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JOHANNA GOODMAN

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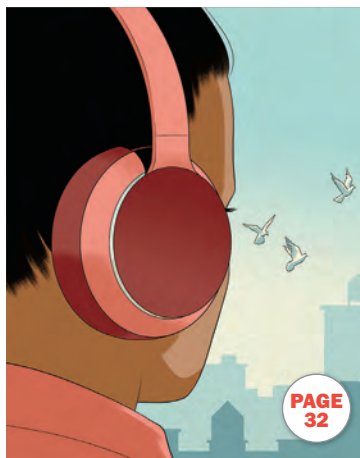
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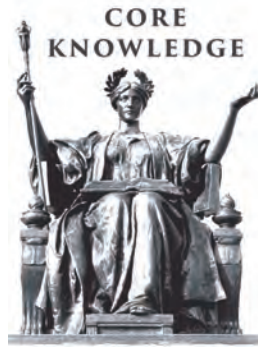
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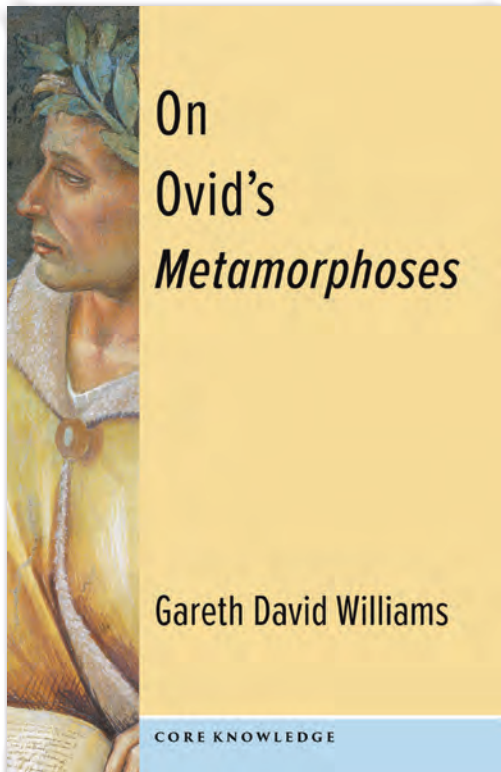
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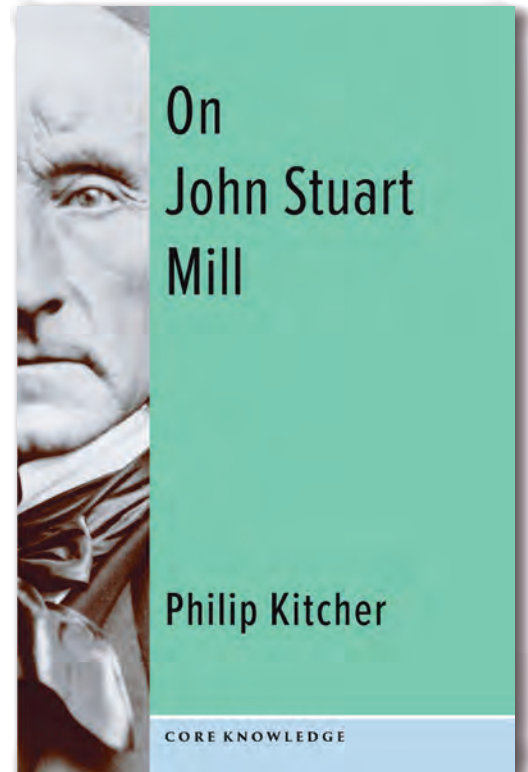
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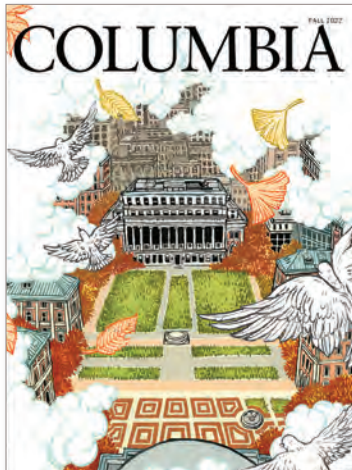
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LIGHTHOUSE KEEPER

Thank you so much for your valuable article about Kelly Posner Gerstenhaber's work at the Columbia Lighthouse Project to expand screening for suicide risk ("A Light in the Storm," The Big Idea, Fall 2022). It's encouraging to learn about the wide scope of this work, which must still confront old fears and prejudices.

Blaikie F. Worth '90SW
New York, NY

POST-ROE FEARS

Your article "Supreme Complications" (College Walk, Fall 2022) was a good summation of our current dilemma regarding abortion in this country.

Columbia law professor Carol Sanger says that "people should be terrified right now" about the possibility that a federal law that makes all abortion illegal could be on the horizon. People should indeed be terrified by the thought of all the young women who would die as a result of such a law.

As a nineteen-year-old nursing student, I was astounded when my young female patient died because of gangrene of the uterus following an illegal abortion. I have never recovered from that shock.

Banning abortions does not stop abortions, it only stops safe abortions. I, for one, am terrified.

Joann Lamb '81TC,
'87NRS
New York, NY

Thanks for your article "Supreme Complications." As a psychologist, I'm concerned about the quality of life of babies who were not wanted by their mothers. The emotional bond connecting the infant and mother is called attachment. When the mother is available, sensitive, and responsive to the infant's needs, attachment quality is high — this is called secure attachment. Decades of studies show that secure attachment is important for the child's mental, physical, and social development.

The higher rate of disrupted bonding between

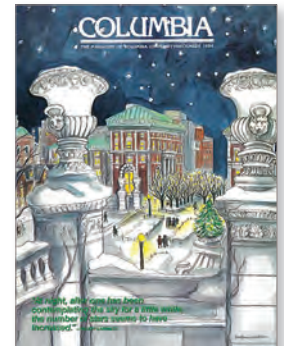
the infant and mother connected with unwanted pregnancy means there is a higher likelihood of insecure attachment. When the needs of infants are not satisfied, they experience distress that can result in low self-esteem, suicidal thoughts, depression, posttraumatic stress disorder, eating disorders, anxiety, and anger.

Ronald Goldman '69SEAS
Boston, MA

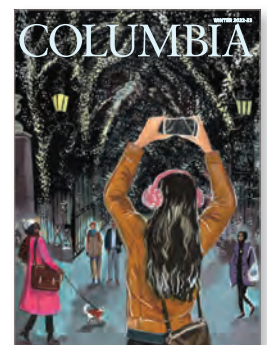
OTHER SPECIES

Thank you for your brief piece on the need for tigers to be able to move across the landscape ("Where tigers still roam," Explorations, Fall 2022). The importance of "connectivity" has long been recognized by scientists and activists globally. As early as the 1990s, Reed Noss, Michael Soulé, John Terborgh, Jim Estes, and others around the world documented its importance for many species. The Wildlands Network and other advocates have mapped important connections and sought to have lands and waters set

COVER CALLBACK



Columbia's holiday lights have long inspired campus visitors. For our December 1984 issue, illustrator Barbara Westman also captured the awe and peaceful beauty of College Walk in winter.



aside for the many other species for whom the earth is home. The challenge is not to identify corridors but to officially protect them. Humans are a self-absorbed species who will take everything if allowed. We forget that we are only one animal among millions. Parks and linkages need to be designated and defended. Science without fierce, values-based advocacy is impotent.

David Johns ’78GSAS, ’79SIPA, ’80LAW
McMinnville, OR

POLLEN EATERS

As someone otherwise happily surrounded by trees and grasses, I read “Pollen Problems” (Fall 2022), about Columbia researchers’ efforts to understand why seasonal allergies are getting worse, with interest.

While all those quoted make strong points, one factor is ignored: the decline of wildlife, particularly insects. Ideally, allergens — i.e., pollen — are kept at manageable levels by palynivores, or pollen eaters: insects like bees, flies, grasshoppers, and butterflies, as well as some birds. Grazers (like cattle) and browsers (like deer) inadvertently consume pollen, and ants and beetles bury it in the ground. With fewer animals, birds, and insects to contain it, all that pollen goes into the air and, inevitably, our noses. Yet another reason that biodiversity matters — for the health of ecosystems, including our own.

Judith D. Schwartz ’84JRN
Bennington, VT



Centenarian William E. Leuchtenburg

THE CHAIR HOLDERS

In your fall issue you cover the very interesting story of George Chauncey, the current DeWitt Clinton Professor of American History, and note the names of three former holders of the chair (“When Historians Make History,” College Walk).

So I write to express my surprise that my father, William E. Leuchtenburg, is not mentioned, though he held the DeWitt Clinton chair for more than ten years, taught at the law school, and received his MA, his PhD, and, more recently, an honorary degree from Columbia.

Josh Leuchtenburg ’84LAW
New York, NY

Since its creation in 1926, the DeWitt Clinton chair has been held by Evarts Greene (1926–39), Allan Nevins (1942–58), Richard Hofstadter ’42GSAS (1959–70), William E. Leuchtenburg ’51GSAS (1971–83), Eric Foner ’63CC, ’69GSAS (1987–2018), and George Chauncey (2018–present). Leuchtenburg, a scholar of Franklin D. Roosevelt ’08HON, turned 100 in September. — Ed.

LIGHTS OUT AT LOW STEPS

I enjoyed reading about the step-by-step repair of the Low Library steps (“A Top-Flight Makeover,” College Walk, Fall 2022). I could see them from my Butler Library office when I was part of the library staff in the 1970s, and I walked by that beautiful staircase so many times during those years.

I’ll never forget the July evening in 1977 when much of New York City went dark just as the sun was setting. I left a movie theater and managed to get an uptown bus on Broadway, exiting as usual at West 116th Street to walk to my tiny apartment on the other end of 116th near Morningside Park. By that time it was very, very dark, but I could sense that the Low Library steps were crowded with people not wanting to be inside their apartments or dorm rooms, where it was surely even darker. A murmur of conversations, a few lit cigarettes, a stillness as everyone wondered what would happen next.

Janet Steins ’79LS
Somerville, MA

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		

MANKIEWICZ MEMORIES

The Fall 2022 issue of *Columbia Magazine* was my first as a Columbia alumna. I felt an instant personal connection to your story about the Mankiewicz family and its strong Columbia roots (“Being the Mankiewiczes”).

For the last ten years of his life, I had the honor and pleasure of eating lunch with Frank Mankiewicz about once a month. He was everything his son Ben says about him and more. He had an amazing sense of humor and shared stories on subjects that ranged from his friendship with Stan Musial to playing tennis in Ginger Rogers’s

backyard to deep discussions of James Joyce, whom he adored, and of course, lots and lots of politics. He was gone before I started at Columbia, but I thought about him often while I was there. He would have wanted to dive right in and discuss every one of my classes. What a man!

What a family!

Claudia Caplan Wolff
’22GS
New York, NY

A FRIEND IN NEED

Thank you for your article about the surgeon William Halsted’s storied career (“The Strange Case of Dr. Halsted,” Backstory, Fall 2022). You state that “a friend at Johns Hopkins”

brought Halsted to Baltimore after he fell in disgrace in New York. Presumably the friend was William Welch 1875VPS, the founding father of Johns Hopkins University’s schools of medicine and public health and of the *American Journal of Epidemiology*. Keeping Welch anonymous does not do justice to this outstanding Columbia alumnus and his visionary leadership and monumental accomplishments.

Guohua Li
Montebello, NY

The writer is the M. Finster Professor of Epidemiology and Anesthesiology at Columbia University Irving Medical Center.

Halsted’s “friend at Johns Hopkins” was indeed Welch, who offered Halsted a position at Hopkins in 1886 after the latter completed his treatment for cocaine addiction. Welch, a wide-ranging intellectual and internationally celebrated physician, also discovered the bacterium that causes gas gangrene. — Ed.

**QUESTIONS?
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COLLEGE WALK

NOTES FROM
116TH STREET
AND BEYOND



Objectivity and Its Discontents

A J-school panel holds a central journalistic principle up to the light

That journalists should strive for impartiality when reporting the news is an article of faith in America. Objectivity has long been seen as the gold standard of journalistic integrity. But if the demise of the FCC's fairness doctrine in 1987 eroded that ideal, more recent social currents have all but toppled it. The threat of authoritarianism and the growing influence of journalists from marginalized backgrounds have given fresh kindling to one of the profession's hottest debates. As the new dean of Columbia Journalism School, Jelani Cobb wanted to confront the issue. And so this fall, in the first public program of his deanship, Cobb convened "The Objectivity Wars," a hard-hitting panel discussion in Pulitzer Hall moderated by Kyle Pope, editor and publisher of the *Columbia Journalism Review*.

A critical tone was set as Wesley Lowery, who won a Pulitzer in 2016 at age twenty-five as part of a *Washington Post* team reporting on police shootings, reminded the room that "the act of journalism, no matter how much we may fetishize the idea of objectivity, requires a series, a pyramid, of subjective decision-making." For Lowery, those deci-

sions — what stories to run, what resources to invest, who to quote — are limited by the people who make the decisions and the interests they serve. And in the history of American journalism, he said, those decisions have been made "almost exclusively by upper-class white men."

Lowery recalled that in 2019, President Donald Trump tweeted that four congresswomen of color should "go back" to the "crime infested [countries] from which they came" — which, said Lowery, "by all objective fact is a nativist attack, and nativism is a form of racism. The thing he did was racist. And yet most of our news organizations refused to describe it as such. Here we are, the bulwarks of our democracy, the fourth estate, too scared to look at the sky and say that it's blue."

Rutgers historian David Greenberg '01GSAS noted that objectivity was never the bedrock of early American newspapers, which for most of the nineteenth century were aligned with political parties (thus names like the *Springfield Republican* and the *St. Louis Globe-Democrat*). But, he explained, the rise of professionalization and the application of

scientific methods to studying the social world seeped into journalism, so that when Adolph Ochs bought the *New York Times* in 1896, he promised to “give the news impartially, without fear or favor.”

While acknowledging the pitfall of “both-sides-ism” — giving equal weight to an opposing argument regardless of its soundness — Greenberg defended the pursuit of objectivity as “the attempt to identify our own biases and correct for them so they don’t inflect the conveyance of the news.” He argued that “aspirational journalistic objectivity” was an essential “baseline” in a news ecosystem swimming with opinion, advocacy, and partisanship.

North Carolina-based journalist Lewis Raven Wallace had a different take. Before being fired in 2017 for publishing a blog post on Medium.com called “Objectivity is dead, and I’m okay with it,” Wallace had covered the economy for public radio. But Trump’s election changed everything. Wallace, who is a trans man and who entered journalism from an activist background, had suppressed his moral judgments in the name of neutrality. Now he attended meetings where such questions arose as: if we run two stories on Trump’s lies, do we need a third story about something good that he did?

Lowery, who is Black, focused on how the banner of objectivity has served the status quo. “There’s not a single day in most cities that the local mainstream newspapers properly, fairly, accurately cover the Black community, the immigrant community, the gay community,” he said. He ascribed this failure to the lack of distinction between “subjective” and “objective”

journalists. “It’s a bunch of people telling themselves they’re objective journalists and then writing their opinions into the news, and doing so by deciding what stories they cover and what stories they don’t cover.” Objectivity, said Lowery, “has always been wielded to silence people who do not fit with the politics of the people who own and operate the newspapers.”

New Yorker writer Masha Gessen took things a step further. “My argument,” Gessen said, “is simply that if we’re going to have an ideal, then moral clarity would be a much better guiding ideal for journalism than objectivity.” Writing about AIDS in the gay press in the 1980s, Gessen, who is nonbinary, realized that journalism was “inherently political,” and that journalistic choices created realities that would not have otherwise existed. “We reported on drug trials, on promising drugs, and people found out about them because they read about it.” As for objectivity, Gessen said, “it’s a style that since the beginning of the Trump presidency has served to normalize things that ought not be normalized.”

Despite political clouds overhead, the day was not without a ray of levity. At one point, Lowery noted that the newspaper industry “until very recently had completely excluded people of color from its leadership,” and that if J-school founder Joseph Pulitzer were to come back to life, he would hardly know what to make of the people on the panel, “much less that Jelani Cobb is the dean of the school.”

Amid laughter, Cobb, offstage, called out, “He had an editor named Frank Cobb. He just didn’t look like me.”

— Paul Hond

THE SHORT LIST



LEARN

Historical artifacts will be on view at **Science, Nature & Beauty**, an exhibition at the Rare Book and Manuscript Library through March 3. Discover how math and science permeated the Muslim world from ancient times through the eighteenth century. library.columbia.edu/libraries/rbml.html

SEE

Experimental-art enthusiasts can visit the Wallach Art Gallery for **Nothing #26**, a showcase of work by interdisciplinary artist Autumn Knight, from February 3 to March 12. Next on view will be **Double Rendering**, a solo show for digital artist Austin Lee, and **A Speculative Impulse**, an exploration of the relationship between art and archives, from March 25 to April 9. wallach.columbia.edu/exhibitions



DISCOVER

Stay in the know with **Columbia Invents**, a podcast on faculty innovations from Columbia Technology Ventures. Recent interviews include neuroscientist Charles Zuker on the evolutionary science of taste and medical researcher Rudy Leibel on the genetics of obesity. Listen on Spotify or Apple Podcasts.

