmented cells in different patterns," says Tessa Montague, a Columbia postdoctoral researcher who studies the cuttlefish. "It essentially shows you what it's thinking."

Montague, who conducts research in the laboratory of Richard Axel '67CC, a Nobel Prize–winning Columbia neuroscientist and codirector of the Zuckerman Institute, is developing new brain-imaging techniques that she hopes will enable her to observe precisely how cuttlefish encode visual images in their neurons and then transmit the information to their skin. She says that studying the animals could reveal fundamental principles of how neural networks function, including how emotions form, since cuttlefish also change their skin color in response to how they feel in certain highly charged situations, such as facing off against a rival.

"If we can understand the neural basis of visual perception and emotion in cuttlefish, that could provide insight into human cognition, in both its functioning and impaired form," Montague says.

LEFT: DAVID A LITMAN / SHUTTERTOCK; RIGHT: KIMBERLY HALL

STUDY HALL
RESEARCH BRIEFS

Mind the gap Black and white Americans alike underestimate the racial wealth gap in the United States and vastly overestimate the chances of poor Black Americans moving up the economic ladder, according to new research by Shai Davidai of Columbia Business School.

The storms that keep on killing Hurricanes are responsible for more deaths in the US than is commonly recognized, according to research by Marianthi-Anna Kioumourtzoglou of the Mailman School of Public Health. She and her colleagues find that in the months following tropical cyclones, thousands of Americans succumb to infectious diseases, stress-related illnesses, and other health problems that can be linked to the weather events.

Volcanic eruptions explained A team of Columbia volcanologists led by Terry Plank '93GSAS have discovered that the explosive potential of magma inside active volcanoes is determined in part by its water content, with wetter magma possessing more pent-up energy. The scientists say the finding could lead to better eruption forecasting.

Illegal wildlife trade thriving under our nose The US has played a major and largely unacknowledged role in the illegal trafficking of tiger body parts for medicinal purposes, with large volumes of tiger parts coming into the country through San Francisco, Dallas, and Atlanta, finds Sarika Khanwilkar, a doctoral student in the Department of Ecology, Evolution, and Evolutionary Biology. She obtained previously unpublished data about US Fish and Wildlife Service seizures through the Freedom of Information Act.

An investment in babies' brains Columbia neuroscientist Kimberly Noble has shown that direct cash payments to low-income families can lead to improvements in young children's brain development, increasing neuronal activity associated with thinking and learning.

Promoting women leads to less bias Companies that hire women into senior leadership positions are subsequently less likely to perpetuate gender stereotypes in their external and internal communications, according to a study led by Sandra C. Matz of Columbia Business School.

A New Kind of Sex Educator

Indian vlogger Leeza Mangaldas '11CC has made a career out of demystifying taboos and destigmatizing sexuality

"We can't have gender equality without making female pleasure a priority," says Leeza Mangaldas '11CC in a video on her popular YouTube channel. From her living room in Mumbai, the trusted online sexpert is known for breaking down taboo topics that, in more socially conservative parts of India, practically no one discusses. It's information that's in high demand. Mangaldas now has close to a million followers on Instagram, most of them young Indians. On YouTube, her videos, which she publishes in both Hindi and English, have collectively been watched over one hundred million times.

Mangaldas began building her online presence in 2017 while working as a TV newscaster, a job she found totally uninspiring. "My career felt out of my control," she recalls. "It got to a point where I was like, I can't do this anymore — wear the tight dress and pretend I care about things like cars and football."

On weekends, Mangaldas would record videos for social media and start to rack up thousands of views for her candid, informative commentary on everything from relationships and body image to periods and masturbation. Viewers of every age and gender began sending questions to her inbox. *Why is my pubic region darker? Why is one of my breasts larger?* "The most common question I've gotten is 'Am I normal?'" says Mangaldas.

Growing up in Goa, Mangaldas was mostly shielded from the conservatism found in most of India. Popular with tourists, the small state on the country's southwest coast is prosperous and socially liberal. In Goa, says Mangaldas, no one bats an eye if you wear a bikini, whereas in Mumbai hardly anyone wears a bathing suit in public.

As a student at Columbia, Mangaldas majored in English and visual art. She credits her classes with Gauri Viswanathan '85TC, a professor of English and comparative literature, for helping her to better

COURTESY OF LEEZA MANGALDAS

understand India's complicated sexual politics. "The Victorian morality that colonialism embedded," says Mangaldas, "has a root system so strong that many Indians think of it as our culture." Despite the fact that, as Mangaldas points out, "this is the country that produced the *Kama Sutra*," there is a tremendous amount of shame associated with sex.

Contraception remains taboo. "Less than 5 percent of India's population uses condoms," says Mangaldas, who, while working as a resident adviser in Columbia's dorms, used to stock her floor's lounges and bathrooms with Trojans. This isn't because condoms aren't available in India, explains Mangaldas. You can buy them at the drugstore, but only if you can bear the embarrassment of asking a pharmacist for them, since they keep them behind the counter.

Mangaldas's unfiltered approach to subjects such as pleasure, consent, and sexual orientation has emerged during a decade of political and cultural change in India. In 2012, a gang rape in New Delhi drew worldwide condemnation, and the #MeToo movement has had a pronounced effect on the country. In 2018, the Supreme Court of India struck down Section 377 of the Indian Penal Code, a measure introduced by Britain in 1861 that prohibited homosexual behavior and other activities considered "against the order of nature." "Anything other than penis-in-vagina sex between a man and a woman was technically illegal," says Mangaldas.

By amassing so many followers on YouTube and Instagram, Mangaldas was able to quit her TV job in 2018 and start freelancing full-time as a social-media content creator. She has also formed partnerships with brands, which pay her to promote products. In December, Mangaldas launched a podcast, and later this year she will release her first book, a guide on sex and sexuality for young Indians.

No matter what forbidden subject Mangaldas explores, her lessons resonate across generations. "I once had a long conversation with a friend of my grandmother's about oral sex," Mangaldas says. She adds, "My favorite type of comment is when a woman writes to me saying she had her first orgasm thanks to something she learned from my videos. I feel like I'm doing God's work."

— Ian Scheffler '12CC

ARTIST'S STATEMENT

SCOTT SUCHMAN

BUTLER LIBRARY IN 9,000 LEGOS Some people took up jigsaw puzzles during the pandemic, others redecorated their homes. John Davisson '08CC, an attorney in Washington, DC, turned to Legos. "I'm a lifelong fan," says Davisson, who started experimenting with designing his own custom models in 2020. "It's a great creative outlet when you're stuck at home." The former editor in chief of the *Columbia Spectator* chose to recreate a building close to his heart: Butler Library, where he spent countless hours as a history major ("often procrastinating, sometimes studying"). While Davisson has also constructed models of several DC landmarks, including the Basilica of the National Shrine of the Immaculate Conception and the National Museum of African American History and Culture, Butler was an obvious choice for his foray into miniatures, he says. "It's a really incredible building, inside and out."

ASK AN ALUM: IS IT TIME TO START TAKING REALITY TV MORE SERIOUSLY?

Danielle J. Lindemann '10GSAS, a sociology professor at Lehigh University, understands reality TV better than practically anyone else. Her new book *True Story: What Reality TV Says About Us* takes an intellectual dive into a massively popular but often maligned genre.

Why should we take reality TV seriously?
Despite the stigma associated with lowbrow entertainment, studies reveal that more people in the US are watching reality TV than not, and nearly half of all TV series are unscripted. Media research has long shown that what we see on TV impacts our beliefs, values, and attitudes and how we move and act in the world.

I see reality TV as a kind of fun-house mirror, because it can show us ourselves in caricatured or amplified form. The genre reveals some of the worst things about society — sexism, racism, classism, materialism — and dials them up to eleven. But it also shows us the best of ourselves in its creativity. Historically, reality TV has been more diverse than other forms of media in its representation of people of color and queer people, even if those representations haven't always been positive. Reality TV reveals how much society has evolved and, at the same time, how conservative it remains.

You teach a course that pairs episodes of reality-TV shows with sociological readings. Which shows do you find particularly interesting?
I like *RuPaul's Drag Race*, because it emphasizes how aspects of gender are performed in everyday life. A show like *The Bachelor*, with its fixation on marriage and rigid gender stereotypes, reveals how long-standing ideas about courtship still powerfully influence the way we think and behave. The *Real Housewives* franchise offers fascinating character studies and insight into group dynamics, while *Keeping Up with the Kardashians* explores the strength of the family unit.

What's your take on why reality TV is so popular?
Reality TV is voyeuristic. We like watching the "train wreck" character to remind ourselves that even if we're messed up in our own ways, we are not the train wreck. We might feel smugly superior to the people on these shows. There is a freak-show aspect to this voyeurism too. Sometimes, it's marginalized groups that are ridiculed, as in the case of *Here Comes Honey Boo Boo*, where the central family is portrayed as buffoonish and stereotypically lower-class.

Reality TV involves real people ostensibly reacting to real-world situations, which allows us to put ourselves in the participants' shoes and see flashes of ourselves. The genre tends to traffic in broad character archetypes — the "smart one" and the "shy one" and the "athletic one," for example. There's usually someone you can identify with and say "I'm a Bethenny" or "I'm a Ramona," and so on. Reality TV is also unique in the way it encourages audience participation: we engage with the stars via social media and, with shows like *The Voice* or *Love Island*, we even vote on the outcomes.

Bingeing reality TV, at least for me, can have a kind of anesthetic effect. Viewers do not need to see these shows as pure mirrors of life in order to enjoy and connect with them. We know they are constructed by producers and some scenes may be staged. Personally, I enjoy looking for "really real" moments, the smudges in the gloss — like when the Housewives haul out one another's real-life text messages to read during reunion episodes.

How has reality TV influenced other areas of society?
Studies have shown various behaviors to be associated with watching reality TV; heavy viewers of the genre are more likely to drink alcohol, get fake tans, and use hot tubs on

PHOTO ILLUSTRATION BY TINA WANG

dates. While correlation does not necessarily equal causation, one well-known study established a link between viewership of *16 and Pregnant* and reduced teen-pregnancy rates.

Many people have launched successful careers after starting out in reality TV. Cardi B, for example, entered into the public view in 2015 as a cast member of *Love & Hip-Hop: New York*, where she was portrayed as an aspiring musician. Since then, she has pulled herself up the celebrity pipeline and become a Grammy-winning rapper.

Some reality stars have even entered politics, the most famous being Donald Trump. Would he have been elected president if he hadn't appeared on *The Apprentice* and been shown in a position of power, wearing a suit and barking orders from behind a desk, and been depicted as always being right? We can't know for sure, but it's reasonable to suggest that reality TV helped pave his road to the White House. The media coverage surrounding Trump's presidency arguably became its own reality show — in 2018, major news outlets even covered a visit to the Oval Office from Kim Kardashian. Trump is an important data point for helping us understand how reality TV both reflects and molds culture. If we learned anything from his presidency, it's this: one thing that's "really real" about unscripted programming is its impact.

— *Julia Joy*

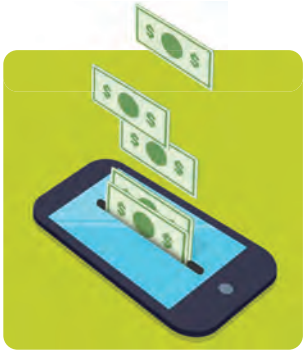
DREAMSTIME

An App That Actually Pays You for Your Data

CoinOut, founded by Jeffrey Witten '10CC, '15BUS, '15LAW, lets users earn money by sharing their shopping history

What do you do with those crumpled-up receipts from the grocery store or the gas pump? Or the confirmations of online purchases filling your inbox? Rather than tossing this so-called trash into the recycling bin or letting it fade into the digital abyss, you can now sell the records of your retail transactions for a small profit.

CoinOut, a cash-back app designed by Jeffrey Witten '10CC, '15BUS, '15LAW, asks you to photograph and upload up to seven receipts a day to its platform, and in return users earn anywhere from one to fifty cents per submission. For convenience, CoinOut also gives customers the option of linking their e-mail and their Amazon, Walmart, and Instacart accounts to the app so it can capture receipts directly.



Witten says that dedicated users can see profits of up to $200 a year. CoinOut also cashes in, since, after removing any personal information from the transactions, the company resells the data to brands seeking insight into consumer behavior. "As the old saying goes, if the product is free, you are the product," says Witten. "We believe members should be paid real cash for giving up information."

Witten, who is originally from Mamaroneck, New York, first created CoinOut in 2014 as a platform for consumers to convert change from in-store cash transactions into digital currency. At the time, he was studying for a dual degree in law and business through Columbia's JD/MBA program, but after he fell in love with the world of financial technology while interning at Apple, he gave up his plans for a career in corporate law and decided to start his own fintech company.

Witten tested his idea in Columbia Business School instructor Steve Blank's Lean LaunchPad course — an "Entrepreneurship 101" experience he considers crucial to his career development — and piloted the company out of the Columbia Startup Lab. The business model proved difficult, however, because it required marketing to both consumers and merchants.

In June 2017, Witten got the opportunity to present CoinOut on *Shark Tank*, the ABC reality series in which startup entrepreneurs seek investments from prominent businesspeople. "One of the things they don't tell you when you watch the show is that the sessions can last a very long time," says Witten, whose pitch was edited down to twelve grueling minutes. "I was in the tank for close to two hours. The sharks kept shouting questions at me. It was almost like directing traffic. By the time I was done, I was totally wiped-out."

Despite the stress of being interrogated and belittled by celebrity investors on national TV, Witten says the experience was ultimately positive, since he got valuable feedback and exposure to a mass audience. He accepted a $250,000 offer from venture capitalist Robert Herjavec in exchange for a 15 percent stake, but the deal ended up falling through — "lucky for us, in retrospect, since it would have been terrible from a valuation perspective," says Witten.

By the time the *Shark Tank* segment aired in February 2018, CoinOut had already reengineered its old business model and established itself as a cash-back app.