LISTEN

Miller Theatre’s Composer Portraits series, which celebrates contemporary classical music, is presenting three upcoming solo shows. Guggenheim Fellow **Suzanne Farrin** takes the stage on February 2, followed by a performance from Norwegian composer **Øyvind Torvund** on March 2. Acclaimed flutist **Nicole Mitchell** closes the series on March 30. millertheatre.com/events

What Do We Want? Neurorights!

Rafael Yuste fights to protect our most personal information: the data in our brains

Rafael Yuste, a professor of neurobiology at Columbia, wants to be clear: the astonishing advances in neurotechnology, which he defines as “methods or devices or tools to record or change brain activity,” are a wonderful thing. Whether electronic, optical, acoustical, magnetic, or chemical, neurotechnology is being deployed to treat brain disorders from depression to Parkinson’s and could someday be applied to Alzheimer’s and schizophrenia — and Yuste is thrilled. “My life’s quest,” he says, “is to understand the brain and help treat brain diseases through the development of neurotechnology.”

Over the past decade, as highlighted in Werner Herzog’s new film *Theater of Thought*, for which Yuste served as chief scientific adviser, neurotechnology has gone to places once unimaginable. By recording and mapping brain activity, researchers are gaining the ability to decode speech based on neural patterns, which could benefit people who are immobile or cannot easily communicate. At Columbia, Yuste’s lab is working on optical neurotechnology to understand the cerebral cortex, the largest part of the brain. Using holography, the lab team can activate neurons that serve to “implant” images into the visual cortices of

mice — who behave as if they are seeing the image.

But these advances in the name of science and medicine come with risks of misuse, and Yuste wants to get ahead of this speeding neurotechnology train as it hurtles toward an unregulated future.



In his ninth-floor office in the Northwest Corner Building, Yuste, who was born in Madrid and has taught at Columbia since 1996, looks out his window at the brick building below — Pupin Hall, where, in the late 1930s and early 1940s, Columbia physicists worked on the Manhattan Project, the US research effort to create nuclear weapons. “The physicists who built the atom bomb were the first ones to argue for regulating how atomic energy should

be controlled,” Yuste says. Today, he and his colleagues are arguing for regulating neurotechnology “because there are fundamental ethical and societal issues.”

It all began in 2011, when Yuste and a small team of scientists proposed what became, two years

new field: neurotechnology. Other countries started similar projects, and in 2016 the US State Department, in conjunction with the UN, launched the International Brain Initiative, in which Yuste also played a key role. A subsequent meeting took place at Columbia in 2017 in a room down the hall from Yuste’s office, where twenty-five experts from around the world — scientists, engineers, ethicists, lawyers — wrestled with the potential abuses of neurotechnology.

“We decided that this is a human-rights issue,” Yuste says. “Neurotechnology can read and change brain activity, and so we proposed the idea of ‘neurorights’ to protect brain activity from ill-intended purposes.”

They hammered out five neurorights that they want to see universally adopted: the right to mental privacy, so that our brain data cannot be used without our consent; the right to free will, so we can make decisions without neurotechnological influence; the right to personal identity, so that the technology cannot change our sense of self; the right to protection from discrimination based on brain data; and, not least, the right to equal access to neural augmentation. “Mental augmentation should be in the forefront of the human-rights debate,” says Yuste. “We’re talking about the possibility of

later, under President Barack Obama ’83CC, the BRAIN (Brain Research through Advancing Innovative Neurotechnologies) Initiative, a federal science program that allocated millions of dollars to hundreds of labs in the US to investigate how neurons and neural circuits interact to give rise to thought. The goal was to provide a basis for therapies for mental and neurological diseases, and, Yuste says, to spur an economically promising

creating a hybrid human, which could divide humanity into two species: augmented and non-augmented.”

The group published a paper in *Nature*, and Yuste founded the NeuroRights Foundation, a hub for advocacy, research, and international outreach, run out of his lab. So far, the foundation has advised Chile on amending its constitution to make the protection of brain data a basic human right. Yuste hopes other countries will follow and is pushing for the UN to revise its human-rights treaties to account for neurotechnology.

He is also bringing the message to the public. In 2020, he e-mailed filmmaker Herzog, whom he didn’t know but whose searching approach to enigmatic, existential topics struck Yuste as a good fit for neurotechnology. Herzog agreed. The two began talking over Zoom, and in May 2021 they traveled the US and collected some thirty interviews with neuroscientists, engineers, philosophers. *Theater of Thought* premiered at the Toronto International Film Festival this past September.

But Yuste’s work is just beginning. He wants nothing less than global protection for what he calls “the ultimate privacy” — our interior lives.

“We should draw a line in the sand that can’t be crossed,” he says. “The mind is the sanctuary of our innermost selves, and that private world must be protected.”

— Paul Hond



Down by the Riverside

Sing Harlem rocks the Forum

It was Monday at 6:00 p.m., but to the 150 people seated in the glass-enclosed atrium of the Forum on the Manhattanville campus, it felt like Sunday morning. The high windows trembled with the good vibrations of Sing Harlem, a ten-person choir that brought serious local talent to the Forum’s Music Monday series of free concerts. Led by Ahmaya Knoelle Higginson, a Harlem-born performer and educator, Sing Harlem soared through classic R&B songs (“Outstanding” by the Gap Band, “Empire State of Mind” by Jay-Z and Alicia Keys) and gospel essentials like “Down by the Riverside,” “Amazing Grace” (which had more than one listener lifting hands), and “This Little Light of Mine,” during which Higginson moved through the crowd, pointing the mic toward random faces for the line *I’m gonna let it shine*. Whether there were talented vocalists in the house that night or whether the music itself had brought out everyone’s inner Mahalia, everyone shone.

The choir is made up of graduates of the Mama Foundation for the Arts, a nonprofit music-education program run out of a West 126th Street brownstone that has been in Higginson’s family for more than a century. Higginson and her mother, the theater producer Vy

Higginson (they use different spellings of the family name) — who cowrote *Mama, I Want to Sing!*, a musical that debuted at Harlem’s Heckscher Theater in 1983 and has since been performed more than three thousand times worldwide — started the nonprofit in 1998, wanting to “preserve the history and culture of our African-American music,” Higginson says. Later, to raise money, they created Mama’s One Sauce, an all-purpose condiment that comes in “mild,” “spicy,” and “fire.” It became a bestseller at the 125th Street Whole Foods, and Columbia purchased 1,200 bottles for its dining services — a connection that eventually led to the Sing Harlem gig at the Forum.

On the sauce scale of hotness, this choir is fire. The group recently appeared on *America’s Got Talent* and *The Kelly Clarkson Show*, and it has a Sunday residency at chef Marcus Samuelsson’s restaurant Red Rooster Harlem on Lenox Avenue.

For Higginson, performing at the Forum meant spreading the gospel of Black music throughout the neighborhood she loves. “When I look out at the faces of all the people who are sitting here tonight — you guys feel like community,” she told the crowd. “So thank you for coming to experience our piece of Harlem.” — Paul Hond

Fresh Prints

The Neiman Center for Print Studies celebrates 25 years

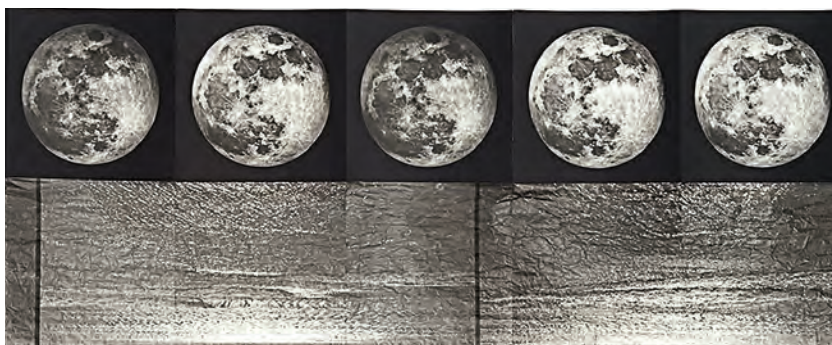
In 1995, the artist LeRoy Neiman and his wife Janet Neiman gave \$6 million to endow the Neiman Center for Print Studies, which they envisioned as a hothouse for pedagogy and printmaking. Located on the ground level of Dodge Hall, the center, composed of a fine-art printshop and adjoining gallery, opened in 1996 as part of the School of the Arts. Since then, more than sixty professional artists have come to campus as Neiman Fellows to make art, teach Columbia graduate students, and collaborate with the shop's master printers.

Led by artistic director Tomas Vu-Daniel (also the school's Leroy Neiman Professor of Visual Arts), associate director Samantha Rippner, and master printer Nathan Catlin '12SOA, the center has published close to six hundred editions by such artists as Kiki Smith, Kara Walker, Sarah Sze, William Kentridge, Nicola López '98CC, '04SOA, Jasper Johns, and Neiman himself, who was famous for his colorful lithographs of athletes. The center sells the editions to help fund the program. According to Vu-Daniel, Neiman, who died in 2012, "cared about young people more than anything else" and emphasized education above all. In the shop, with its drafting tables, basins, rags, reams, and massive machinery — the offset press with its ink rollers, the etching press with its wheels and gears — students train with established artists in a variety of printmaking techniques, including intaglio, lithography, screenprinting, relief printing, and digital imaging, creating a symbiotic ecosystem of intrepid printmakers. As Smith says, "It's exciting because the students are way ahead of you, into the next generation of things."



To celebrate twenty-five years of artistic experimentation and risk-taking, of teaching and learning, of publishing and community-building, the center has been holding a series of exhibits that continue into April, featuring the work of Neiman Center artists. These images, spanning the panoply of printmaking methods, expand our sense of what art can be and never fail to leave an impression.

From top: Trenton Doyle Hancock, *The Year: Voices of Rasp Ring Colors to Grasp*, 2009; Hancock at work at the Neiman Center; Kiki Smith, *Tidal* (detail), 1998.

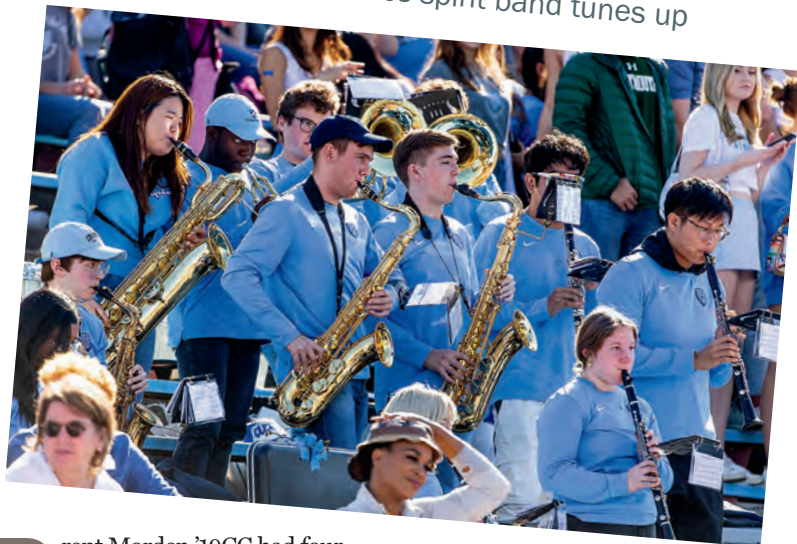




Clockwise from top left: Carl Fudge, *Tattooed Blue*, 2002; Dana Schutz '02SOA, *One Eyed Girl*, 2005; Kayla Mohammadi, *Shifting Pier I*, 2018; Eric Fischl, *Tumble*, 2001; Kara Walker, *Harper's Pictorial History of the Civil War (Annotated): Exodus of Confederates from Atlanta*, 2005.

Marching to a Different Beat

The new Columbia Athletics spirit band tunes up



Brent Morden '19CC had four weeks to prepare for Homecoming: four rehearsals in a room in Riverside Church, where the brand-new Columbia Athletics spirit band converged on Sunday evenings with their horns and drums, and where Morden, the band director, had to get two dozen students who had never played together to blend like a passable Bordeaux. He tried out different songs to see what clicked and polished up Columbia anthems like “Roar, Lion, Roar” and “Who Owns New York?”

The previous marching band, known for its anarchic, irreverent, hit-or-miss approach to the band arts, had been barred from football games in 2019, after failing to either take the steps to become a recognized student group or agree to work under the auspices of Columbia Athletics. Then, in 2020, amid allegations of off-field misbehavior, the band voted to dissolve itself (some hoped it was just another bit of satire; it wasn't). According to Samantha Rowan '96BC, president of the Columbia University Band Alumni Association, many members were shocked by the news and did not recognize their own experiences in the accounts of racism and sexism that had surfaced in the press.

Both Rowan and the University wanted a fresh start, and during the COVID-19 lockdown Rowan spoke with Peter Pilling, director of Columbia Athletics, and Mike Miller, associate athletics director for marketing, ticketing, and fan engagement, as well as alumni, about “forming a group that more reflected the organization that most of us remembered,” she says.

Whereas the old band was run by students and featured nontraditional instruments such as toilet seats and “wet floor” signs, the new band joins the dance and cheer teams as a Columbia “spirit group.” Today the accent is on musical skill over wacky on-field antics. Says Miller, “We’re focusing on musicianship, because over the years, talented people in different musical groups on campus didn’t want to play in that band because it didn’t seem like a serious musical-performance group.”

Cue Brent Morden. A music major at Columbia, Morden played euphonium in the wind ensemble, for which he composed, conducted, and served as president. He was also musical director of Uptown Vocal, the student jazz a cappella group, and in his senior year he was one of the composers and

lyricists for the 125th Varsity Show. Though he has never conducted a pep band, he is excited, he says, to “expand my palette” and build a band from the ground up. “We welcome every student musician who wants to play with us and represent Columbia,” he says.

At the Homecoming game against Dartmouth, Kraft Field at Wien Stadium was packed with more than ten thousand Lions fans, many in blue and white. And there in the stands, around the thirty-yard line, twenty people dressed in matching Columbia-blue jerseys held saxophones, clarinets, drums, a tuba. Morden, stationed in the bottom row wearing sunglasses, with a yellow whistle lodged in his lips, looked from the field to the musicians, getting a feel for the flow of the game and when to strike up the band. Then he raised his hand and counted off: fans heard CU standards, snippets of classic pop songs (“The Final Countdown,” “Eye of the Tiger”), and sly quotations from Mozart and Beethoven (mellower high jinks than sis-boom-bah-ing through Butler Library on the eve of exams). Many fans appreciated this wink at Music Hum, though some felt the theme from *Eine kleine Nachtmusik* was not the ideal soundtrack for the simulation of war that was football. “The repertoire is still in progress,” Morden says. “One of my jobs is to curate music that the band enjoys playing and that fits with the action of the game and gets the crowd excited. It’s almost like doing a film score.”

As for the game score, the Lions lost a heartbreaker in the final seconds, 27–24.

Afterward, more students reached out to join the band. There are now upwards of thirty members, and Morden would like to hit forty by the end of the school year. The band will play at men’s and women’s home basketball games throughout the spring, and next football season, if all goes well, they could take to the field and line up in a respectable halftime formation.

— Paul Hond



Matthew in 2002
as a starting
pitcher for the
Columbia Lions
baseball team.

“It’s really satisfying to know that my gift can be even a small part of continuing the legacy of this great institution.”

Matthew Waldman '02CC
1754 SOCIETY MEMBER



Pitching in for the Future

Matthew Waldman '02CC credits Columbia for shaping his identity. Through the Core Curriculum he gained a worldly perspective and as a pitcher on the baseball team, he forged strong and lasting friendships. Now, Matthew is giving others a chance to step up to the plate on and off the field.

Read Matthew’s full giving story at giftplanning.columbia.edu/matthew

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DRAWING CONNECTIONS



HOW ARTIST, SOCIAL WORKER and GRAPHIC JOURNALIST WENDY MACNAUGHTON ('05 SW) BRINGS PEOPLE TOGETHER THROUGH ART.

(and HAND-LETTERS HER OWN PROFILE?? SO FUNNY.)

by REBECCA SHAPIRO
ART by ME, WENDY

There's an exercise that has become something of a calling card for Wendy MacNaughton '05SW — she does it when she's teaching a class or giving a TED talk or even sometimes when she's doing an interview. She asks people to choose someone nearby and draw their face. But there are two caveats: They must draw in one continuous line, without lifting the pen off the page. And even more importantly, they can't look down.

"People have an idea in their head of what a face is supposed to look like, and they're worried that their drawing isn't going to look like that," MacNaughton says. "It's not. It's going to be terrible, I promise. But this isn't about making a pretty picture. It's about looking at someone, with no distractions and no expectations."

Looking is important to MacNaughton, who trained as a visual artist, a storyteller, and a social worker and has built a dynamic career at the intersection of those fields. She's an illustrator and journalist who has published twelve books and was the first visual columnist at the *New York Times*. She is the cofounder of Women Who Draw, an online directory of underrepresented illustrators that has become a model of inclusion for many industries. And she is the creator and host of DrawTogether, an enormously popular online children's drawing class turned educational non-profit that, MacNaughton will quickly say, "isn't really about drawing at all."

MacNaughton always draws from life, a choice that she says is vital to the kinds of interactions she strives for and that she believes we can all benefit from. And while her work is beautiful — vibrant and colorful, informative and imaginative, and almost always imbued with whimsy and charm — she says that the end result is secondary to the person-to-person process by which she creates it.

"When I gave my TED talk, I started out talking to a room full of strangers," she says. "After that drawing exercise, people were coming up to me and telling me that they felt like they made a friend."

MacNaughton, a fifth-generation San Franciscan, grew up in the North Bay and spent most of her childhood with a pen or pencil in hand. From an early age, she'd set up studios around her house, with butcher paper and a mini-easel that she'd put on a table. As a teenager, she became the first student at her sports-focused high school to get an "art exemption," allowing her to skip gym and paint instead.

She followed that path to college, earning a BFA from ArtCenter College of Design in Pasadena. But after graduating, MacNaughton stopped drawing for several years, instead taking a job as a copywriter at a large advertising agency.

"When you go to school for fine art, the natural goal is to show your work in a gallery," she says. "I wasn't very interested in making art that only thirty

people saw, when I could make something that ended up on a billboard that thirty thousand people saw."

Even though she wasn't working on the visual side, MacNaughton says, her job as a copywriter was important training for the work she does now. "It's really about storytelling," she says. "I learned how to get a message across succinctly and forcefully."

But MacNaughton quickly realized that commercial advertising wasn't the right fit for her ("Oddly, luxury fashion labels didn't seem too taken with my proposed slogan: 'Do you really need this?']"). So when a contact in the industry put her up for a temporary job in Rwanda, designing the marketing campaign for the country's first free democratic election, MacNaughton jumped at the opportunity and took a leave of absence.

"Advertising can be very powerful," she says. "In Rwanda, I realized that I could use those tools to enact real change in the world."

When MacNaughton returned from Rwanda, she quit her job and pursued a degree in social work at Columbia. In graduate school, she says, she had to fundamentally shift how she thought about the world. "In advertising, I was taught to come up with ways to tell people what they need," she says. "In social work, you find out what people need and then help them get it. I had to learn how to ask questions instead of coming up with answers." MacNaughton believes that this kind of thinking — and

the work it inspires — is undervalued. “I actually think everyone on earth should be required to get a mini-social-work degree,” she says.

While many of MacNaughton’s classmates became therapists, she was interested in larger-scale community issues. “At Columbia, I learned that if we want to make a change, we really have to understand all the systemic factors contributing to the problem,” she says. MacNaughton hoped to find a way to use her skills as a storyteller to bring about that understanding. She returned to the Bay Area and got a job with a nonprofit that provided marketing for organizations dedicated to social good. “Even though I was doing meaningful work,” MacNaughton says, “I wasn’t really happy, and I didn’t know why.”

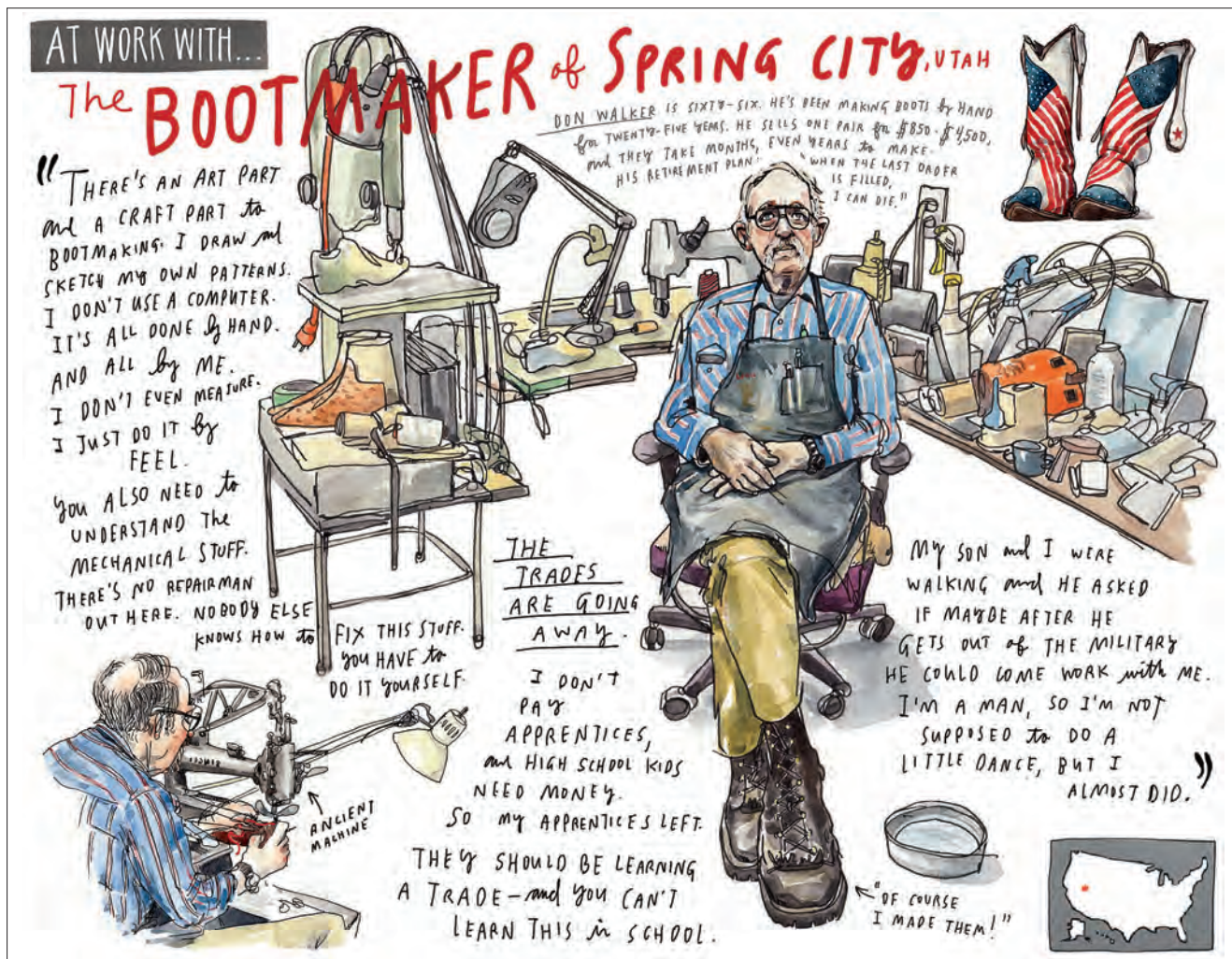
MacNaughton was then living in the East Bay and commuting every day by rapid transit to her office in San Francisco. With time to kill, she started bringing her sketchbook on the train and drawing her fellow passengers. “This was before smartphones, so everyone wasn’t looking down,” she says. “They weren’t at home, and they weren’t at work. It was this strange limbo that I was capturing.”

She found that drawing — and specifically this kind of drawing, where she was encountering people she otherwise might not — was filling the void in her professional life. She started visiting corners of San Francisco that once seemed mundane — the public library, for example, or a chess game in a city park — and found that they all

held stories if she took the time to look closely enough.

In 2010, those stories became an illustrated documentary series called “Meanwhile” in the online literary magazine *The Rumpus* and, four years later, a book, *Meanwhile in San Francisco*. “If Studs Terkel, the great oral historian, had taken up drawing, his work might have looked something like what Wendy MacNaughton has created,” wrote the *San Francisco Chronicle* about the book. “Like Terkel, MacNaughton gives voice to ordinary people from all walks of life, dignifying them in the process.”

MacNaughton began to move out of her comfort zone, literally and figuratively. She outfitted the back of her Honda SUV with a drawing table, cabinets for art



MacNaughton's *New York Times* column about bootmaker Don Walker.

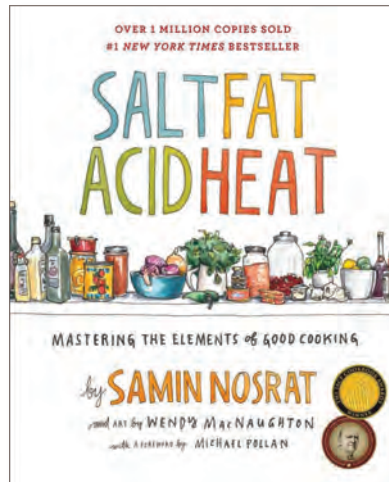
supplies, and a place to sleep. “I wanted to be out in the world, finding stories, without worrying about getting back to my studio to finish them,” she says. “So I built a mobile studio.”

With freedom to roam, MacNaughton also found new homes for her work. In 2016, she took her visual storytelling series to the *California Sunday Magazine*, where it appeared on the back page of every issue. Two years later, it became a regular feature in the Sunday *New York Times* — the first visual column in the paper’s history. At first glance, the topics of MacNaughton’s columns don’t have much in common: some are bleak (hospice care in prisons), some whimsical (the surprising history of the plastic “grass” found in takeout sushi containers), and some more random (a profile of an Oakland activist beekeeper or a Utah bootmaker). But they’re all united by one principle: that the small, often overlooked parts of life can be windows to much more.

“I always have a running list of things that I’m interested in,” MacNaughton says. “And I pay attention to whatever tugs at my curiosity.” She found the bootmaker, for example, when she drove past his shop in Utah and got the urge to stop the car and turn around. “He wasn’t expecting me — a sketchbook-carrying, jumpsuit-wearing, urban lefty lesbian,” she says in her TED talk. “But every tool in that shop had a story. I ended up spending hours there. And by the end of the day, we looked different to each other than we had when I walked in.”

In 2019, MacNaughton took on a different kind of an assignment for the *Times*, spending a week at the military court at Guantánamo Bay, where she sketched defendants on trial for their involvement with the attacks on September 11. MacNaughton, the first civilian artist allowed at the court in nearly three years, was there to illustrate an article by reporter Carol Rosenberg about the clothing of different people in the courtroom. MacNaughton later wrote an essay for the *Times* about the logistical challenges of drawing in such a restrictive environment, as well as the

psychological and emotional toll the experience took on her. “Ms. Rosenberg had warned me that the gulf between the world back home and what I would find at Guantánamo was huge. She also told me a person can understand it only after being there,” MacNaughton wrote. “She was right on both counts.”



Above: The cover of *Salt, Fat, Acid, Heat*. Below: A portrait of a paralegal working at Guantánamo Bay.



Since publishing *Meanwhile in San Francisco*, MacNaughton has collaborated on eleven more books, including three with her wife, the writer Caroline Paul — *Lost Cat*, a charming investigation into what might have happened to the couple’s pet on a weeks-long sojourn he took from

their house; *The Gutsy Girl*, a collection of real-life stories meant to inspire girls to take risks and have adventures; and *A Little Tea Book*, a guide to the popular drink. She’s illustrated books on tattoos, on wine, and even on what famous writers would look like with a punk makeover.

Next summer, Bloomsbury will publish *How to Say Goodbye*, which MacNaughton wrote and illustrated after spending a year as the artist-in-residence at a six-bed hospice house in San Francisco. “I spoke with people experiencing their last stage of life — their memories, fears, their joys and regrets,” MacNaughton writes, “I sat with family members coming to terms with the loss of their loved ones. And I interviewed caregivers who, for very very little money, performed some of the most loving and heroic and deeply human acts that one person can do for another.”

But MacNaughton’s best-known publication is *Salt, Fat, Acid, Heat*, the 2017 cookbook she illustrated, written by chef and fellow Bay Area notable Samin Nosrat. MacNaughton says that Nosrat — an alum of Berkeley’s celebrated restaurant Chez Panisse — knew from the start that she wanted to use illustration rather than photography, an unusual choice for a cookbook. “Photography gives a very false representation of what a dish should be,” MacNaughton says. “It makes the reader think that there’s only one way that something can look.”

More than just a collection of recipes, *Salt, Fat, Acid, Heat* is a deep dive into culinary science, and the illustrations are a crucial part of Nosrat’s ability to teach on the page. In addition to illustrating the recipes, MacNaughton peppers the pages with charts and diagrams, delineating different acids from around the world and what they pair best with and showing readers how to break down a chicken, to name just two examples.

“A lot of the diagrams were actually influenced by models that I studied at Columbia — things like ‘ecosystem mapping,’ which is a tool that social workers use to visualize all of the interconnecting people, organizations, and other factors impacting a problem,”

MacNaughton says. “Everything always comes back to social work!”

The book was a hit, reaching the top spot on the *New York Times* bestseller list and winning nearly every culinary accolade of 2018. A year after it was published, Netflix aired a four-part documentary series based on the book, starring Nosrat. And MacNaughton’s work gained a much bigger following — Clarkson Potter even sold box sets of the book’s illustrations as prints for readers to hang in their kitchens.

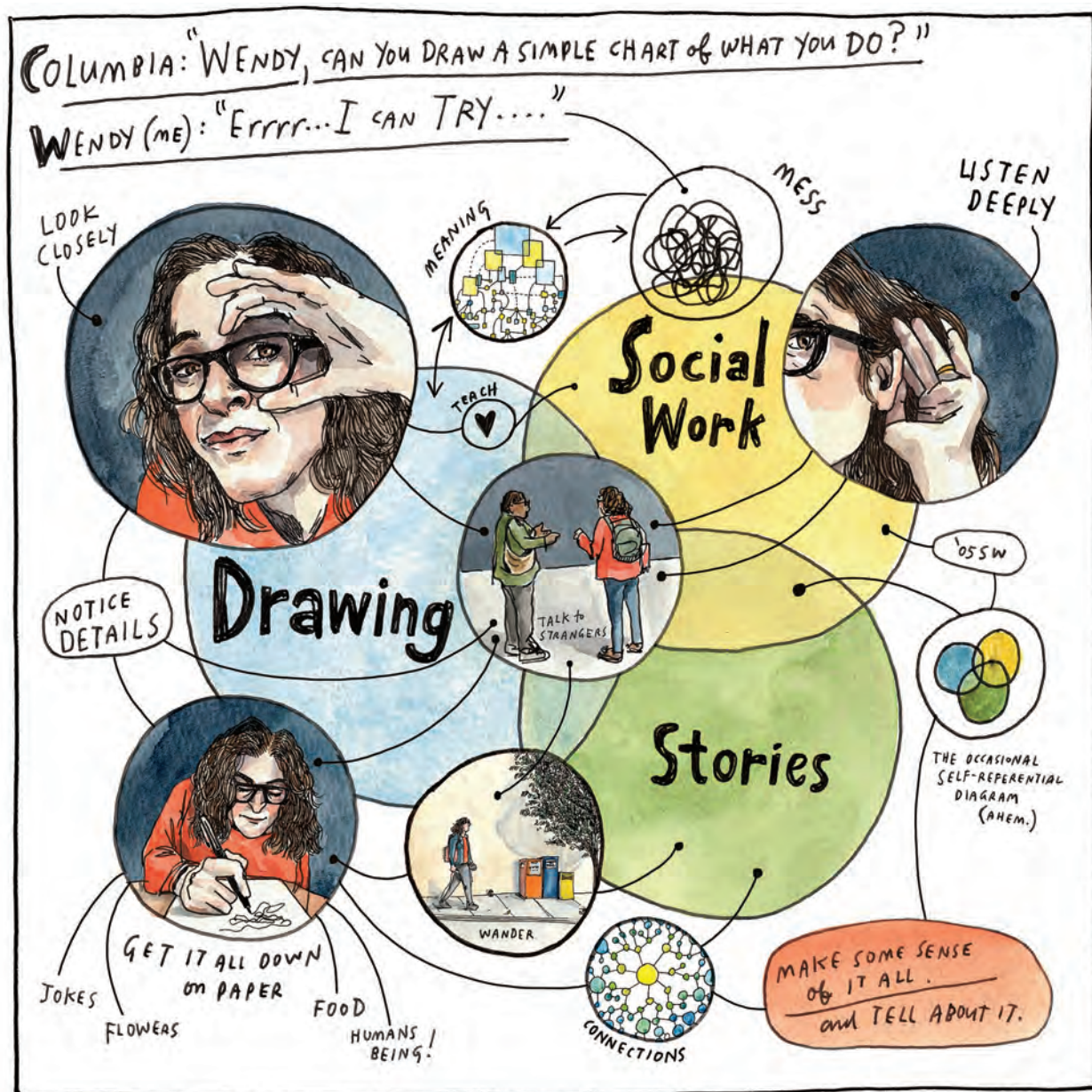
But even as MacNaughton’s career was taking off, she and her friend Julia

Rothman, another successful illustrator, noticed that many of their fellow women and nonbinary illustrators weren’t getting the same opportunities. Out of the forty-seven *New Yorker* covers published every year, for example, they realized that only two or three were drawn by women.