Today, the company serves almost two million people. "We grew because we kept the app really, really simple by minimizing the number of buttons, letting people submit receipts from basically anywhere, and giving instant gratification by showing users their cash back immediately," says Witten. In May 2021, CoinOut was acquired by IRI, a market-research company that conducts data analysis for large retailers.

Having achieved the kind of success that most entrepreneurs only dream of, Witten, who continues to lead CoinOut within IRI, is candid about the "starts and stops" involved in building a business from scratch and finding the right product–market fit. "The founder deathtrap is putting blinders on and convincing yourself your original idea will work no matter what," he says. "I was certainly like that early on. But you need to be open to listening to critics and learning from your mistakes, and open to data telling you whether or not your hypotheses are true. Your idea might be destined for mediocrity. But that does not mean you have failed. Understanding this is vital." — *Julia Joy*

Jeffrey Witten pitches CoinOut on *Shark Tank* in 2017.

Deal Us In

Three cool card games created by alumni

Deep Dilemmas

Would you rather travel back in time to tell yourself two words or have your home clean itself every day? How about choosing between getting a paper cut every time you open an envelope and stopping at each floor every time you use an elevator? Deep Dilemmas, a deck of "would you rather" cards created by Bryan Richman '19BUS, is guaranteed to spark unusual debate. Richman, who describes himself as a "management consultant by day and e-commerce entrepreneur on nights and weekends," wrote the cards' two hundred questions during quarantine in 2020. *deepdilemmas.com*

Trivia for Us

Cofounded in 2019 by communications professional Deydra Bringas '18SPS, Trivia for Us promotes team building and Black culture through friendly competitions tailored primarily to an African-American audience. "We're determined to change the quiz-game landscape to be more inclusive and diverse," Bringas says. Originally focused on hosting interactive activities for corporate meetings, school events, and parties, Trivia for Us recently launched a card-game edition for home use. The deck contains one hundred questions in categories such as entertainment, Black history, and "finish the lyric." *triviaforus.com*

Blitz Champz

Blitz Champz, a "football card game for jocks and nerds," encourages players ages seven and older to practice math and think strategically. Participants earn points for drawing cards corresponding to particular football plays (six for a touchdown, three for a field goal) and reduce their opponents' scores with tackles, interceptions, and blocked kicks. Whoever gets to twenty-one points first is the winner. Blitz Champz is the creation of Adrienne Smith '01BUS, a former star member of the US women's national flag and tackle football teams. Today, in addition to running Blitz Champz, Smith is the cofounder and CEO of the Harlem Edutainment Company, which hosts educational activities and field trips for K–12 students. *blitzchampz.com*

TOP: ABC; HANDS: PIXELSHOT / SHUTTERSTOCK; MICHAELJUNG / SHUTTERSTOCK; PTICELOV / SHUTTERSTOCK

Left: The Women's Health Pavilion under construction in Kigutu, Burundi. Right: Deogratias Niyizonkiza.

A Milestone for Health Care in Burundi

A refugee once dreamed of opening a hospital. This year, his wish will come true.

Burundi, a small country in central Africa with a population of twelve million, is among the poorest in the world. Substandard hospital conditions and a shortage of doctors and nurses have led to avoidable illness and death, including maternal mortality rates that are twenty-seven times higher than they are in the US. Lifesaving procedures as common as C-sections are unavailable in rural areas. "Mothers are dying in childbirth and leaving children behind with no future or hope," says Deogratias Niyizonkiza '01GS, the founder and CEO of the nonprofit Village Health Works, which runs a public clinic and community center in Burundi.

But later this year, after much vigorous fundraising and many frustrating setbacks, including the COVID-19 pandemic, Niyizonkiza will finally realize his dream of opening Burundi's first hospital for women. Based in the rural mountain village of Kigutu, the 150-bed Women's Health Pavilion will initially offer emergency, ob-gyn, and pediatric care, with the goal of expanding its services and establishing a robust training program for health-care professionals in the near future.

That Niyizonkiza should be the one to achieve this goal is itself something of a miracle. He immigrated to the United States in 1994 as a refugee from Burundi's genocidal civil war with little money and no English. In Burundi he had been a promising medical student, but after arriving in New York City he was homeless and earned a meager living delivering groceries. By a stroke of luck, a customer — a former nun — was struck by his story and helped him find housing. Eventually, Niyizonkiza enrolled at Columbia's School of General Studies and went on to study public health at Harvard and medicine at Dartmouth, before founding Village Health Works in 2007. (To learn more about Niyizonkiza's incredible story, read *Columbia Magazine*'s Summer 2014 feature "The Road to Kigutu.")

Now, after decades of trying to realize his goal of bringing better health care to his country, Niyizonkiza is thrilled to be able to make such a meaningful impact. "This hospital will be the pride of Burundi, the pride of everyone working in it and using it," he says. "It's going to save so many lives."

— *Julia Joy*

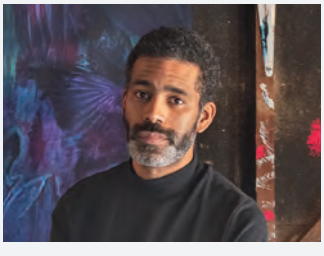
TOP LEFT: MANUELA GIKORO, TOP RIGHT: BILL BULLARD; FAR RIGHT: NATHAN PERKEL

NEWSMAKERS

- Several alumni writers have been recognized with major literary prizes this year, including **Rebecca Donner '01SOA**, who won a National Book Critics Circle Award for *All the Frequent Troubles of Our Days*, a biography of World War II spy Mildred Harnack, and **Andrea Elliott '99JRN**, a *New York Times* reporter who received a J. Anthony Lukas award for her nonfiction book *Invisible Child*.

- **Ashish Jha '92CC**, a physician and health communicator who serves as the dean of the Brown School of Public Health, was recently appointed by President Biden to lead the White House's COVID-19 response.

- The Whitney Biennial, a showcase of contemporary art on view through September 5, features three alumni artists this year: **Cy Gavin '16SOA** (below) and **Leidy Churchman '10SOA**, two painters known for their striking, colorful canvases, and **Buck Ellison '10CC**, a photographer who recreates scenes of American wealth.



- Journalist **Jeff Horwitz '14JRN** and staffers at the *Wall Street Journal*, including **Newley Purnell '13JRN**, received a George Polk Award in business reporting for "The Facebook Files," a series investigating how the social-media giant ignored internal findings of its platform's negative effects.

BULLETIN

UNIVERSITY NEWS AND VIEWS

David Geffen Hall on the Manhattanville campus.

TIMOTHY SCHENCK

BUSINESS SCHOOL MOVES TO MANHATTANVILLE

Earlier this year, Columbia Business School relocated to the Manhattanville campus, moving into a pair of cutting-edge new buildings, Henry R. Kravis Hall and David Geffen Hall, designed by the architecture firm of Diller Scofidio + Renfro in collaboration with FX Collaborative. (Read reflections from architect Charles Renfro '94GSAPP on page 10.)

The two buildings, situated on the block that stretches from Broadway to Twelfth Avenue and from 130th to 131st Streets in West Harlem, together provide Columbia Business School with nearly half a million square feet of space, roughly doubling its previous capacity.

"Modern business practice is increasingly collaborative and non-siloed," says Costis Maglaras, the dean of the school. "Our new, open, light-filled spaces reflect this reality, creating a truly collaborative and immersive experience that is unique to Columbia Business School and ideal for a curriculum that prioritizes team and interdisciplinary work, acting as a nexus across the University and beyond, in areas including health care, climate change, digital transformation, and the interface between business and society."

The new facilities are also expected to strengthen the business school's ties to the surrounding Harlem community, with a public park connecting the buildings, retail spaces, and civic programming. For example, the Columbia-Harlem Small Business Development Center, which has helped more than four hundred local entrepreneurs develop their businesses, now has a dedicated space in Geffen Hall.

The opening of the new business school buildings marks the completion of the first phase of a seventeen-acre Manhattanville campus development that was initiated two decades ago by President Lee C. Bollinger and represents the University's most significant expansion in a century. The eleven-story Henry R. Kravis Hall and eight-story David Geffen Hall are the fourth and fifth new buildings erected on the campus, after the completion of the Jerome L. Greene Science Center and the Lenfest Center for the Arts in 2017 and the Forum in 2018. A campus

master plan created by the firm of Italian architect Renzo Piano '14HON envisions several more Columbia buildings eventually going up on the Manhattanville campus in future phases of development.

The construction of the business-school buildings was supported by naming gifts from private-equity pioneer Henry R. Kravis '69BUS and entertainment executive David Geffen. In total, more than five hundred donors gave to the project.

"Quite simply, our move to Manhattanville would not have happened without the support of each and every philanthropic contribution from our generous community members," says Maglaras.

The business school's move has also freed up space in Uris Hall, its previous home, for programs within Arts and Sciences.

NEW SCHOLARSHIP FUND TO SUPPORT GRADS FROM HISTORICALLY BLACK COLLEGES AND OTHERS

Robert F. Smith

Students applying to Columbia Business School will have access to a new scholarship fund in the 2022–23 academic year, thanks to a $10 million gift from Robert F. Smith '94BUS, the founder, chairman, and CEO of Vista Equity Partners.

The Robert F. Smith '94 Scholarship Fund, which is expected to support approximately two hundred MBA students through partial or full scholarships over the next ten years, will be awarded to students who have graduated from historically Black colleges and universities, who have overcome systemic hardships or challenges in their academic pursuits, or who have demonstrated a strong commitment to engaging diversity.

"Robert Smith is to be commended for supporting talented students who have been underrepresented in higher education and for his sustained commitment to expanding access to the nation's colleges and universities," says President Lee C. Bollinger. "His generous gift serves as a fitting declaration of the values to be embraced by the future of business education at Columbia."

The new scholarship fund is part of an ongoing effort by Columbia Business School to increase the diversity of its student body. In recent years, the school has provided mentoring to high-school students from underserved communities who are considering careers in business; expanded financial aid; and created a new senior-leadership position — a vice dean of diversity, equity, and inclusion — to coordinate such efforts.

WANGS DONATE $11 MILLION FOR ENHANCED STUDENT SPACES, NEW PEDESTRIAN TUNNEL

University Trustee Shirley Wang '93BUS and her husband Walter recently gave Columbia University $10 million to fund the design, renovation, and ongoing maintenance of student lounges in John Jay Hall and Wallach Hall and to create a new multipurpose café and arts-performance space, to be named the Wang Odeon, in Lerner Hall. They also donated $1 million to construct the Walter and Shirley Fan Wang Link, a pedestrian tunnel that will connect Henry R. Kravis Hall and David Geffen Hall, the business school's two new buildings in Manhattanville.

The Wangs, who own California-based building-materials companies, have two children attending Columbia College and serve as members of the College's Parent Leadership Council.

"As Columbia parents, it was important to us to encourage connection among students, especially after all the disruptions caused by the pandemic," says Shirley Wang. "Walter and I want our children and their classmates — and future generations of Columbia undergraduates — to have the opportunity to gather together and participate in a vibrant community."

Shirley and Walter Wang

TOP: COURTESY OF COLUMBIA BUSINESS SCHOOL; BOTTOM: EILEEN BARROSO

COLUMBIA CAMPAIGN RAISES $5.6 BILLION

President Lee C. Bollinger has announced the successful completion of the Columbia Commitment, a five-year University-wide campaign that raised $5.6 billion to support students and faculty, as well as projects that address critical global problems.

Launched in 2016, the Columbia Commitment exceeded its original goal of $5 billion through the support of nearly 200,000 donors and 160,000 engaged alumni.

The idea behind the Columbia Commitment was to provide resources for students and faculty while harnessing Columbia's interdisciplinary expertise to develop global solutions to some of today's most complex challenges. From the beginning, it was an ambitious attempt to increase the University's impact in areas like medical research, technological advancement, and social justice and equity.

The campaign helped support priorities like the elimination of debt for medical students, the construction of the business school's new home in Manhattanville, the establishment of the African American and Diaspora Studies Department, and the creation of the Columbia Climate School. It also included the largest gift ever to Columbia University Irving Medical Center, a transformative donation from the late Florence and Herbert Irving (both '13HON) to advance cancer research and clinical care.

"During my now two decades as president of the University, we have conducted several significant fundraising campaigns, each an essential building block in Columbia's ongoing evolution as one of the world's great research universities," wrote Bollinger in a letter to the University community on March 28. "Among these campaigns, the Columbia Commitment has earned special distinction not only for its comprehensive embrace of Columbia's overall mission but also for achieving its goals during historically challenging times for both the University and the broader world. Despite the often-bewildering realities imposed by the pandemic, our entire community has demonstrated enormous and admirable resilience and resolve. University donors have done their part and more, as demonstrated vividly by their response to calls for support across our schools."

While the Columbia Commitment is now complete, its mission remains ongoing through the work of the University's schools, institutes, and centers, and the continued commitment to growing financial-aid resources across the University.

"Every gift to any part of the University anchored Columbia's overall capacity to both sustain and evolve in how we teach and nurture our students, discover new knowledge, and engage with the world," says Bollinger. "The true measure of what the Columbia Campaign has done will show in what our students and faculty can now do, working together to create a future that is built on a profound respect for free inquiry, on knowledge, and on the public-spiritedness that defines the life of the mind. That remains our Columbia commitment."

ADVISORY COUNCIL TO PROMOTE LOCAL PARTNERSHIPS

This spring, the University created a Community Advisory Council to promote new collaborations between academics and local community leaders and organizations in Harlem and Upper Manhattan.

The initiative was conceived as part of the University's Antiracism Task Force, which aims to advance Columbia's longstanding commitment to addressing the entrenched consequences of racism in the US. It will support new and existing Columbia programs that serve local residents in areas such as health care, education, small-business development, affordable housing, and climate adaptation. The council is led by social-work dean Melissa Begg and three physicians with extensive experience planning public-outreach projects: Wafaa El-Sadr '91PH, Rafael A. Lantigua, and Olajide A. Williams '04PH.