“I don’t think editors and art directors were making these decisions on purpose,” MacNaughton says. “People just hire who they know. And at the time, it was mostly white, straight men who were in the position to hire. We decided to do something about that.”

In early 2017, MacNaughton and Rothman launched Women Who Draw, a searchable, visual online database where women and nonbinary illustrators can register their work and share their contact information. While anyone who identifies as female or nonbinary can join, the site particularly strives to highlight the work of people of color, LGBTQ+ people, and other marginalized groups of illustrators.

MacNaughton says that she was unprepared for how enormously successful the database would be. What’s more, she says, it became a model on which other industries based their own similar directories.



"We were happy to develop something that has really proven to work across the board," she says. "And within our own community, it's been a way for people to come together, to rally for causes important to us, and to support each other."

In March 2020, MacNaughton found herself, like the rest of the world, stuck at home, unable to work, and anxious about nearly everything happening outside her now locked doors. While MacNaughton and Paul do not have children, many of their loved ones do, and MacNaughton couldn't stop thinking about the impact that the pandemic would have on kids (and their parents). She wondered if there was any way she — a self-described "artist, social worker, and professional goofball" — could help, and her mother suggested that she teach some drawing lessons.

So the night before San Francisco closed its public schools, MacNaughton posted on Instagram: "If I popped up at 10 am tomorrow would people want to draw with me?" She decided to draw a dog — inspired by one of her lockdown companions, a mutt named Suso — and set herself up in the living room, with Paul filming live on an iPhone. She hoped that maybe a hundred kids would join. Over twelve thousand showed up.

MacNaughton had intended for DrawTogether to be an occasional thing — five minutes here and there, when she had the time. But it quickly became clear during that tumultuous spring how desperately kids needed something that was, as she says, "part Mister Rogers, part Bob Ross, part jumpy-castle party." An occasional five minutes turned into thirty minutes a day, five days a week. Over the next few months, MacNaughton and Paul filmed seventy-two live Instagram sessions, with kids logging in from at least seventy different countries all over the world.

Kids connected instantly with "Wendy Mac," who started each episode with a pencil propped between her nose and her upper lip, an ebullient "Helloooooo," and an achingly earnest "I'm so happy to see you," followed by a warm-up dance party with a reluctant Suso. She'd spend plenty

of time painting and chatting, walking kids through the basics of shapes and primary colors as well as all-important subjects like unicorn farts. And at the end of every episode, she'd cut to pictures of kids holding up their masterpieces.

While MacNaughton strongly believes that drawing can help kids in many ways, from building fine motor skills to bolstering decision-making, she is a shout-it-from-the-rooftops evangelist for arts education's social-emotional benefits, and DrawTogether was the perfect venue to let her inner social worker loose. Tucked into the art lessons were reminders that there's no such thing as perfection, that mistakes can be beautiful, and that the best thing we can do is to pay attention to one another. She taught kids how to draw "inside weather charts" to gauge their mood, encouraged them to use their imagination when they felt lonely, and noted that sometimes we all need to take a breath and "look at the world one piece at a time."

In the fall of 2020, it became clear that DrawTogether had the potential to be much more. Largely using their own savings, MacNaughton and Paul built a studio in a nearby theater, complete with cheerful homemade props, like eight-foot cardboard scissors and a giant papier-mâché pencil.

Together, the pair shot twelve new episodes, which they made available for free on YouTube and Substack. While some of their new studio's more polished features broadened the scope of their project — a magic portal to "Out There," for example, allowed MacNaughton to patch in guests to explain things like COVID vaccines — MacNaughton and Paul realized that they'd gotten some things right on their earlier episodes. When they tried to use a static camera instead of an iPhone, for example, they realized that they couldn't get the close-up shots that gave the show its intimate feel. And when professional producers advised them to cut down the episode time, suggesting that kids could always pause the show to finish their drawings, there was a full rebellion.

"People felt rushed," MacNaughton says. "DrawTogether is supposed to be

the opposite of rushing. It was like I'd broken a promise."

As the pandemic progressed and kids returned to school, MacNaughton started hearing from teachers who were using DrawTogether in their classrooms. MacNaughton — already a passionate advocate for arts education — knew that she could do more to help the cause. She formed a nonprofit organization and, with the help of educational experts, developed lesson plans and a curriculum around the themes that she covered in the show. The pilot program of DrawTogether Classrooms, which provided those resources to one hundred high-needs schools and community organizations, launched in 2021. MacNaughton hopes to expand to ten thousand schools worldwide by next year. At the same time, she and the DrawTogether team have pivoted to producing podcasts rather than new television episodes — which they've found work especially well in classrooms — and are wrapping up their second audio season.

"The impact that I saw DrawTogether have on kids made it pretty impossible to ignore that there's a need for this kind of thing," MacNaughton says.

While DrawTogether grew out of the unique needs that children had during the pandemic, MacNaughton realized that there was much about the program that adults could benefit from as well. In August 2022, she started *DrawTogether Grown-Ups Table*, a newsletter for "DrawTogether-minded grownups." Paid subscribers get a new topic and a corresponding exercise each week — in one, for example, she showed readers how Diego Rivera used graph paper to map out his murals, and in another she demonstrated how she would put together a visual column for the *New York Times*. One week, she simply asked readers to draw what delights them.

With so many projects brewing, MacNaughton says that she's not illustrating in the traditional sense right now. But, she says, that means her career is exactly where she wants it to be: "My whole heart is in connecting with people — and connecting people to each other — through drawing." 🖋️



Sacred Trees, Holy Waters

In a time of ecological peril, can the world's religions help reconnect us to the earth? By Paul Hond

Illustration by Johanna Goodman

On the morning that Hurricane Ian approached southwest Florida with 155-mile-per-hour winds and a twelve-foot storm surge, Karenni Gore '00LAW, '13UTS stood at a lectern in Brooklyn Borough Hall and invoked the divine. Addressing a local interfaith conference on preparing for climate emergencies, Gore said, "When I was a child, my own faith tradition taught me that God looks directly at us through the eyes of someone who is in need: someone who is hungry, thirsty, needs clothes — much like someone affected by a disaster."

She acknowledged recent flooding in Pakistan and Puerto Rico, noting that “those who suffer the most from this crisis have done the least to cause it.” She equated climate action with social justice and summoned the civil-rights movement, which inspired people of all religions to transcend their differences and answer a call of conscience. “*This*,” Gore told the assembled, “is what must happen today around the climate crisis.”

Gore is the director of the Center for Earth Ethics (CEE), which she founded in 2015 at the Columbia-affiliated Union Theological Seminary (UTS). Its purpose, she says, is to “draw on the world’s faith and wisdom traditions to confront the ecological crisis.” Poised at the crossroads of spirituality, social justice, and environmentalism, CEE is part of a movement known as “religion and ecology,” a new academic field — and a growing moral force in society — that brings people into closer communion with the planet and focuses on honoring and protecting the earth’s life systems. The center grew out of a conference called Religions for the Earth, which Gore and one of her mentors, Kusumita Pedersen ’76GSAS, who is co-chair of the Interfaith Center of New York, organized in conjunction with the 2014 UN Climate Summit. Gore, who had just gotten her master’s from UTS, was

interested in the root causes of the climate problem. She identified two: the widespread belief that humans are separate from, and superior to, all other beings; and a value system that favors profit over environmental health. Wanting to elevate voices outside this worldview, Gore, for CEE’s first academic course, invited a range of Indigenous speakers, including Betty Lyons (Onondaga Nation), the president of the American Indian Law Alliance and co-chair of the CEE advisory board; and Tiokasin Ghosthorse (Cheyenne River Lakota Nation), founder and host of *First Voices Radio*, who spoke eloquently of the earth as something alive, energy-filled, and communicative.

“Throughout human history,” Gore told the clergy in Brooklyn, “people have understood their relationship with water, wind, fire, and land in the context of their relationship with God or some divine being or beings. This is deep, it’s ancient, sometimes it is unnamed, but it is not to be underestimated.” She echoed UN Secretary General António Guterres, who days earlier had called the climate crisis “a case study in moral and economic injustice” caused by “a suicidal war on nature.” “*We are nature*,” Gore said. “The air in our lungs, the water we drink, the soil, the sunshine that nourishes the life forms that comprise the

food that we eat. We all depend on the health of the biosphere.”

As climate-linked weather events intensify and carbon emissions continue to rise globally, faith-based communities and institutions are emerging as pivotal players in the bid for environmental salvation. In 2019, CEE became an affiliate center of the Earth Institute, which is now part of the Columbia Climate School, and brings a moral and spiritual angle to discussions conducted largely among scientists, engineers, businesspeople, lawyers, and policy wonks. In November 2021, the Biden administration formally recognized “Indigenous traditional ecological knowledge” — ways of life that foster respect and care for the environment — as vital to federal science policymaking. This past August, the National Association of Evangelicals, representing a religious group traditionally opposed to climate action, released a hundred-page report laying out the biblical basis for ecological protection, stating, “We worship God by caring for creation.” And a wave of legislation worldwide has granted legal personhood to entities like the Whanganui River in New Zealand, seen by Indigenous Whanganui Maori tribes as a living being. Such laws allow human advocates for these ecological systems to sue for protection on their behalf.



Inside Borough Hall, Gore emphasized the need to consider all the planet's inhabitants in any climate discussion. "A friend of mine from the Church of Sweden, Reverend Henrik Grape, said once that in any room where decisions are being made about climate policy there should be three empty chairs, representing those who are most impacted and least likely to have a voice: the poor, future generations, and all nonhuman life," Gore said. "If we had been making decisions with those three perspectives in mind, we would not be in this perilous situation."

"Realizing this, we can see the connection between Dr. King's famous statement that 'injustice anywhere is a threat to justice everywhere' and the words of Buddhist teacher Thich Nhat Hanh when he said that 'we are here to awaken from the illusion of our separateness.'"

By the end of the conference, at around 3:15 p.m., a thousand miles away, Hurricane Ian made landfall on the barrier island of Cayo Costa, Florida, as one of the strongest storms ever to strike the United States.

"The ecological situation requires the moral force of all the world's religions," says Mary Evelyn Tucker '85GSAS, a historian of religion who holds a dual appointment at the Yale School of the Environment and the Yale Divinity School. She and her husband, John Grim, lead the Yale Forum on Religion and Ecology and are recognized as the founders of the field, which began as a series of conferences at Harvard in the late 1990s and today includes sixteen graduate programs nationwide. "We all understand that the awe and wonder of the natural world is something that captivates every human — we see it expressed in art, music, poetry — and if we leave that aside, we lose a sense of motivation, joy, engagement, and all the dynamizing energy that's needed for ecological movements," Tucker says. "The energy must come from a love of the earth community in all its complexity and beauty."

There's no shortage of energy to be tapped. Of the world's eight billion people, some 85 percent claim religious affiliation. According to the Pew Research Center, Christians are the largest group (2.3 billion), followed by Muslims (1.8 billion), Hindus (more than a billion, around the same number as Confucians, who, says Tucker, are often not counted as a religious group), and Buddhists (500 million). Another

"We are nature. The air in our lungs, the water we drink, the soil, the sunshine that nourishes the life forms that comprise the food that we eat."

400 million practice traditional folk religions. There are fourteen million Jews, and millions of others follow such faiths as Sikhism, Bahaism, and Jainism.

Tucker notes that all the world's religions have ecological components, from Hindu principles of asceticism and loving devotion toward nature to Buddhist concepts of interconnection and compassion to Jainism's emphasis on nonviolence to Western traditions valuing creation. And she observes that all religions are broadening their teachings and practices in order to meet the ecological challenge. "Their theologies need to be expanded," she says. "We call it retrieval, reevaluation, and reconstruction. All religions have something to offer, and that's really the foundation for this new and emerging field."

The field, like Tucker, has deep Columbia roots. Tucker was raised on Claremont Avenue, in the shadow of Riverside Church. Her grandfather, the historian Carlton Hayes 1904CC, 1909GSAS, 1929HON, taught at Columbia from 1907 to 1950 and was ambassador to Spain during World War II. She lived steps from UTS, at 121st and Broadway, where Reinhold Niebuhr '54HON preached a gospel of social justice. And across Broadway stood Corpus Christi Church, where Father George Barry Ford counseled Thomas Merton '38CC, '39GSAS and Wm. Theodore "Ted" de Bary '41CC,

'53GSAS, '94HON when they considered becoming Catholics.

Tucker came of age during the civil-rights movement and the war in Vietnam, and after graduating from Trinity College (now Trinity Washington University) in 1971, she set out for East Asia, starting with teaching in Japan. "My disillusionment with Western assumptions was so great that my attraction to a culture that was so different was very strong, and it

absolutely transformed my life," Tucker says. "Buddhism has this tremendous sense of the interdependence of all life, and that's where I started."

She returned two years later and got her master's in world religions at Fordham under Thomas Berry, a Catholic monk, cultural historian, and scholar of Eastern and Indigenous religions whose passionate, prophetic writings on what he termed "human-earth relations" inspired a generation of environmentalists. For her doctorate at Columbia, Tucker studied Confucianism with de Bary. "To me, Confucianism has an even more comprehensive philosophy," she says. "The human is not an isolated individual but is embedded within concentric circles of family, friends, school, society, politics, nature, earth, and the cosmos itself. The most important thing is the triad: cosmos, earth, and human. The human completes this trinity of universe processes, earth fecundity, and human creativity."

Tucker's two mentors, de Bary and Berry, met on a ship to China in the late 1940s — de Bary was starting a Fulbright scholarship at Beijing University, Berry was a teacher at Fu Jen Catholic University in Beijing — and both were attracted to Chinese religious traditions, especially Confucianism. De Bary went on to pioneer the field of Asian studies in the West, while Berry preached an

ethics based on a deep regard for the natural world. In the 1960s, they started the Oriental Thought and Religion Seminar (later the Asian Thought and Religion Seminar) at Columbia. For both scholars, as for Tucker, Confucianism was central. “We were all looking for something beyond the West — a sense of how culture engages people in a feeling of meaning and purpose,” Tucker says.

In the late 1970s, de Bary arranged for Berry to teach one of the country’s first courses in Native American religion at Barnard. Tucker eagerly attended those classes, and she and Grim (who were married by Berry in 1978) became

series of three conferences being held at Harvard Divinity School on world religions and ecology, organized by Tucker and Grim. Speakers would discuss Buddhism, Confucianism, and Shintoism. Intrigued, Kaplan decided to attend.

One of the speakers was Thomas Berry. “His entire philosophy just blew me away,” Kaplan says. “I was especially taken with his quiet passion for considering the entire earth as a living organism. He was gentle and compelling; you felt his presence. You sensed this was a person of great moral power.”

At the conference, Kaplan, exhilarated by what he’d heard, introduced

sible to the people I call the ministering class — current and future clergy — so that they speak of these issues in their religious events and not just on Earth Day. They need to do this in a meaningful fashion and on a continuing basis.”

On September 26, 2009, three months after Berry’s death, a memorial service for the self-described “geologian” was held at the Cathedral of St. John the Divine. The service featured readings from Thomas Aquinas, who wrote that “the whole universe together participates in and manifests the divine more than any single being whatsoever,” a key idea for Berry. Toward the end of the service, Kaplan ascended to the high pulpit. The Thomas Berry Foundation, founded in 1998 by Berry, Tucker, Grim, Kaplan, and Berry’s sister, Margaret Berry, had honored Kaplan with the 2009 Thomas Berry Award, and now Kaplan offered an address on the “Great Work,” as Berry called it, of reestablishing our connection with nature.

“Berry believed that we must expand the scope of religious and humanist concerns to embrace the larger life systems and all species of the planet,” Kaplan told the gathering. “As a lawyer, I am intrigued by Berry’s call for a broader vision of rights.” Kaplan then quoted Berry’s statement that there can be no sustainable future “unless these inherent rights of the natural world are recognized as having legal status.”

For the past twenty-five years, Kaplan has been trumpeting Berry’s message. At a UN panel on religion and the environment held in 2000, Kaplan examined the crucial passage in the book of Genesis in which God tells humans to “have dominion over the fish of the sea and over the fowl of the air and over every living thing that moves upon the earth.” The King James Version translates the Hebrew word *radah* as “have dominion,” implying domination — resulting, as Berry saw it, in our indifference to nonhuman life, since it has no inherent rights. “Only in this detached situation,” Berry wrote, “could we have felt so free to intrude upon the forces of the natural world.”

“To make progress on climate you need more than policy and science — you need a commitment to human life and all the life on the planet.”

Berry’s editors and continued to promote his work after his death in 2009 at age ninety-four, including the book and Emmy-winning PBS film *Journey of the Universe*. They also coauthored *Thomas Berry: A Biography*, published by Columbia University Press in 2019.

“Berry saw how the destruction of the environment for massive materialism had spread around the world, and how our institutions — politics, education, economics, and religion — are invested in this economic system and therefore inadequate to address the problem,” Tucker says. As Berry wrote, “The reenchantment with the earth as a living reality is the condition for our rescue of the earth from the impending destruction that we are imposing upon it ... Our sense of reality and of value must consciously shift from an anthropocentric to a biocentric norm of reference.”

If Berry helped plant the seeds of the movement that Tucker and Grim brought forth, it was Martin S. Kaplan ’61CC who delivered the rain. In 1996, Kaplan, a Boston-based lawyer and partner at the firm of Hale and Dorr, was thumbing through the *Harvard Gazette* when he saw an announcement for a

himself to Tucker and told her he was the managing trustee of the V. Kann Rasmussen Foundation, a philanthropic fund with an environmental bent. He invited Tucker to a grant-making meeting, and the trustees were so impressed with her pitch that they provided money to increase the number of conferences on religion and ecology from three to ten. Those conferences marked the birth of the field.

Kaplan, who received the Columbia Alumni Medal in 1992 and the John Jay Award in 2000, has directed support to a host of Columbia initiatives, including the Center for Environmental Research and Conservation (known today as the Earth Institute Center for Environmental Sustainability), which led to the creation of Columbia’s Department of Ecology, Evolution, and Environmental Biology. But when it came to dealing with climate change, Kaplan, like Tucker and Gore, felt that something was missing from the conversation.

“To make progress on climate you need more than policy and science — you need a commitment to human life and all the life on the planet,” Kaplan says. “That’s essential. We want this idea to be acces-

As Kaplan told the UN panel, “dominion” is just one translation. “Another is ‘stewardship,’ which is very different,” he says. “Stewardship means that, given our power, we humans have a responsibility to *take care of* God’s creation.”

This idea, radical in its implications, has reached the highest echelons of organized religion. In 2015, Pope Francis published *Laudato si’: On Care for Our Common Home*, a 184-page encyclical that blends science and spirituality and warns of “desolation” if humanity does not change its ways. Says Gore, “One of the main contributions of *Laudato si’* — although not explicit — was to unravel that toxic theology of seeing dominion as this domination. Pope Francis says there has been a mistake in interpretation.”

The encyclical, which environmentalist Bill McKibben called “probably the most important document yet of this millennium,” was extolled in eco-spiritual circles. Through CEE, Gore convened an interfaith working group around *Laudato si’* with Rabbi Burton Visotzky, a professor of interreligious studies at Jewish Theological Seminary, also a Columbia affiliate. Visotzky brought in theologian Hussein Rashid ’96CC, who was exploring similar questions from a Muslim ethical standpoint. The scholars,

who had spun off from a larger interfaith study group at Fordham Law School, decided to examine the issue of water as a way to focus their work, and for World Water Day 2017 they published a series of tracts around water-related themes. That got them invited to the Vatican to meet with the pope about *Laudato si’*.

“For me, reading the encyclical made me think of an eighth-century figure named Ja’far al-Šādiq,” says Rashid, who teaches at the New School and UTS. “There’s a work attributed to him where he says for a believer there are four relationships that keep you in balance: to God, to yourself, to other people, and to the rest of creation. My understanding of what Pope Francis was doing really resonated with that.”

It was a far cry from another influential Vatican tract, one that Gore learned about as a student at UTS and which supplied an “aha” moment that reshaped her understanding of current social and environmental iniquities.

On May 4, 1493, Pope Alexander VI issued a papal bull that was part of a body of papal edicts known as the doctrine of discovery. These statements decreed that the lands encountered by Columbus on his voyages, populated by “Saracens, infidels, or pagans,” were Spain’s for the taking. “They proclaimed that the original peoples of Africa and the Americas were

merely part of the flora and fauna to be ‘conquered, vanquished, and subdued,’” says Gore, adding that this was occurring just after the crusades against Muslims and during the expulsion of Jews from Spain. “Racism, colonization, exploitation — it all ties together. The military forces and economic interests of those European nation-states were being wed to theology that sees certain people as being subhuman, an interpretation that can be heard in the white Christian nationalism of today.”

Gore, who is from Tennessee, grew up immersed in American politics. Her grandfather, Albert Gore, was a US senator, and her father, Albert Gore Jr., was a US senator (1985–1993), vice president (1993–2001), and author of the 1992 book *Earth in the Balance*, which warned of the global-warming catastrophe (the 2006 documentary *An Inconvenient Truth* chronicled his campaign to educate people about climate change). Raised in the Baptist tradition, Gore is a remarkably selfless, compassionate advocate who calls her own spirituality “private and ever-unfolding” and whose respect for the power and insights of Indigenous spiritual beliefs is a guiding force in her faith-based environmental work.

At Columbia Law School, Gore took a course in copyright law and was absorbed by the concept of intellectual



property and, ultimately, she says, of property itself. Being in Manhattan, she thought about the “sale” of the island by the Lenape people to the Dutch colonizers and how the two sides had very different notions of what that transaction meant. And she thought about how we treat the land, and how social norms have blinded us to the environmental impacts of our consumer lifestyle. “We get confused,” she says, “because much of what’s driving ecological destruction is perfectly legal and socially encouraged.”

Gore graduated from law school in 2000, which was also the year her father ran for president on a strong environmental platform, winning the popular vote but conceding the race to George W. Bush after the Supreme Court denied a manual recount in Florida. In 2002, President Bush opened previously off-limits federal lands near national parks to oil and gas development, initiating a push for energy independence that has since triggered numerous conflicts over land, water, and air as woods are cleared, roads are built, pipes are laid, and animals are driven from their homes.

“We see nature as property rather than as a commonly held or even inhabited community of life,” Gore says. “That we recognize a cathedral as a sacred site but not a rainforest reveals a lot about our thinking.”

James Hansen could not have picked a better day to make his point to Congress. It was June 23, 1988, and the temperature in Washington was ninety-eight degrees. As director of NASA’s Goddard Institute for Space Studies, which is housed at Columbia, Hansen, now an adjunct professor at the Columbia Climate School, had come to address the Senate Committee on Energy and Natural Resources on the topic of “global warming,” a term popularized by Columbia geochemist Wallace Broecker’s ‘53CC, ‘58GSAS in his 1975 paper “Climatic Change: Are We on the Brink of a Pronounced Global Warming?” “The global warming is now large enough,” Hansen told the senators, “that we can ascribe with a high degree of confidence a cause-and-effect relationship to the greenhouse effect” — the process by which carbon dioxide from burning fossil fuels collects in the atmosphere, trapping heat. “The first five months of 1988 are so warm globally that we conclude that 1988 will be the warmest year on record.”

As if on cue, that summer was unlike any other in living memory. The US saw long, intense heat waves, drought, wildfires, and hundreds of human deaths, even as humans were pumping billions of tons of carbon into the atmosphere annually, with no end in sight.

That same year, Thomas Berry published *The Dream of the Earth*, a seminal meditation on human–earth relations. Guided by a profound reverence for the beauty and genius of nature, the book articulates a vision of a living earth whose complex life systems, developed over billions of years, are being severely altered, degraded, and extinguished through deforestation, extraction, contamination, and plunder. “If the earth does grow inhospitable toward human presence,” Berry wrote, “it is primarily because we have lost our sense of courtesy toward the earth and its inhabitants, our sense of gratitude, our willingness to recognize the sacred character of habitat, our capacity for the awesome, for the numinous quality of every earthly reality.”

Thirty-five years later, with global carbon emissions near record highs, the earth does seem to be growing inhospitable. The effects are spiritual as well as physical. Ecological anxiety is deepening, especially for children and teenagers, and faith communities have had to find new strategies to address an existential dilemma without precedent.

“The psychological breakdown and despair around climate change is so strong that young people are studying for eco-anxiety ministry,” says Tucker. “The next generation gets that climate change



is real and caused by human activity. They don't have to be convinced. Along with religious communities, they are advocating for eco-justice — a concern for the most vulnerable being affected by climate change.”

At CEE, Gore teaches that faith leaders can approach the climate crisis in three main ways: prophetic, pastoral, and practical. “Prophetic means telling the truth about real value versus GDP-measured value, and about costs that aren’t being counted. Pastoral deals with issues of grief and anxiety as climate impacts — floods, fires — increase. The practical can be things like faith communities greening their land, buildings, and schools and pressuring banks to stop financing fossil fuels.”

Polls show that most religious Americans see climate justice as a political priority, and new expressions of eco-spirituality have appeared, such as the Wild Church movement, in which congregants meet in natural settings, where a pastor might cite the book of Job (“But ask the animals, and they will teach you, or the birds of the air, and they will tell you, or speak to the earth, and it will teach you”) or repeat a quote attributed to the conservationist John Muir, who fought for the creation of national parks (“I’d rather be in the mountains thinking of God than in church thinking about the mountains”).

“Churches are looking to new ways of being both relevant and in their best forms spiritually,” says Tucker. “The hope is that that ecological anxiety is going to put us back in touch with awe, wonder, and beauty.”

A month after Hurricane Ian, as scientists tested the sewage-choked waters of southwest Florida and determined that waterways would be polluted for months, the Center for Earth Ethics hosted a forum at UTS on religious freedom for Indigenous people.

Karenna Gore, standing in James Memorial Chapel in front of the copse of tall pipes of the Holtkamp organ, opened her remarks by reading the text

of a plaque that was to be installed on the seminary grounds, honoring the surroundings as “the homeland and territory of the Lenape people as well as the habitat and dwelling place of the many beings they have been in relationship with.” She then introduced Ahmed Shaheed, the United Nations special rapporteur on freedom of religion or belief, who spoke about his report to the UN General Assembly describing how the nature-based ways of life of Indigenous peoples had been violated by forced displacement, intrusion of industry, and disregard for their spiritual practices.

This message was made emotionally palpable by the speakers that followed.

Betty Lyons, the CEE advisory board co-chair from the Onondaga Nation, spoke of “our sacred relationships to the natural world” and argued that the Indigenous value system — a sense of responsibility, respect, and reciprocity with nature — holds the key to survival for everyone. “We see all living beings as relatives and not merely resources,” she said. “The Creator exists in all living beings.”

Bernadette Demientieff of Gwich’in Nation, who calls herself a “land, water, and animal protector,” appeared via video from her home in Fort Yukon, Alaska, and expressed anguish over the vote of the US Congress, in 2017, to lease land in the Arctic National Wildlife Refuge (ANWR) for oil exploration to feed the Trans-Alaska Pipeline. ANWR is one of the last unspoiled areas on the planet, a critical habitat for many animal species, including caribou, waterfowl, and polar bears. Its coastal plains are so hallowed to the Gwich’in that they won’t even set foot on them.

“When we were being told we were going to be rich if we opened up our sacred land to oil and gas development,” Demientieff said, “our elders told us we are already rich: rich in our culture, rich in our way of life. And all we have to do is protect it.”

Though the Biden administration has suspended the leases, the threat of

future development remains, and the pain was audible in Demientieff’s voice. “Our land that we consider extremely sacred is being turned into an oil field,” she said. “Can you imagine a church that you attend, a place that you hold very sacred, being bulldozed over? That is how we feel about this area. This is not a place we built. This is a place we were blessed with. We hold this place to the highest standard. Our connection to the land, water, and animals — it’s all interconnected. There is no one or the other. This is our survival. This is our entire way of life.”

Mona Polacca, a spiritual elder of Hopi, Havasupai, and Tewa lineage, spoke of the “original instructions” — the ancient teachings of spiritual interconnectivity with creation that have sustained Indigenous people in the Americas for thousands of years — and stated her purpose: “It’s our responsibility as Indigenous people to be gentle reminders to all people about these basic original instructions,” she said. “We made a covenant with the Creator when we first came into this world to live here. We made a promise that we would take care of it. So that’s what we’re doing. We’re making every effort to now be that gentle reminder about that instruction that all people were given — that we are all related, and that our basic survival needs are not any different from each other’s. It’s all the same.”

When the program ended, Gore, the speakers, and the audience members exchanged greetings and chatted. Then they made their way down the halls and went outside, where, in the night sky, a waxing crescent moon hung over the spired city, over the churches, mosques, and synagogues, the temples and shrines, and the ancestral land of the Lenape, where bears and wolves once roamed; and for a moment it was possible to believe that it *was* all the same, that all religions had something to contribute, and that a re-enchantment with creation was within reach, the one humanity needed in order to tackle the great work ahead. 🐾

Learning to live with the voices in your head



By giving young people with schizophrenia more control over their care, a Columbia-led program aims to help them lead fuller lives

By David J. Craig Illustrations by Anuj Shrestha

Ambar Martinez began experiencing paranoid delusions six years ago, around the time her father died of a heart attack. Then eighteen years old and a sophomore at Syracuse, Martinez had trouble accepting his death, and so her mind provided an escape hatch: her father wasn't really dead, it told her. Rather, her family and friends were orchestrating an elaborate hoax to make it seem like he had died, for the sole purpose of causing her pain. At her father's funeral, Martinez suspected that the other mourners were plotting to humiliate her. She also heard a voice in her head — a young man's voice, reedy and snide — that mocked her for crying, saying she was weak, pathetic, and foolish.

"I remember feeling disoriented at the service, but I knew the voice was real," recalls Martinez, who is now twenty-four. "I was angry that everybody else was acting like they didn't hear it."

When Martinez returned to Syracuse, her condition rapidly deteriorated. Until then a gifted student who juggled an active social life with membership in hip-hop and Latin-dance troupes and other artistic endeavors, she started skipping classes, avoiding her friends, and hiding in her dorm for days on end. She brushed off anyone who asked

about her well-being, fearing they were scheming to harm her. Meanwhile, the voice in her head became louder and more persistent, criticizing her every thought and action, telling her that she was ugly, stupid, boring, and despised. Martinez began to argue with the voice, sometimes yelling out loud to try to make it stop.

Eventually, as Martinez's behavior became increasingly alarming and disruptive, a guidance counselor overseeing a scholarship program she was enrolled in contacted Martinez's mother and helped to arrange for her admission to a psychiatric hospital in New York City. There Martinez received one of the most feared mental-health diagnoses: schizophrenia. The prognosis for anyone with the condition, doctors told her family, was bleak. She would need to take powerful antipsychotic drugs, which would likely reduce but not eliminate her delusions. Other common symptoms of the disorder, like social withdrawal and a lack of motivation, they said, were essentially untreatable.

"They made it sound like my life was basically over," says Martinez. "I was never going to finish school, get a good job, or find a partner — none of that. It sounded like I'd be lucky to attend to my basic needs and would probably always be at risk of suicide and homelessness."

And for a while, that's where it seemed Martinez's life was headed. She dropped out of college and spent the next year in and out of psychiatric hospitals. Each time she was sent home, Martinez would emotionally unravel, holing herself up in the small apartment she shared with her mother in Queens, wrestling day and night with paranoid thoughts and the cruel, taunting voice in her head. "I spent all of my time alone, doing nothing," she says. "The voice made it impossible for me to enjoy anything — impossible to find a moment of peace." Martinez also gained a tremendous amount of weight, a common side effect of antipsychotic medications, which made her feel that her body, like her mind, was no longer under her control. Therapy sessions went nowhere, as she refused to accept psychiatrists' appraisals of her condition. "I really wasn't convinced that I was mentally ill at all," she says. "When doctors would say I was delusional, I'd be like, 'And who the hell are you to say that my perceptions are any less real than yours?' Honestly, I thought it was bogus."

But then, during one of Martinez's numerous stays at Gracie Square Hospital in Manhattan, a social worker there recommended a program called OnTrackNY, which takes an unusually ambitious, all-hands-on-deck approach



to treating young adults with psychotic disorders. The program, created and overseen by Columbia University professors in conjunction with the New York State Office of Mental Health, employs large multidisciplinary teams of providers — psychiatrists, psychologists, nurses, education and employment specialists, peer mentors, and others — who work closely together to provide intensive, coordinated care to people in the early stages of schizophrenia, while also offering support to their families. OnTrackNY is guided by the belief that if psychotic disorders are diagnosed promptly and treated with a broad package of therapeutic and social supports, in combination with medication, their progression can be slowed or possibly even halted, enabling patients to live full and purposeful lives.

“We tell our participants there’s no limit to what they can achieve if they engage with us, which isn’t a message that many of them have heard from doctors or therapists before,” says Iruma Bello, a Columbia psychologist and OnTrackNY’s clinical-training director.

Getting patients to take charge of their own care, in part by allowing them to define the goals of treatment, is a cornerstone of the initiative.