"Columbia has an enduring commitment to strengthening our neighboring communities and improving the lives of those who reside here," says President Lee C. Bollinger. "To fulfill that commitment, we must adapt to changes in society, listen to the needs expressed by our neighbors, and be alert to the sweep of history."

STUDENT EMPLOYEES, COLUMBIA AGREE TO HISTORIC CONTRACT

A union representing some three thousand graduate and undergraduate student employees — Student Workers of Columbia–United Auto Workers (SWC-UAW) — signed a four-year contract with Columbia University this past semester, following a ten-week strike by the students who serve as instructors, teaching assistants, and research assistants.

The contract, the first ever attained by student employees at Columbia, includes a 6 percent raise for PhD

COLUMBIA; OPPOSITE PAGE: MIKE MCLAUGHLIN, COLUMBIA ATHLETICS

students; an increase in minimum hourly wages from $15 to $21; expanded dental benefits; and the ability for student employees and their eligible dependents to tap into emergency funds for out-of-pocket medical expenses. In addition, the agreement allows student employees to seek third-party arbitration in cases involving allegations of discrimination or harassment after the University investigates.

"The agreement between the University and SWC-UAW represents one of the most comprehensive and generous contracts between a private university and students who assume significant pedagogical and research responsibilities as part of their academic training," wrote Provost Mary C. Boyce in an email to the University community upon the contract's ratification in January. "All of us at the University will be beneficiaries of the concrete enhancements to the overall student experience."

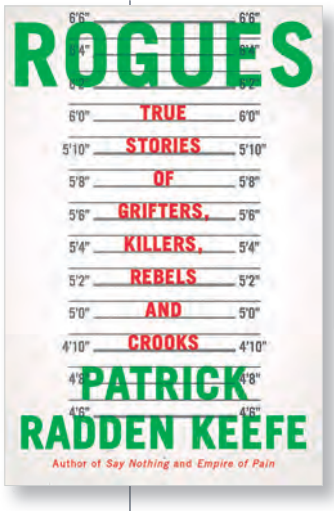
LIONS FENCERS AS SHARP AS EVER

The men's and women's fencing teams rally at a meet in February.

After last year's season was canceled due to COVID-19, Columbia fencers finished the 2021–22 campaign ranked third in the nation, with junior Ashton Daniel winning an individual title in men's foil and senior Sidarth Kumbla placing second in the same division at the NCAA Fencing Championships in March. Along the way, the men's fencing team claimed its seventh Ivy League crown in eight seasons and the women's squad finished second in the Ivies. For more sports news, visit gocolumbialions.com.

Rogues

By Patrick Radden Keefe '99CC (Doubleday)



Among the "abiding preoccupations" to which Patrick Radden Keefe '99CC confesses in the preface to *Rogues* are "crime and corruption, secrets and lies" and "the permeable membrane separating licit and illicit worlds." These preoccupations are front and center in this collection of twelve magazine articles written over twelve years (2007–2019), making the experience of reading this book both exhilarating and unnerving. If the latter adjective sounds critical, it emphatically is not.

In most of the morally deranged subcultures that Keefe probes in these pieces, avarice rules. Money not only makes the world go round, but on occasion the sums are so vast they nearly cause it to spin off its axis. Readers of *Rogues* are hereby encouraged to fasten their seatbelts. In a 2014 piece, the unlawful escapades of the Mexican drug lord familiarly known as El Chapo and the quantities of money, product, and people his operation moves around on a daily basis are eye-popping. Nearly as dumbfounding is the way a jovial Syrian arms dealer living large in a mansion on Spain's southern coast shrewdly manipulates international law (largely unenforceable anyway) while never actually breaking the national laws of any of the multiple countries in which he trades black-market weapons. Closer to home, there's Mark Burnett, a self-identified undocumented immigrant turned nanny turned Hollywood producer whose single-minded pursuit of wealth helped create reality television. (Urged by a self-help guru to jot down his number-one life goal, Burnett writes "more money.") Most consequential among his shows is *The Apprentice*, which Keefe strongly suggests laid the groundwork for Donald Trump's 2016 presidential bid.

But of course even when money is the main thing, it is rarely the only thing. The lust for it that surfaces again and again in these stories is often a surrogate for other, sometimes inchoate yearnings, such as for power or love or saving face. Why else would a multibillionaire like David Koch (one of the Koch brothers and the subject of this collection's earliest story) care so passionately about the likelihood that he was duped into buying forgeries of supposedly rare vintage wines?

Dig deeper — and Keefe never fails to — and we find that something far more complex than simple greed is at play. Fratricide comes up at least three times, though in one instance it might be called demi-fratricide, since the victim is a brother-in-law; his murder is ordered by a chillingly amoral mob boss in the Netherlands, and the brother-in-law is his business partner and childhood best friend. When the mobster goes on trial for this and four other murders, Keefe asks his sister, who's aided the authorities in his capture but claims to still love him, what she'll do if he's acquitted. "I'll have to kill him," she says bluntly, before adding, "I should have done it years ago."

All twelve articles in this volume originally appeared in the *New Yorker*, for which Keefe has been a contributor since 2006 and where some readers may have enjoyed them before. But like many

PHILLIP MONTGOMERY

collections of previously published works, this one gains power from the curation, as themes and patterns in otherwise diverse pieces echo and reinforce one another. A big part of Keefe's appeal lies in the way he doggedly follows a story through every nuance, every twist and turn and unexpected revelation, to end up in a place where readers have never been before. This is magazine writing at its finest: a thrilling alchemy of scrupulous and seemingly inexhaustible reporting skills that no doubt get a considerable boost from Keefe's training as an attorney combined with his knack for old-fashioned page-turner-style storytelling.

In a book-jacket blurb, MSNBC's Rachel Maddow has dubbed Keefe "a national treasure." Even when one factors in the usual hyperbole of such endorsements, it's hard to dispute her claim. Devour this book and then send up a prayer to the magazine gods that — in a media landscape increasingly governed by algorithms, SEO terms, "influencers" of questionable expertise, and the near-total absence of fact-checking — superb long-form journalism like Keefe's can continue to flourish.

— Lorraine Glennon

The School for Good Mothers

By Jessamine Chan '12SOA (Simon & Schuster)

In the fifteen months since I became a mother, not a day has gone by when I haven't wondered if I'm doing it wrong. What if someone has been watching, docking points for the formula I fed my son, for the times I let him cry himself to sleep, for the exasperation that crept into my voice when he smeared peanut butter in his hair, again? If I were to be graded on this — the most important task of my life — would I pass?

In her best-selling debut novel, a dystopian vision of modern motherhood, Jessamine Chan '12SOA takes these all-too-common fears and spins them into the stuff of absolute nightmares. The result is a satire so perfectly executed, so incisive and uncomfortable, that it ought to come with a trigger warning.