“Many participants will show up not buying the idea that they have psychosis and bristling against the diagnostic labels that the medical establishment has applied to them,” says Ilana Nossel ’98CC, ’04VPS, a Columbia psychiatrist and OnTrackNY’s medical director. “Yet they might acknowledge that they’d like to get along better with other people, feel less frightened and alone, or go back to school, and so we’ll work with that. We’ll say, ‘OK, let’s put aside this whole issue of your diagnosis for now and instead focus on the goals you want to achieve and how to attain them.’”

Martinez recalls that when she first visited an OnTrackNY location at Elmhurst Hospital in Queens in the fall of 2017, she was still deeply psychotic. “I wasn’t sure if I could trust the people I met there,” she says. “I thought maybe they were out to get me, just like everybody else.”

But the OnTrackNY staff gradually drew Martinez in with a combination of empathy and persistence, checking in on her several times a week; visiting her at home when she felt too frightened to go outside or ride the subway; counseling both Martinez and her mother, who was struggling to figure out how best to care for her; and helping Martinez find an antipsychotic medication that worked better for her.

“One of the things I noticed in hindsight is that whenever they challenged my delusions, they were very gentle and subtle,” Martinez says. “Like they’d never say, ‘You’re not seeing things the right way.’ Instead they’d ask innocent questions to poke holes in my perspective and help me realize when I was seeing the world differently from everyone else. I think if they’d been more forceful, I would have walked.”

When, after a few months, Martinez brought up the prospect of returning to college, the OnTrackNY staff jumped into action, helping her research college-reentry programs.

“It was around that time a major shift happened for me,” Martinez says. “I was still hearing the voice and having some paranoia, but I felt more in control, like I was driving my life again. I even started to accept the fact that I might always hear this voice, and I felt like I might actually be OK with that. I remember talking to my therapist about what I’d do if the voice got too loud for me to hear a teacher in class, and we decided that I could always take a break until it got softer. And I was like, ‘Yeah, I can do this. Why not?’”

OnTrackNY is the creation of a research team led by Lisa B. Dixon, a Columbia psychiatrist and schizophrenia expert. To date, it has served nearly three thousand adolescents and young adults, through a network of participating mental-health clinics and hospitals. State residents between the ages of sixteen and thirty who have developed schizophrenia or a similar psychotic disorder over the previous two years are

eligible to receive care through the program, regardless of whether they have health insurance or the ability to pay.

“We’re targeting young people who’ve been diagnosed fairly recently because research suggests that the sooner someone is treated for psychosis, the better their prospects are for recovery,” says Dixon. Receiving care promptly, she says, increases the chances of people meeting their life goals, whether that involves living independently, attending college, holding a professional job, or raising a family. “Some people with schizophrenia may achieve a full recovery, and even those whose symptoms persist can learn to cope and thrive in mainstream society,” she says. “It isn’t like in the movies, where individuals with serious mental illness are always acting aggressively or unpredictably. You’ve probably met people with schizophrenia without even realizing it.”

The idea that people with schizophrenia might reasonably aspire to lead ordinary lives if they receive exceptional care is a novel one. Throughout most of the twentieth century and into the twenty-first, medical orthodoxy held that schizophrenia was an inexorably progressive disease that condemned most patients to a lifetime of disability. Although psychiatrists had long recognized that small numbers of people diagnosed with schizophrenia recover, they nevertheless thought that the disease’s course was beyond their control, in part because antipsychotic medications seemed to rarely, if ever, alter the condition’s fundamental trajectory. These drugs, when taken at high doses, can also cause side effects, like emotional flatness and cognitive decline, that many people find nearly as debilitating as the symptoms they suppress.

“Traditionally, mental-health professionals have regarded schizophrenia as a pretty grim and hopeless diagnosis,” says Dixon. “And some clinicians still hold that outlook today, even though the science, I’d say, no longer supports it.”

Dixon has been pushing back against what she sees as the medical establishment’s fatalistic attitude toward

schizophrenia since the 1990s. Then a young professor at the University of Maryland, she conducted research showing that intensive psychological and social support services, if delivered in a coordinated manner and with a dash of creativity, can help people with schizophrenia reclaim some of their former abilities. She found that simple things like teaching family members how to participate more effectively in their loved ones' care and introducing patients to others who were further along in their recovery could noticeably improve their prospects. Such interventions worked in part by inspiring patients to adhere to their medication regimens, which is a major challenge in caring for people with severe mental illness, Dixon says. They also helped pull patients out of the feelings of hopelessness, shame, and self-loathing that many had succumbed to after years of illness. "It's probably no surprise that if someone is constantly receiving a message that little is expected of them, they'll come to expect little of themselves too," she says.

From the beginning, Dixon's work was informed by her own family's experience. Dixon was twenty-two in 1981 when her older brother, then a brilliant and sensitive medical student, was diagnosed with schizophrenia. Following her brother's mental collapse, Dixon, along with her mother and four other siblings, spent years trying to arrange decent care for him, with frustrating results. "He was prescribed antipsychotic medications and essentially left to his own devices in my mother's Long Island home, with very little in the way of therapy or professional support," she says. "The concept of recovery, of having any kind of future to look forward to, wasn't even on the table." Dixon says her psychiatric career has in many ways been a direct response to her family's anguish, and to that of her brother, who has spent much of his adult life in state hospitals. "I want other people to get better care, and to have better opportunities, than he had," she says. "That's always been my North Star."

Early on in her career, Dixon earned a reputation as an astute observer of

research trends and a clinical innovator. "It's one thing to show that a novel procedure works well in an academic hospital, where the providers are also researchers," Dixon says. "But will your plan work at scale, in community health centers run by people without lots of specialized training? That's a whole other ball game." This led to her being invited to participate in a landmark federal initiative in the mid-1990s to write new treatment guidelines for schizophrenia. She and several other prominent

ered promptly, in the earliest stages of the disease, the progression of schizophrenia might be slowed down or stopped, sparing patients some of the worst ravages of the condition. A handful of clinical programs informed by this concept had already achieved preliminary success overseas. Dixon and her colleagues concluded that the idea was promising but needed further research to validate it.

"One of the key benefits of the approach was that people in the early stages of disease could be treated effec-



psychiatrists published three influential reports between 1998 and 2010, part of a broader effort to update standards of medical care in fields that were thought to be lagging. The reports recommended that clinicians caring for people with schizophrenia expand their use of talk therapy, substance-abuse counseling, supported employment, cognitive-behavioral therapy, and social-skills training as vital complements to antipsychotic medications. The team's final report also introduced many American health-care professionals to an idea that had been floating around in scientific circles in the UK, Australia, and Denmark for a few years: that if coordinated care was deliv-

tively with lower doses of drugs than was typical, which meant they'd experience fewer debilitating side effects," Dixon says.

Soon, two teams of US researchers — one led by Dixon and Columbia faculty and the other by John Kane of Zucker Hillside Hospital in Queens — received grants from the National Institute of Mental Health to develop and evaluate their own early-intervention services for schizophrenia, with a fresh twist: they would give patients an unusual degree of control over their own care. "We knew from experience that it's particularly challenging to get young people to adhere to treatment, so we

wanted to design a program that they'd want to participate in, one in which they'd feel respected and heard," says Dixon. While Kane's group tested the new approach against traditional care in a network of health clinics in twenty-one states, Dixon and her colleagues studied the logistical nuances of how such a program could be optimally operated and financially maintained. The dual-track project was so successful, with patients who received the experimental care consistently reporting fewer symptoms and less disability, that New York State health officials decided to step in and launch

the program and works with Columbia faculty to select partner sites based on demand, would like to see that number climb even higher.


"Our goal from the beginning has been to make OnTrackNY available to every young person in the state who needs it, and we believe we're on course to achieve that goal within the next five years," says Thomas E. Smith, the agency's chief medical officer. State and federal agencies currently subsidize about half the \$1,500 monthly cost of the average patient's treatment. (Treatment usually lasts about two years.) Smith says that his office hopes to persuade the

Bello, who oversees clinical training for all mental-health professionals in the OnTrackNY network, says that when she was in graduate school in the mid-2000s, psychologists were taught to steer people with schizophrenia toward sheltered work opportunities, such as highly supervised low-wage jobs intended for the disabled: "I was trained to think that you didn't want to expose people to much stress or else you'd accidentally set them back." Even now, Bello says, new clinicians learning the OnTrackNY model often need to be taught to support their patients' more aspirational goals. "I tell trainees, 'Look, we don't have a crystal ball. Believe in this person, and don't try to predict what is or isn't possible based on what you're seeing at this moment.'"


One reason OnTrackNY works so well, its organizers say, is that the program is reaching people with schizophrenia very quickly. Whereas it typically takes a year or more for someone with the condition to receive professional help, on average a patient enrolls in OnTrackNY just seven months after their first psychotic episode, which means they are receiving treatment when the disease is still in its early stages. Dixon credits this in part to OnTrackNY's community-outreach efforts to help teachers, clergy, police officers, social workers, and others learn to spot the warning signs of schizophrenia. "People who are experiencing psychosis often don't exhibit it in obvious ways or talk about it," she says. "They might just withdraw into themselves, seem emotionally flat, stare off into space for long periods of time, or speak in disorganized ways."

And then there's the matter of accessibility: every OnTrackNY location is a one-stop shop where participants can visit a large team of providers, all working in close coordination, as frequently as several times a week.

But the secret to making everything come together, say Dixon and her colleagues, is that OnTrackNY providers treat patients as equal partners in their care, which means giving them a say



"People can do remarkable things while still experiencing moderate levels of psychosis. And it's the very process of living ... that starts them on the road to recovery."



their own version of the program in 2013, two years before the study officially concluded. The initiative, to be administered by Columbia's psychiatry department and its affiliated New York State Psychiatric Institute, was dubbed OnTrackNY, and Dixon was immediately brought onboard to build it.

Today, OnTrackNY is a national model for schizophrenia care. One of the largest programs of its kind in the country (it has spawned imitators in several other states), it consists of twenty-five affiliate clinics and hospitals in fourteen New York counties, with another seven sites slated to begin offering services in 2023. When its current expansion is complete, OnTrackNY will have the capacity to enroll about seven hundred people annually, or approximately two-thirds of the estimated population of young people who are newly diagnosed with schizophrenia or similar psychotic disorders in the state each year. Officials at the New York State Office of Mental Health, which subsidizes

federal government and private insurers to cover more of the cost, which would enable the state to make the services even more widely available.

While it is too soon to know how young people in OnTrackNY may benefit over the long term, the state's investment appears to be paying off. At least while patients are in the program, the initiative has been shown to improve their lives by every important measure, reducing their chances of experiencing psychotic episodes, hospitalizations, suicidal feelings, violent impulses, anxiety, and depression. Many patients also reconnect with academic, professional, and creative interests that they had given up when they became ill; by the end of their treatment, more than two-thirds are enrolled in school or working again.

"We've had participants go back and graduate high school and college, earn advanced degrees, and land high-level jobs in fields like engineering, finance, and public relations," says Bello, the Columbia psychologist and program codirector. "Their successes have been eye-opening."

in nearly every clinical decision. This can include seemingly small details, like choosing which of their family members participate. Or it can involve weightier matters, like decisions about medication. Many patients choose to reduce their dosage in order to minimize side effects, even if that means that their psychotic symptoms will not be completely eliminated. “Our clinicians will of course offer their professional assessments,” says Dixon. “But they’ll also listen to the participants’ preferences and ultimately support them.” The benefits of such a collaborative approach to health care are well documented, with studies showing that patients tend to feel more empowered, hopeful, and satisfied when doctors involve them in treatment decisions. This is true especially in the context of mental-health care, where patients expect to have their personal and emotional needs met. And based on the testimonials of former OnTrackNY patients, this certainly seems to be true for people with schizophrenia.

Story after story goes like this: Having endured an unspeakably terrifying, bewildering, and alienating emotional journey, a young person is in short order hospitalized, diagnosed, medicated, and discharged without ever fully comprehending what has happened. In follow-up appointments, doctors insist that they accept their diagnosis and nag them about taking their pills. But the young person doesn’t want to identify as *schizophrenic*. They want to be seen as normal. They want to go back to school, earn money, hang out with friends. And the pills are causing them to gain weight, to feel lethargic and mentally foggy, and to have uncomfortable muscle spasms. *The doctors could be wrong about my diagnosis anyway*, they think. *Maybe it’s just anxiety or depression or PTSD. I can handle this on my own if I buck up — I got this*. Eventually, they stop showing up for appointments. They skip doses. And they wind up back in the hospital.

The creators of OnTrackNY have learned to avert such crises by meeting

schizophrenia patients where they are and by assisting them on their own terms, in ways that are immediately relevant to their lives. Rather than addressing patients’ mental illness head-on, providers may initially help them develop strategies to ignore the voices in their head, to brave a walk down a crowded city street where everyone seems to be staring at them, or to mitigate their drug’s side effects with physical exercise. As a result, OnTrackNY providers find, patients begin to reengage with life, to look forward to the future, and to feel that they are the masters of their own destiny again — despite in many cases still struggling with delusions or hallucinations. They keep coming back for appointments. They take their medicine. And eventually they open up to the possibility that they have a severe mental illness and start to learn about it. Slowly, they get better.

“I think one of the most powerful things about our project is we’ve flipped the script on the conventional idea that a person has to internalize psychiatrists’ definition of their illness as the first step in treatment,” Nossel says. “When I was in school twenty years ago, I was taught that accepting one’s diagnosis — or ‘achieving insight’ about one’s situation, as we called it — was a prerequisite to making progress. If a patient achieved insight, then their symptoms might diminish. And then they could start thinking about pursuing activities like school or work. But we’ve shown that’s just not necessary. People can do remarkable things while still experiencing moderate levels of psychosis. And it’s the very process of living, of reconnecting with the things that give their lives meaning, that starts them on the road to recovery.”

For Ambar Martinez, a love of learning led her back out into the world. First, with the support and guidance of OnTrackNY staff, she attended John Jay College of Criminal Justice and completed her bachelor’s degree.

“That was a scary step,” she says. “But I had to do it.” Then it was on to the New School, where she earned a master’s in philosophy in May 2022. Now she’s pursuing a career as a mental-health advocate. “I want to create webinars and other training materials that will help providers understand how people with serious mental-health diagnoses really experience the world,” she says.

A quick-witted, sensitive, and stylish young woman with two-tone hair and a closet full of 1980s-new-wave-inspired clothing, Martinez is currently living in New York City and working two part-time jobs. She still hears the voice in her head. It is her constant companion, quieting only when she sleeps. She also struggles with paranoia and intense mood swings, despite taking antipsychotic medication. But her relationship to these symptoms has evolved, she says. Whereas she once felt imprisoned by them, she now views them with detachment and derision, like bad neighbors one has long ago learned to tolerate. Listening to music on headphones partially masks the voice; dance and movement classes help stabilize her mood. She holds out hope of eventually liberating herself of psychosis altogether. “Having read Freud and Lacan, I suspect that there’s an element of childhood trauma behind all of this,” she says. “I need to delve deeper into my issues. Anything’s possible.”

In the meantime, her jam-packed life is its own form of therapy. Since finishing treatment at OnTrackNY, she’s also self-published a novel about a young woman trying to make sense of her hallucinations, launched a blog, and worked at OnTrackNY as a peer specialist, mentoring others who have recently been diagnosed with schizophrenia. “When I talk to young people, I tell them this isn’t going to be easy,” she says. “But even if your symptoms never go away, there’s so much you do still control. You can give your symptoms space to exist, let them walk beside you, while you go forward.” 📌

Uncovering America's Dark Secrets

The Columbia History Lab uses data science to reveal government documents long hidden from public view—telling a new story of postwar America

Columbia history professor Matthew Connelly '90CC, codirector of the Institute for Social and Economic Research and Policy, discusses the research behind his explosive new book, *The Declassification Engine*, and the shocking things he learned along the way.



You are the principal investigator at the History Lab, a project that, as its Web page proclaims, approaches “history as data science.” You and a team of social scientists, statisticians, and computer scientists have created a searchable database of nearly five million declassified government records — the largest of its kind in the world. How did the History Lab, and particularly its chief project, the “declassification engine,” come about?

As a historian I've been working with declassified government documents for thirty years now, ever since grad school. And it's striking how much information, even as far back as the 1950s and '60s, remains classified. Even the documents that have been released to the public are full of redactions. But one fairly new

development is that a lot of declassified documents now come to us in digital form. And some of those collections, like diplomatic cables from the State Department (which in the 1970s was an early adopter of electronic data systems), are rich with metadata — everything from the classification level to handling instructions. There are subject tags indicating if the document is about international trade or covert operations or some other aspect of government. When you have that much data, and it is what we call machine-readable, it's a bonanza for data scientists. You can do all kinds of cutting-edge research. So I and my colleagues in Columbia's computer-science and statistics departments started looking at what subjects and which individuals tend to be most redacted. Who's in the room when the topic under discussion is still a secret seventy years later? You find, for example, different versions of the same document with different redactions. You can learn a tremendous amount by aggregating this information, bringing it together in one place. You simply can't do that kind of research with traditional archival methods.

In your new book, you posit the existence of what you call the “dark state,” as distinct from the “deep state” that we all heard about during the Trump administration. Can you define these concepts? Do they intersect?

The deep state is to some extent a conspiracy theory — the idea that there are all these people in government working in secret, doing things that even the president doesn't know about and can't stop. I use the term “dark state” because a lot of the hidden history I study *is* dark, very dark; some of the secret activities pursued by government officials in the past are depraved, like subjecting children and the elderly and servicemen to various experiments and then lying about it again and again. But I don't consider this a deep state, because the secrecy goes all the way to the top. Ultimately, it's the president who is sovereign over secrecy, and it's the president who sets the rules. And if presidents really wanted to do something about this explosion of government secrecy, they have the authority to change the rules about what gets classified and how. But in fact, presidents — including Donald Trump —



are delighted that they have this power to decide what the rest of the world is allowed to know. They get to define what national-security information is.

You point out that nearly every president comes into office professing high ideals and vowing transparency, and then before long, each gets swept up in the culture of secrecy. Is this just the nature of modern statecraft? Why is transparency so hard?

I would argue that it is not just hard but impossible, because transparency means taking on thousands of people within government who also like the power they have to work in secret. Right now there are around three thousand people in the federal government, many of them political appointees, who have what is called original classification authority. These are the people who can determine what programs are classified. So if a new covert operation or capability is launched by the National Security Agency, say, these people with original classification authority can decide from the outset that everything related to this program will be secret or top secret. And they can also define the project as a

“compartment” for sensitive, “compartmentalized” information. For someone to access compartmentalized information, it is not enough to have a security clearance at the sufficient level of sensitivity. That person must also be given authorization to see the information that lies within those compartments, and such authorization is granted on a need-to-know basis. There is a federal agency, the Information Security Oversight Office, that is supposed to exercise oversight over the classifying of government information, but it’s tiny, underfunded, and effectively powerless.

Do you see any way to reverse this trend toward more and more secrecy?

Right now, all the incentives are to classify as much as possible. To reverse this trend, the American public would need to start insisting that Congress and the courts do their jobs. It is within their power to rein in this excessive and unaccountable power that presidents have to define what the rest of us are allowed to know. Unfortunately, both Congress and the courts have largely abdicated their constitutional responsibilities in this regard. What the gov-

ernment cares about is reflected in its budgeting. More than \$18 billion a year is allocated to protect national-security information. Out of that \$18 billion, about half of 1 percent goes to costs related to declassifying information or deciding what the public should know. Whenever public officials, including the president, discuss national security and the need to protect information — and this need is often legitimate, to be sure — they invariably say they “strike a balance” between protecting national security and honoring their duty to ensure that the American public knows what the government is doing in their name. But I’m sorry: \$18 billion for secrecy and less than half of 1 percent for transparency? There is no balance.

Secrecy in government might seem as American as apple pie, but you argue the opposite — that for much of its peacetime history the US embodied a kind of “radical transparency” envisioned by its founders. Can you elaborate on that? And when and why did that transparency morph into opacity?

For more than a century and a half after its founding, our government

was remarkably transparent. The era of secrecy began during World War II, though secrecy in wartime is not unusual. In every American war up to that point, the government created intelligence agencies and new ways of keeping sensitive information secret. But those agencies and procedures were always dismantled as soon as the war was over. When World War II ended in 1945, though, all those wartime measures were kept in place. Only by maintaining this massive security apparatus, the argument went, could the government keep its citizens safe. But when you analyze what information tends to get classified, and what takes the longest time to be revealed, you can't help but conclude that we paid a price for all that secrecy. Far from keeping us safe, the secret activities of government officials, the incredible risks they took, put us all in danger. Moreover, all that secrecy has made it increasingly difficult, if not impossible, even to reconstruct the history of what really happened.

The dark state does seem to kick in with FDR, who, you note, was the first president to impose a classification system for government information and who established the Office of Strategic Services, which evolved into the CIA. Your research also led you to some unsettling revelations about his administration and the secrecy around the “surprise” attack on Pearl Harbor.

I thought I knew the story of Pearl Harbor. But in recent years, historians have gone back through this documentary record, working in archives not just in the US but also in Japan. And when we start to assemble all the pieces, what's crystal clear is that though Roosevelt claimed his administration was caught by surprise, he and his closest advisers had known for weeks that an attack was coming; indeed, they had provoked it. They just didn't know where the attack would be. Why would they do this? Because Roosevelt had been trying to get America into World War II for months. Much has

been written about his strategy in the Atlantic Ocean, where American vessels were chasing German submarines in the hope that an incident would tip into war with Germany. But nothing was working. Finally, Roosevelt came to believe that the only way to get Congress to go along with a war was to get Japan to attack. He wasn't wrong: the US did have a vital interest in the outcome of the war, and I for one believe we should have engaged, in 1941 if not sooner. But large majorities of Americans opposed what they thought of as another war of choice.



Matthew Connelly

Where I don't go, and the conspiracy theories do, is believing that Roosevelt knew the attack targeted Pearl Harbor. There's no evidence of that, and it makes no sense. Why would he allow US forces to be caught unawares, at the cost of 2,400 American lives? All he needed was an attack; he didn't need a massacre.

Pearl Harbor is the original secret of the dark state. The way FDR maneuvered the country into war set the stage for the many, many secrets that followed.

One of the book's running narratives, and probably its most dumbfounding, concerns the information you have unearthed about the bellicosity and power of the US military in the postwar era, particularly during the most volatile years of the Cold War — and about the

chronic power struggle between the president and the Pentagon in those years, with the latter usually on top.

Oh, yes, the majority of Americans at that time, when surveyed, said they expected nuclear war in their lifetime and typically believed it would be a war of aggression begun by the Soviets. But when I researched back to the late 1940s, but especially the 1950s and early '60s, I discovered that it was the American military, not the Soviets, who were intent on starting a war. They believed they had the upper hand, nukes-wise, and that the sooner war started, the better. They knew that, in time, the Soviets would build up their own arsenal, and then it would be too late for the US to destroy the Soviet Union and escape unscathed.

Your book discloses that the military's “strategy,” which they seemingly were free to pursue unilaterally without consulting the executive branch, was to annihilate the entire communist world with nukes in what RAND Corporation strategist Herman Kahn dubbed a “wargasm,” thereby killing not only half a billion people in communist nations but another 100 million in neighboring countries allied with the US. Thoughts?

In terms of the Pentagon's ability to act unilaterally, we're seeing more evidence that US military officials believed in the months and years leading up to the Cuban Missile Crisis of 1962 that they had “pre-delegated authority” to start a nuclear war if they thought we were under attack. This began in the Eisenhower administration, because Eisenhower thought this was the only way to reassure both the military and American allies that the US could fight back if the Soviets attacked — and that we would not be caught unprepared again, this time with a *nuclear* Pearl Harbor. Only the ability of the American forces to go nuclear immediately could fend off that danger. So the administration issued these pre-delegation orders. And when JFK became president and was (rightly) alarmed by this authority, the military denied

that they had any such orders. This is a case in which military brass clearly lied to protect their autonomous power to start a nuclear war.

The Cuban Missile Crisis seems to have shifted the power dynamic and set the current template for military operations being run mostly out of the White House. You suggest that the distrust between the president and the Pentagon probably led to the disaster in Vietnam but that, paradoxically, the disaster may have saved the US from a host of other military misadventures in places like Indonesia, Panama, and Morocco. How so?

This distrust between the White House and the senior military leadership grew, flourished, and peaked by the early 1960s. What strikes historians who are looking back on this period is how rare it is to find senior leaders, either in the White House or the military, who were optimistic that the US

would triumph in Vietnam. But when I say that if it hadn't been for Vietnam, we may well have had other wars, it's because when we review many of the original redactions in declassified documents, we find a lot of war plans

“Far from keeping us safe, the secret activities of government officials, the incredible risks they took, put us all in danger.”

for the US to send forces into many different countries. Now, I don't know if any of those wars would have materialized, but certainly the Vietnam War had a disciplining effect; afterward, Americans were more dubious about these sorts of military actions. But it's true that foreign wars are still run largely out of the Oval Office, because

Congress is unwilling to exercise its constitutional responsibility. They've allowed presidents to start one war after another. Even today. The legal authorization the US president draws on to conduct drone strikes and counter-

insurgency campaigns in dozens of countries around the world was passed after the attacks on 9/11. That was more than twenty years ago. Congress's unwillingness to challenge the president's power to keep information from the public is just a symptom of a much larger abdication.

— Lorraine Glennon

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A coyote near Ferry Point Park in the Bronx.

NYC: Where the wild things are

A possum walks into a bar. That's the start of a joke, right?

In fact, a possum really did nose its way into the crowd at Temkin's Bar in the Greenpoint section of Brooklyn one night this past spring. Before it could order a drink, a young woman grabbed the marsupial by the scruff of its neck, marched it outside, and set it on the sidewalk. Patrons hooted and cheered as the possum scuttled away and disappeared to parts unknown.

The scene, which was caught on video and quickly went viral, is hardly unique these days. New York City, already the most densely populated metropolis in the US, is home to increasing numbers of wild animals. The city has been expanding its green spaces for decades and now has some seventy-eight thousand acres of forests, grasslands, wetlands, parks, lawns, and community gardens — prime real estate for possums, raccoons, skunks, ground-

hogs, rabbits, deer, foxes, and coyotes. Cleaned-up local waterways are home to growing populations of river otters and beavers; in the air, peregrine falcons, red-tailed hawks, bats, and rare native bees are frequently observed.

So approximately how many wild creatures are now living in New York City? Where are their favorite hangouts and dining spots? How often do they cross paths with humans, and what dangers might they pose?

To find out, Columbia scientists have launched one of the most ambitious studies of New York City wildlife to date. Led by epidemiologist Maria Diuk-Wasser and ecologist Sara Kross, the researchers are conducting in-depth censuses of multiple species to determine their populations, habitats, diets, and health. They have installed motion-detecting cameras at dozens of locations across Brooklyn, Queens, and Long Island's Nassau County to observe medium-sized mammals like raccoons,

IVAN KUPRAEV / NEW YORK TIMES

possums, and skunks as they feed at night. They have also baited humane traps along the animals' favored routes. After capturing them, the scientists screen the creatures for coronaviruses and distemper and outfit them with radio collars so their movements can be tracked.

Columbia scientists are also studying ticks and mosquitoes to learn how they interact with mammalian hosts, like white-tailed deer, to spread Lyme disease and other ailments. Future plans include bird counts and surveys about human encounters with wildlife.



Myles Davis, a graduate student, sets up a motion-detecting camera in Brooklyn's Green-Wood Cemetery.

The researchers say their work could ultimately help city officials craft land-management policies that promote biodiversity while minimizing health risks to humans. "A lot of these wild animals are interacting with each other and with us," says Diuk-Wasser, who is an expert on the spread of tick-borne diseases. "It's important to know who's out there."

— Kevin Krajick '76GS,
'77JRN

A faster, more affordable way to predict birth defects

For decades, it has been commonplace for pregnant women to undergo a type of DNA testing that determines if a fetus is carrying any major genetic errors, like missing or extra chromosomes, that will cause severe birth defects. Called karyotyping, such analysis, which is also used to ensure the viability of embryos implanted in IVF procedures and to investigate the causes of miscarriages, has helped millions of women make more informed fertility choices. But results can take a week or longer to come back from the lab, and the testing costs upwards of \$2,000, limiting its usefulness and making it unaffordable to many people.

Now a team of physicians led by Zev Williams, the director of the Columbia University Fertility Center, has developed a much faster and cheaper way to evaluate the genetic health of embryos and fetuses. The new technology, called STORK (for Short-read Transpose Rapid Karyotyping), can detect chromosomal abnormalities within two hours at a cost of less than \$200.

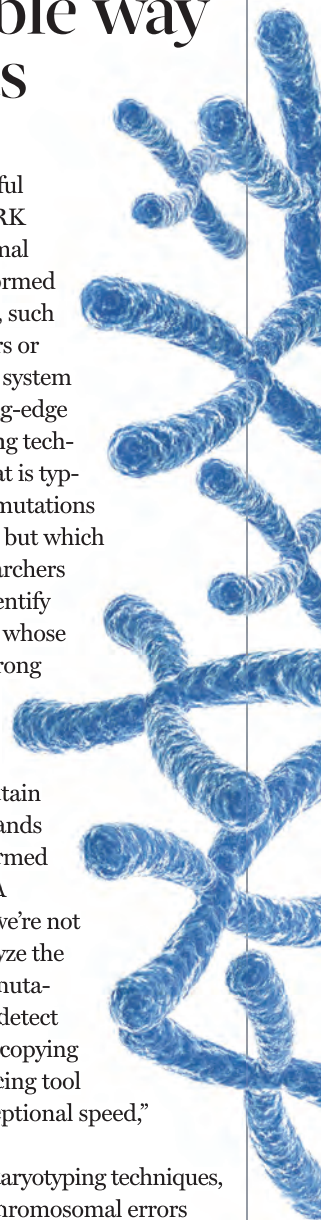
"For a woman who's wondering if her baby is healthy, every day she waits for an answer is agonizing, so the speed with which we're able to generate results is extremely valuable," says Williams. And because karyotyping isn't always covered by insurance, he says, STORK's affordability could make chromosomal analysis available to more women.

The culmination of nearly a decade of Columbia research, STORK consists of a compact handheld device that health-care workers can use to analyze DNA drawn from an embryo, amniotic fluid, a placenta, or a miscarried fetus. The tool's key advantage is its automation: whereas karyotyping typically requires cells or tissues to be mailed out to specialized laboratories, where scientists inspect

them under powerful microscopes, STORK enables chromosomal analysis to be performed at the point of care, such as in fertility centers or hospitals. The new system incorporates cutting-edge genomic-sequencing technology of a type that is typically used to spot mutations in individual genes but which the Columbia researchers have adapted to identify fetuses or embryos whose cells contain the wrong numbers of chromosomes — long threads of DNA that each contain hundreds or thousands of genes — or deformed or oddly sized DNA strands. "Because we're not attempting to analyze the genome for small mutations but rather to detect catastrophic DNA-copying errors, our sequencing tool can operate at exceptional speed," Williams says.

Like traditional karyotyping techniques, STORK can spot chromosomal errors that cause Down syndrome, fragile-X syndrome, and a number of more severe congenital disorders, like Patau syndrome, which disrupts the development of major organs and typically proves fatal within a child's first week of life. (Identifying a baby's risk for medical conditions linked to mutations in single genes, like cystic fibrosis or Tay-Sachs disease, requires additional testing.)

In a recent letter published in the *New England Journal of Medicine*, Williams and his colleagues reported that STORK performed as reliably as



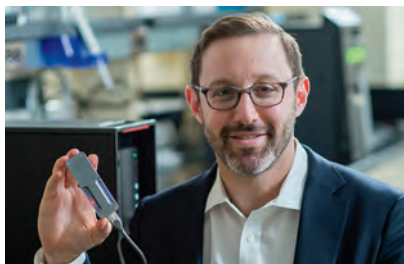
EXPLORATIONS

standard karyotyping methods in analyzing 218 cell and tissue samples. The researchers have submitted their findings to the New York State Department of Health and expect STORK to be approved for widespread clinical use soon.

According to Williams, his team's technology could prove especially beneficial to women who live in states that have banned abortion after the first three to five months of pregnancy, including Florida, North Carolina, and Utah. Delivering test results quickly to such women is critical, he says, because fetal cells cannot safely be biopsied for chromosomal analysis before the second trimester, which means that many women in these states are now learning that their babies are destined to have serious birth defects right around the time their access to abortion ends.

"If a woman is considering ending a pregnancy in order to prevent terrible human suffering, she ought to be able to have that information as quickly as possible, for her health and safety," Williams says.

For those pursuing in vitro fertilization, Williams says, STORK promises



Zev Williams holds the testing device.

both convenience and savings. The current weeklong process of screening embryos for chromosomal abnormalities pushes back implantation a month, since it must be timed to the ovulation cycle. In the meantime, the woman must pay up to \$7,000 to freeze the embryos being tested and undergo a separate embryo transfer. "With our method, an embryo can be analyzed in the morning and transferred in the afternoon," he says.

And for women who miscarry, Williams says, STORK can help reveal why it happened. Approximately half of all miscarriages are caused by chromosomal abnormalities, he says, yet medical insurers typically will not pay for the karyotyping of miscarriage tissues unless a woman has previously lost

one or more babies. As a consequence, many women are left wondering what went wrong. This is a significant problem, Williams says, because determining the cause of a miscarriage is the first step in preventing the next one.