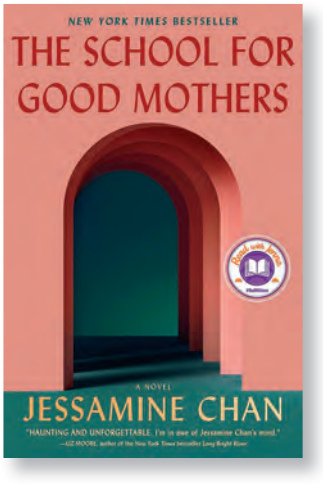
At the beginning of the book, newly single mother Frida Liu has what she calls a "very bad day." Stressed and sleep-deprived, she straps her eighteen-month-old daughter, Harriet, into a bouncy chair and goes to the office, leaving her alone for what is supposed to be ten minutes but turns into two hours. When she returns, Harriet is in the custody of Frida's ex-husband and the girlfriend he left her for.

Frida is given a choice: relinquish all rights to Harriet or spend a grueling year proving herself at a reform school for "bad mothers." She chooses the school. There Frida and her fellow inmates (many in for infractions as minor as "coddling" or letting a child play alone in the backyard) must parent AI-enhanced, camera-equipped robot dolls through feeding, playdates, and potty training while the government watches and judges. Lest the mothers slip into a genuine connection with the dolls and forget for a moment where they are, they are forced to repeat two humiliating mantras: "I am a bad mother, but I'm learning to be good" and, more sinister, "I am a narcissist. I am a danger to my child."

Frida's mistake was serious, but she's also a deeply sympathetic character. Her love for Harriet is desperate, and her hope for a reunion heartbreaking. But it's clear that in Chan's surveillance hellscape, there is no real path to redemption, no way for a flawed mother to win. Notably, there is a father's section of the school, and their path back to custody seems clearer; their mistakes are more easily forgiven, and even minor efforts they make with their dolls are acknowledged and praised.

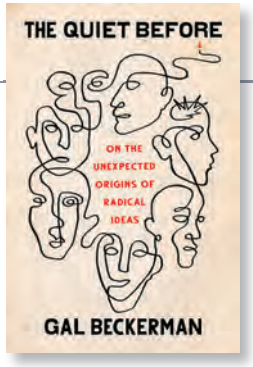
The dolls are meant to "gauge the mothers' love," the instructors tell Frida. But it's not just their behavior under scrutiny, it's their thoughts. "Their blinking patterns and expressions will be monitored to detect stress, fear, ingratitude, deception, boredom, ambivalence, and a host of other feelings." The instructors are looking for perfection. But of course, no human is capable of it, and Chan captures brilliantly the mommy-shaming culture that — even in the real world, with no robot dolls in sight — makes perfection seem not just possible but expected.

— Rebecca Shapiro



The Quiet Before

By Gal Beckerman '21JRN (Crown)



Young Egyptians marched through tear-gas-shrouded streets shouting, "Bread, freedom, human dignity!" It was January 25, 2011, and they were heading toward Tahrir Square, Cairo, united behind one unthinkably daring demand: the resignation of dictator Hosni Mubarak.

The protests were mobilized mostly online, and participants had little experience in governance or movement-building. "We do not understand politics, compromises, negotiations, and cheap tricks," one of the organizers posted on Facebook. "Victory will be ours because our tears are heartfelt." When, on the eighteenth day, Mubarak resigned, their confidence appeared justified.

But the stunning triumph was short-lived, as first the Muslim Brotherhood and then the Egyptian military reasserted control. For the revolutionaries, writes Gal Beckerman '21JRN in his new book *The Quiet Before*, all the logistical might that Facebook had provided proved useless when it came to organizing themselves into a true political opposition.

Tahrir Square is one of several recent protests that inspired Beckerman to question the capacity of social media to support sustained progress toward social justice. Acknowledging the Internet's power to amplify political outrage, Beckerman, the *Atlantic*'s senior editor for books and the holder of a doctorate in communications from Columbia Journalism School, argues that social media is "extremely ineffective at allowing people to focus, to organize their thoughts, to become ideologically coherent, to strategize, to pick leaders, and to refine a message."

Seeking other instruments that might function better, Beckerman turned to the archives to rediscover how pre-digital radicals talked to one another. His research revealed a treasury of analog media — correspondence, petitions, manifestos, newsletters, and zines — tools that demanded patience, thoughtful care, and social contact. More than fiery speeches, mass demonstrations, or armed insurrections, these modes of conversation, Beckerman argues, have helped incubate and nurture radical ideas.

Among the examples he cites is the Chartist campaign for universal male suffrage in the UK. The leaders of the movement — named for the People's Charter of 1838, which set out its aims — gathered millions of signatures to demonstrate working-class support for voting rights and created a document so enormous it was too big to fit through the doors of Parliament. For working people who had never before been invited to participate in a formal political process, the physical act of taking pen to paper forged an enduring sense of community.

This story echoes across decades and locales. In each vividly narrated case study, Beckerman shows how communication technologies can transform political consciousness. A Black-owned newspaper in British-held Ghana in the 1930s provided rollicking columns and letters to the editor that allowed multiple anti-colonial perspectives to reach a broad readership. In 1960s Moscow, Soviet dissidents circulated secretly self-published newsletters known as samizdat to critics of the regime. This private network allowed for information sharing among a trusted circle, fostering ideas that would destabilize the Communist worldview a few decades later.

Beckerman urges us to focus on how some media can deepen activists' visions for a better society and link individual practitioners one to another. In each case, activists innovated technologies that best responded to repressive conditions. They controlled their means of communication and used it to brainstorm ideas, workshop political demands, and forge social identities — all more or less on their own terms.

The Internet, Beckerman argues, has changed all this. Contemporary digital movements that rely on Twitter, Facebook, and other social-media platforms do not control their own networks. Instead, they must accommodate algorithms that privilege extreme posts triggering a narrow range of emotions — outrage, anger, shame — which often fail to align with the activists' own plans or interests. Twitter helped turn Black Lives Matter into the largest protest movement in US history but provided few pathways for further development. One activist told Beckerman that these platforms had made it too easy "to mistake popularity for power."

The question of social media's impact on activism remains as pressing as ever. And Beckerman's attention to historical modes of communicating offers a corrective to a politics that has been polarized, in part, online. Carefully crafted manifestos and patient debate are just as important as civil disobedience and galvanizing speeches. Perhaps Barack Obama '83CC put it best when, in 2016, he chided protesters with the injunction that Beckerman uses as an epigraph: "You can't just keep on yelling." Yes, radical movements are inherently oppositional and born in conflict, but, as Beckerman points out, they are sustained not just because a technology brought attention to the issue but because a group of activists patiently sought solutions.

— Thai Jones '02JRN, '12GSAS

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Horse

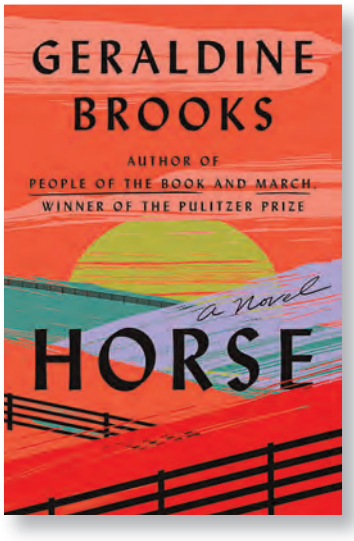
By Geraldine Brooks '83JRN (Viking)

A story of present-day interracial romance woven together with a history of thoroughbred racing in the antebellum South, *Horse*, a new novel by Geraldine Brooks '83JRN, is no safe bet. Yet readers who appreciate rigorous historical research and polished storytelling should certainly stay the course.

The novel opens in Washington, DC, where art historian Theo is rescuing a painting of Lexington, one of America's most renowned racehorses, from his neighbor's trash. Theo takes the artwork to the Smithsonian for evaluation and is introduced to Jess, who is restoring the skeleton of the same horse for an exhibit. The encounter is awkward: Theo, who is Black, recognizes Jess as the white woman who had earlier confronted him when she thought he was stealing her bike. Weeks later, when the couple begin to fall in love, Theo will wonder how to answer the question of how they met, since "being tacitly accused of bike theft wasn't exactly a meet cute."

The action then shifts to 1850, to the day Lexington is born on the Kentucky farm of the physician Elisha Warfield. Warfield promises Harry Lewis, a talented Black trainer, an interest in the racehorse in lieu of a year's wages — an exciting prospect, since Lewis hopes to use any future winnings to buy the freedom of his son Jarret, whom Warfield has enslaved. Jarret proves to be as talented as his father. He spends all his waking hours with the horse, and through hard work and unwavering commitment he eventually raises one of the greatest racing stallions in turf history. Unfortunately, his father will never live to see or profit from this achievement.

Brooks is known for undertaking extensive research, and in the novel's afterword she says that as she pored over archives she was struck by the stories of the Black grooms, trainers, and jockeys who played a "central role in the wealth creation of the antebellum thoroughbred industry." These key figures, of course, are hidden in the margins of history, a place Brooks is always eager to explore. Her novel



March, which won a Pulitzer Prize, imagined the Civil War experiences of chaplain John March, the fictional father of the girls in Louisa May Alcott's *Little Women*. *Caleb's Crossing*, set in 1665, told the story of the first Native American to graduate from Harvard College.

Horse shifts between Jarret in 1850 and Theo and Jess in 2019 (with a whistle stop in New York City in the 1950s), and it carries the heavy burden of acknowledging the deep roots and painful persistence of structural racism. Jarret averts his eyes when he is asked for his opinion, acknowledging that "it wasn't a good idea to speak to a White stranger without putting a deal of thought into it. Words could be snares." One hundred and seventy years later, Theo, the Oxford-educated, polo-playing son of civil servants, cannot escape the racist tropes that pollute the most mundane interactions. When he goes to help a neighbor with her shopping, she flinches with alarm. "Theo felt the usual gust of anger and took a deep breath. Just a White woman, White-womaning."

Geraldine Brooks, of course, is also a white woman, writing from the perspective of an enslaved man and a multiracial student confronting the disappointing limits of "woke" culture. It's a bold choice for a novelist, especially when debates over cultural appropriation in fiction are heated and divisive. Brooks seems aware of the risk. In the novel, Theo's own thesis takes issue with Frederick Douglass's argument "that no true portraits of Africans by White artists existed; that White artists couldn't see past their own ingrained stereotypes of Blackness." In the afterword, Brooks takes pains to point out that she sought insights into the contemporary Black experience from several early readers, including Bizu Horwitz, the son she and her husband, the late journalist Tony Horwitz '83JRN, adopted from Ethiopia.

Brooks's novel started out as a story about a racehorse, but as she began to research the history of thoroughbred racing in America, Brooks writes, "it became clear that this novel could not merely be about a racehorse, it would also need to be about race." And in the end, the novel is all about race. Despite the book's title, the horse, Lexington, becomes less of a major character and more of an also-ran, and by making that choice, the novelist raised the stakes.

— Sally Lee

READING LIST

New and noteworthy releases

CONSTRUCTING A NERVOUS SYSTEM
By Margo Jefferson '71JRN
In this dazzling follow-up to her standout memoir *Negroland*, Pulitzer Prize–winning critic and Columbia writing professor Margo Jefferson weaves together her own memories and "raw intimacies" with stories of Black artists who influenced her, including a particularly moving ode to Ella Fitzgerald, whose singular talent was often stymied by the constraints of a racist society. More than just criticism or autobiography, the book is, in her words, an "assemblage [of] recombinant thoughts, memories, feelings, sensations, and words" — a boldly original project with great payoff.

WORN *By Sofi Thanhauser '06CC* Fashion is often considered frivolous, but Sofi Thanhauser's riveting social history proves that it is anything but. Rather, as she writes, "there is scarcely a part of the human experience, historic or current, that the story of clothes does not touch." Thanhauser organizes her book by material — linen, cotton, silk, synthetics, and wool — taking us from the courts of Louis XIV and Marie Antoinette to the homesteads of Colonial America to modern-day Chinese factories. Though she peppers her prose with entertaining anecdotes, the real takeaways from the book are the dire consequences — social, economic, and (increasingly) environmental — that the production of clothing has inflicted throughout history.

ONE DAMN THING AFTER ANOTHER *By William P. Barr '71CC, '79GSAS* One of only two attorneys general in history to serve under two different presidents, William P. Barr is uniquely qualified to comment on the current political landscape. In his new memoir, Barr chronicles his experiences working under George H. W. Bush and Donald Trump and delves into issues close to his heart. He is candid about the challenges of the chaotic Trump administration (leading up to his resignation in the final days) though also clear about the ways he feels the president was unfairly targeted. An instant *New York Times* bestseller, it's a fascinating window into a turbulent time.

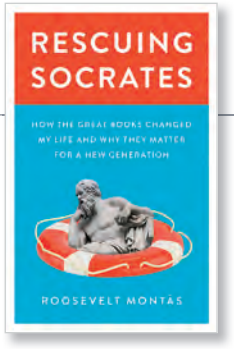
VLADIMIR *By Julia May Jonas '12SOA* "When I was a child, I loved old men, and I could tell that they also loved me." So begins playwright Julia May Jonas's wickedly funny, deliciously transgressive debut novel, which turns all sorts of things on their heads — especially aging, female desire, and the intersection thereof. When we meet our narrator, she is no longer a child but a fifty-eight-year-old professor at a mediocre liberal-arts school somewhere in upstate New York. Her husband, also a professor, has just been #MeTooed; news of his many dalliances with students has prompted calls for his removal. But our narrator is busy herself, lusting after a new hire: "My prey, my prize, my Vladimir." Nods to *Lolita* are, of course, intentional. But Jonas uses the real-life literary Vladimir as a mere launching pad, taking her antiheroine in plenty of unexpected directions.

THE BEAUTY OF DUSK
By Frank Bruni '88JRN
One morning in the fall of 2017, Frank Bruni woke up to find the vision in his right eye blurred. He soon learned that he had suffered a small stroke and that there was a significant chance of losing the sight in his other eye, which would render him completely blind. In his moving memoir, Bruni writes about adjusting to his new normal — one compounded by an unexpected breakup with his longtime partner — and how he manages to find a peaceful, fulfilling way forward.

SMASHING STATUES
By Erin L. Thompson '02BC, '10LAW, '10GSAS In recent years, America has become embroiled in a debate about public monuments, particularly those depicting controversial historical figures. Which deserve to stay? Which should come down? And when people take these matters into their own hands, what are the consequences? Erin L. Thompson, who holds both a law degree and a doctorate in art history from Columbia, is an expert in art crime and a consummate guide to these complicated issues. In her carefully researched new book, she takes us through the history of some of America's most famous statues and provides insight into the current debate.

The Examined Life

In *Rescuing Socrates*, American-studies professor Roosevelt Montás '95CC, '04GSAS makes the case for great books and the kind of liberal education embodied in Columbia's Core Curriculum



Columbia Magazine: Lots of people need our help — why rescue Socrates?
Roosevelt Montás: The title actually works on three levels. It signals a real moment when I found a volume of Plato's dialogues in a garbage pile in New York and it changed my life. It alludes to the attempt to free Socrates from jail before he was executed for corrupting the youth of Athens (he refused the help). And it highlights my main topic: revitalizing the centrality of liberal education within the undergraduate curriculum. The book follows these strands, part intellectual memoir, part personal reading of four transformative thinkers — Socrates, Augustine, Freud, and Gandhi — and part polemic.

CM: You say undergraduates often arrive at college "longing for meaning." Can Socrates rescue *them*?
RM: His message that "the unexamined life is not worth living" is even more relevant today. Socrates struggled philosophically with the ascendant values of his time — materialism, ambition, and raw political struggle — and proposed a different way of valuing what matters in a human life. Students are often profoundly moved, sometimes even profoundly reoriented, by encountering his uncompromising, full-throttled embrace of the life of the mind.

CM: In some of the most evocative passages in the book, you share your own story. Why?
RM: Describing the ideals of a liberal education and the value of wrestling with texts that have had an outsized impact on the world can sound kind of lofty, unreachable, even sappy. I hoped to make that impact concrete to readers by showing them how it actually played out in my life. At twelve, I moved to New York from a remote village in the Dominican Republic, not knowing English. I attended under-resourced public schools in Queens and then experienced the culture shock of attending Columbia as a first-generation college student. Ultimately, I joined the faculty. Every life is different, but I want people to understand the kind of awakening, empowering, unfolding, and flourishing that this kind of education brought me. Students, and especially those that come from marginalized communities, are often told their education should serve a practical end, that liberal education is an elitist privilege. I argue that it is, in fact, the most powerful tool we have to subvert the hierarchies of social privilege that keep those who are down down.

CM: As director of the Center for the Core Curriculum for ten years, did you have to respond to a lot of people who objected to the very idea of great books?
RM: Yes. A lot of that criticism often focuses on how the great-books tradition has excluded certain groups, including and most especially women, and how it can be used to support and legitimate other forms of exclusion. That's all real. Acknowledging and dealing with that is part of the learning. Yet these books still matter. We have to be able to disentangle their role in the cultural and institutional evolution of our world from the violations of norms of justice sometimes encoded in them.

CM: It's not just great books that changed your life but also great teachers.
RM: Yes. Liberal education is something that happens between people, not between books and people or institutions and people. It requires a small, curated artisanal practice in which a student's individuality is recognized and cultivated for what it is. And so it may produce in you something entirely different than it produces in me. It might make me a brilliant politician; it may make you a recluse and a monk. It takes the individuality of the student as its centerpiece, and that takes another individuality to see it. I had many great teachers.

CM: We live in a particularly fractious time. Can a liberal education help us find common ground?
RM: Absolutely. Reading these books creates a tool of communication and communion across generations, cultures, races, and other lines of diversity. All of our points of difference can come together with a shared vocabulary and meet around shared human questions, bringing in different life experiences and cultural frameworks of interpretation. This discursive connective tissue — a shared way of speaking, debating, and relating — is just extraordinarily valuable, especially in a diverse democracy. It can leave us with a sense of the complexity of the human experience, a sense that there's always another side to every question and another way of seeing the world.

— Jerry Kisslinger '79CC, '82GSAS

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The Stowaway

The student who traded Antarctic adventures for a Columbia classroom

Billy Gawronski's 1930 application to study at Columbia may go down as one of the most unusual in University history. His singular achievement as a young man? Stowing away on America's first expedition to Antarctica. His only academic reference? Admiral Richard Byrd, the first explorer to reach the South Pole by air.

Gawronski, the son of Polish immigrants, was just seventeen and living in Bayside, Queens, when Byrd announced his intention to sail two ships carrying three planes to the Ross Ice Shelf. Along with tens of thousands of other would-be adventurers, including members of the Vanderbilt and Rockefeller families, Gawronski longed to join the crew. And so at roughly 4:00 a.m. on August 25, 1928, he swam from the Manhattan docks to Hoboken to reach the *City of New York*, the flagship of Byrd's flotilla.

Gawronski was caught hiding in the ship's hold. Undeterred, he twice tried to stow away on Byrd's supply ship the *Eleanor Bolling*, even hitchhiking to Hampton Roads, Virginia, where it had stopped to refuel. Though both attempts were unsuccessful, his persistence won him the favor of the press, the general public, and the expedition crew. Byrd is said to have been highly amused when he heard that the plucky stowaway had made his way south for another try, and he gave Gawronski a job as a mess boy on the supply ship.

Byrd's polar expedition lasted from 1928 to 1930. Those two years saw the stock-market crash of 1929 and the start of the Great Depression, and when Gawronski returned to New York he was in desperate need of a job. Byrd suggested that Billy's future might improve if he were college-educated, and he wrote a letter to Nicholas Murray Butler 1882CC, 1884GSAS, recommending that Billy be accepted to Columbia College.

The letter did the trick: Gawronski, then twenty, was accepted with a partial scholarship, and the *Spectator* noted his admission as a highlight of the entire class of 451 incoming men. At a gathering of freshmen in John Jay Hall in October 1930, the young explorer thrilled his new classmates with tales of pink dolphins and icebergs the size of Manhattan. They broke out in applause when he promised to bring unreleased scientific films to campus. He soon pledged the Sigma Alpha Epsilon fraternity.

Admiral Byrd visited campus later that month with his new illustrated lecture "Exploring at the South Pole." McMillin Theatre held 1,300 people, and demand was so great that he gave his talk twice. Most in the audience had seen the Paramount picture *With Byrd at the South Pole*, and, to his fans' delight, the adventurer brought outtakes. At both lectures, he called his "old friend" Billy Gawronski to the stage.

By 1932, Gawronski's parents had lost their upholstery business, and Gawronski was forced to leave school to support his family. He went back to sea as a deck hand. He later joined the Merchant Marine, where his expedition experience and his two years of classes at Columbia led to a series of promotions. He became one of the youngest sea captains in World War II and was known for his sobriety, his curiosity, and his love of poetry. In his later years he would post poems on the bulletin boards of all the ships he commanded. Among his favorite verses was "Dreams of the Sea," by William Henry Davies:

I know not why I yearn for thee again,
To sail once more upon thy fickle flood;
I'll hear thy waves under my death-bed,
Thy salt is lodged forever in my blood.

— Laurie Gwen Shapiro

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