"If you discover that a miscarried fetus had chromosomal issues, that's actually reassuring news, in a sense, because such errors tend to occur randomly. This means that a woman who conceives again is just as likely to have a healthy baby as she would have been if that prior loss had not occurred," he says. "That's important information to be able to deliver to people, because our research has shown that when miscarriages are not explained, women tend to blame themselves. They'll say, 'Oh, it was because of that deadline at work, a stressful argument that I had, or lifting something heavy.' On the other hand, if you learn that a miscarried fetus was genetically healthy, now you know as a physician to look for other explanations. And there are a number of very treatable medical conditions that can interfere with a woman's ability to carry a baby to term. You just have to know to look for them in order to solve them."

Tree rings solve mystery of 19th-century shipwreck

Columbia scientists say that a shipwreck whose origins have been debated since its discovery off the eastern coast of Argentina nearly two decades ago is almost certainly the *Dolphin*, a whaler built in Warren, Rhode Island, in 1850. While historical accounts of the *Dolphin*'s sinking in 1859 had previously led scholars to suspect that the remnants of a hull found near Puerto Madryn belonged to the ship, researchers from Columbia's Tree Ring Laboratory were able to confirm the wreck's origins by analyzing growth rings in the hull's ribs. The dendrochronologists determined that the lumber derived from Massachusetts white oaks felled just a few months before the ship was constructed. "It's fascinating that people built this ship in a New England town so long ago, and it turned up on the other side of the world," says Columbia scientist Mukund Rao '20GSAS, a coauthor of the study.



Scientists inspect the remnants of a wooden ship near Puerto Madryn, in Patagonia.

TOP: COURTESY OF ZEV WILLIAMS; BOTTOM: MONICA GROSSO

Scientists discover 60 autism genes

In one of the largest studies of autism spectrum disorder (ASD) ever conducted, a team of Columbia researchers led by Wendy Chung has identified sixty genes that contribute to the condition, including several that help explain a broad category of cases whose genetic roots had until now been a mystery.

The findings, which appear in the journal *Nature Genetics*, are based on an analysis of medical, behavioral, and genetic data from hundreds of thousands of people, including forty-three thousand with autism. The enormous data set enabled Chung and her colleagues to spot subtle genetic aberrations whose links to autism had escaped the attention of earlier researchers.

Previously, scientists had linked mutations in more than one hundred genes to autism, but those mutations, as a group, account for less than 20 percent of all cases. Those mutations also give rise to the most severe forms of autism, since they involve large, conspicuous genetic errors that occur when long strands of DNA are deleted or duplicated during cell division. People who develop autism as a result of such cataclysmic mutations typically also have other neurological issues, like epilepsy and intellectual disabilities. Geneticists have therefore struggled to understand what causes the milder forms of autism seen in millions of high-functioning people.

But Chung's team, by harnessing the power of big data, uncovered hidden mutations that contribute to cases across the entire autism spectrum, including several genetic variants that only modestly alter behavior and cognition.

"Overall, the genes we found may represent a different class of genes that are more directly associated with the core symptoms of ASD," says Chung, who is the chief of clinical genetics in the Department of Pediatrics at the Columbia University Vagelos College of Physicians and Surgeons. "We need to do more detailed studies to understand how each gene contributes to the features of autism. But we think these genes will help us unravel the biological underpinnings that lead to most cases."



The case of the well-dressed panhandler

Think of the last time you passed by a panhandler. Now ask yourself: did the person's appearance influence whether you gave them money?

Many of us might believe that we give the most readily to people who appear to be in the greatest need, but new research by Quinton Delgadillo, a PhD candidate at Columbia Business School, suggests we're fooling ourselves. In a field experiment designed to reveal Americans' true attitudes toward the poor, Delgadillo and colleagues from Yale and the City University of New York sent a member of their research team into the streets of New York City and Chicago to ask for handouts. On some occasions he wore shabby clothes and at other times a suit and tie. The results were striking: the man collected more than twice as much money when he was dressed sharply. (The proceeds were donated to charity.) In a follow-up study to ascertain why

this was so, the researchers learned that people consistently perceived the panhandler to be less trustworthy, competent, kind, and similar to themselves when he was sloppily dressed.

Delgadillo and his colleagues were unsurprised by the results. Writing in the journal *Frontiers in Psychology*, they point out that it is common across cultures to attribute negative qualities to impoverished people and to view those on the lowest rungs of society as being to blame for their plight. Their work may have broader implications for how we address problems like hunger and homelessness. Given the deeply ingrained biases that many people harbor against the poorest among us, they say, relief efforts that rely on voluntary acts of kindness may be bound to fall short. "While charity and philanthropy are obviously important, our research suggests the need for robust government-run antipoverty programs," says Delgadillo.

The stories beneath the streets

New Yorkers have always been forward-looking, with a commitment to growth and renewal that often trumps concerns for historic preservation. Ironically, this restlessness has generated an unusually rich archaeological record: for the first 350 years after the Dutch colonized Manhattan, aging buildings were routinely torn down and built over, with the remnants of former inhabitants' lives frequently entombed in the ruins.

Nan A. Rothschild '62GSAS, a Columbia professor emerita and a pioneer of urban archaeology, has spent her career digging up the belongings of long-gone New Yorkers in order to gain new insights into the city's past. Some of her most important discoveries, along with artifacts unearthed by many other archaeologists in the five

boroughs, are showcased in her new book, *Buried Beneath the City: An Archaeological History of New York*, cowritten by Amanda Sutphin '92BC, H. Arthur Bankoff, and Jessica Striebel MacLean '05GSAS. Published as a companion to the collection of the New York City Archaeological Repository on West 47th Street, which in 2016 was named in honor of Rothschild, *Buried Beneath the City* provides a fascinating visual complement to traditional histories based on written records.

"The material objects we find underground often illuminate the lives of ordinary people who aren't well-represented in the documentary evidence, including women, enslaved people, Indigenous communities, and the poor," says Rothschild.

Pictured here are some highlights from the book.



A **six-thousand-year-old spear point** found in College Point, Queens.



A **shell** of a type used by local Iroquoian and Algonquian groups to make wampum beads, found near South Ferry terminal.



A fragment of an **early Dutch redware pot** found at 7 Hanover Square.



A **bone-handled toothbrush** with boar-hair bristles, from the mid-nineteenth century, found on Pearl Street.



A painted pearlware **punch bowl**, from circa 1800, found at 7 Hanover Square.



A nineteenth-century **syringe and plunger carved from bone**, found on Beekman Street.



A nineteenth-century **Hungarian smoking pipe**, found in Lower Manhattan.



A **teapot** owned by a middle-class family in the Black enclave of Seneca Village, which was cleared in 1857 to make way for Central Park.



A glass **soda-water bottle**, dated 1866, found on Pearl Street.



Loggerhead sea turtles, which live in US coastal waters, are threatened by habitat loss.

Can we act sooner to save endangered species?

Since its passage in 1973, the Endangered Species Act has in some ways been a great success, helping to prevent the extinction of hundreds of fish, plant, and animal species.

But a new study led by Columbia doctoral student Erich K. Eberhard reveals a significant flaw in the act's administration. Eberhard and his coauthors, Princeton biologists Andrew P. Dobson and David S. Wilcove, find that at-risk species do not typically receive protection until their populations have dwindled to the point where they cannot fully recover. Inclusion in the official list of endangered species, in other words, tends to be a one-way ticket to biological purgatory: species may be prevented from disappearing altogether, but their numbers don't bounce back to healthy levels. This is evidenced, the authors say, by the fact that of the more than one thousand species added to the endangered list over the past five decades, only fifty-four have ever rebounded enough to be removed from it.

Part of the problem, the researchers report in the journal *PLOS One*, is that the US Fish

and Wildlife Service, which manages the endangered-species list, takes too long to review petitions for species' inclusion. The agency has often taken ten years or longer to evaluate petitions that are supposed to be processed within two. By the time species are finally added to the endangered list, they typically number fewer than one thousand. "For many species, this makes a robust recovery extremely difficult, if not impossible, and it substantially increases the risk of extinction," says Eberhard, who is a PhD candidate in the Department of Ecology, Evolution, and Environmental Biology.

The researchers say that the federal government ought to allocate more money to the US Fish and Wildlife Service for assessing species vulnerability; they point out that the agency's workload has increased significantly over the last few decades, while its annual operating budget has shrunk.

"Funding this work is essential if the Endangered Species Act is to live up to its reputation as one of the world's most powerful environmental laws," says Eberhard.

STUDY HALL RESEARCH BRIEFS

Gen Z discovers LSD

The use of LSD has risen among Americans of all age groups over the past two decades, but especially

among those aged seventeen to twenty-five, according to research by Columbia public-health expert Deborah Hasin '80SW, '86PH. Her team found that 4 percent of young adults say they have recently taken acid and that the drug's resurgence in popularity corresponds to a downward trend in perceptions of its mental-health risks.

Shuteye boosts heart health Getting a good night's sleep may be as important for cardiovascular health as maintaining a balanced diet and exercising, finds a study led by Nour Makarem, an epidemiologist at the Mailman School of Public Health.

AI reveals new physics A team of Columbia engineers led by Hod Lipson has created an artificial-intelligence program that can observe complex phenomena — like the movements of a flame or the liquid in a lava lamp — and detect fundamental principles of motion that no researchers have ever before recognized. They say their program could be adapted to study systems beyond physics, such as the spread of diseases or climate change.



In defense of the office

sycophant A study by Wei Cai of Columbia Business School finds that "upward influencers" in the workplace — basically, those who put more effort into impressing the boss than actually working — can be good for a company's overall productivity because they help to maintain strong lines of communication between managers and subordinates.

New hope for treating brain cancer

Medical researchers led by Jeffrey Bruce and Peter Canoll have devised a way to deliver chemotherapy drugs directly into the brain, which they say could improve the treatment of tumors. Their method, which appears to be safe but needs further evaluation, delivers the drugs via a catheter, thereby bypassing the blood-brain barrier that stops foreign substances in the bloodstream, including medications, from reaching the brain.

Otter like no other An international team of scientists that includes Columbia geochemist Kevin Uno has identified a previously unknown (and long extinct) species of otter that lived in Ethiopia some three million years ago and was the size of a lion.

NETWORK

YOUR ALUMNI CONNECTION



Science for Everyone

Emily Kwong '12CC and Aaron Scott '09JRN, cohosts of the NPR podcast *Short Wave*, unravel the mysteries of the world

The cohosts of *Short Wave*, NPR's daily science podcast, are both Columbia alumni, but that's not all they have in common: growing up, both thought science wasn't for them. Now Emily Kwong '12CC and Aaron Scott '09JRN are evangelists for the subject, telling anyone who will listen that science is all around us, and it's for everyone.

In pithy, easily digestible segments, *Short Wave* explores everything from the chemistry of coffee to the physics of sand castles to the biology of sweating. Even when tackling heavier topics like COVID-19 or the war in Ukraine, the show plays like a lively conversation between friends (albeit one that's rigorously fact-checked). Kwong and Scott are amiable hosts who are particularly skilled at making scientific concepts feel accessible and exciting. "I can't fake that enthusiasm," says Kwong. "Everything you hear on the show is my genuine curiosity pouring out."

At Columbia, Kwong majored in anthropology. She wrote for the *Columbia Spectator*, but it wasn't until she DJ'ed

for campus radio station WKCR that she discovered her "lock-and-key fit" in audio journalism. (In retrospect, she says, the cassette recorder she dragged through her childhood "like it was a pet, by the microphone" should have clued her in.) In lieu of a senior thesis, Kwong teamed up with her roommate, Anneke Dunbar-Gronke '12CC, to interview fellow Columbians for a radio program they called *This Columbia Life*.

After graduation, Kwong, who is originally from Connecticut, trained at Maine's Salt Institute for Documentary Studies and spent more than four years in Sitka, Alaska, reporting for a local NPR affiliate. There she interviewed experts on landslides, fisheries, and other ecological topics vital to daily life in the community, gaining new appreciation for science's social implications. She moved on to an NPR fellowship in Mongolia covering climate migration and then was hired as a *Short Wave* reporter in 2019. She was promoted to cohost in 2021, and Scott joined her in February 2022. (The show's ten-person team also includes senior supervising editor Gisele Grayson '01SIPA.)

Scott studied religion at Grinnell College and worked in music publicity before applying to Columbia Journalism School, in search of a broadcast-journalism boot camp. A workshop with writer Stephen S. Hall opened his eyes to science reporting as “a way to encounter wonder on a daily basis,” and he ended up earning master’s degrees in both broadcast and science journalism. Post-Columbia, Scott spent seven years working for Oregon Public Broadcasting, where he reported and hosted the widely praised 2020 podcast *Timber Wars*. Its eleven episodes, which recount the conflict over old-growth logging in the Pacific Northwest, have been downloaded more than a million times.



Aaron Scott (left) reports on a cave expedition for a recent *Short Wave* episode.

Short Wave’s hosts record from separate locations: Kwong from NPR’s Washington, DC, headquarters, Scott from Portland, Oregon. Scott, who was raised in that area as well as Steamboat Springs, Colorado, is happiest among mountains. Last summer he went back to Steamboat Springs for a *Short Wave* episode dedicated to his late father, a mining engineer who taught him the “slow

story of the ground beneath our feet.” He was there to accompany researchers into a sulfur-filled cave that, when he was a child, had reminded him of a dragon’s lair. The reality — bizarre bacterial formations, blobs of blood-red worms thriving in extreme conditions — rivaled anything he’d imagined. “I now have a deeper understanding of what’s going on down there. It doesn’t take away from the magic of dreaming about it as a kid,” he says. “It makes the world even richer and more vibrant.”

Kwong, too, links *Short Wave* stories to her own adventures, from swimming with manta rays to performing in a circus (cue a discussion of force and momentum). But both hosts

say they’re most interested in spotlighting others, especially scientists from underrepresented groups. And they’re eager to build a community of listeners, or what Kwong calls “an ecosystem of nerds.” She uses the label affectionately to describe anyone who’s passionately, unselfconsciously curious. “It’s a motto on *Short Wave*,” she says. “We take the facts seriously but not ourselves.”

— Nicole Estvanik Taylor

The Entertainer

Reginald Cash ’04CC, the owner and CEO of 3BlackDot, is fostering a community of media talent



As a Columbia undergrad, Reginald Cash ’04CC was known for hosting some of the best parties around. “I had a side hustle where I would rent venues off campus and throw lots of events,” says the former economics major. “It was one of the most thrilling things about my college years — being around classmates and seeing people connecting, having an awesome time and building community.”

He thought he might become an event promoter after graduating but instead got “swept onto Wall Street” and worked for more than a decade in finance. “Although I was successful, there was a piece that was always missing,” says Cash, who wanted to go back to creating more direct and meaningful experiences for others.

Today, Cash is combining his business and entertaining expertise as the leader of 3BlackDot, a media and entertainment company based in Los Angeles. In early 2022, when the company’s owners were in talks to sell the enterprise, valued at \$87 million, to a private-equity firm, Cash, who joined the company in 2017 and became CEO the following year, decided to buy 3BlackDot himself. He is now one of the few Black owners of a major media company. “I thought if I could sit in the seat of the ultimate shareholder, I could ensure we would do the right things for the right reasons,” he explains.

Founded in 2013, 3BlackDot collaborates with creators of high-traffic video-game content on YouTube and other social-media platforms — typically, people who publish videos of themselves gaming — to earn revenue through advertising and brand partnerships. It’s an area that’s rich with potential. “Six of the ten most-viewed channels on YouTube are from

gamers,” says Cash, who spent many hours playing Halo in Columbia dorms. “For a lot of Gen-Zers and millennials, gaming is a cultural phenomenon that can influence how they think about music, fashion, travel, career, and other areas. We like to explore how it holds together communities.”

Since Cash became CEO, the company has expanded into media production. 3BlackDot produced the 2019 feature film *Queen & Slim* and has created popular Web series, including *Alpha Betas*, an animated fantasy show, and the PepsiCo-sponsored *Gaming While Black*, which features conversations with Black gamers. Currently, Cash and his team are producing a slate of horror movies with rapper Curtis “50 Cent” Jackson and filmmaker Eli Roth.



In every project, 3BlackDot strives to work with creatives from diverse backgrounds.

“There’s a real misconception that because everyone has the ability to publish a video to YouTube or TikTok, the best content wins and the process of discovery is egalitarian,” explains Cash. “But there’s a huge gap in the number of Black content creators who are able to make a living independently, in the number of brands doing sponsorships with them, and in how platforms cater to different perspectives. We’re trying to close those gaps. We believe that if you give value to people’s voices and ideas, it allows them to dream a little bit bigger and feel like they deserve and can achieve more.” — *Julia Joy*

ASK AN ALUM: HOW TO BUILD A LOVE THAT LASTS

Darcy Sterling '96SW is a clinical social worker and relationship therapist who co-owns the Manhattan practice Alternatives Counseling. She teaches online courses and writes an advice blog, and she previously hosted the E! reality series *Famously Single*.

Tell us about your work.

While some relationship therapists counsel couples, I counsel individuals. If I can teach one person relationship skills, the entire dynamic of their relationships changes over time. I pride myself on being brutally honest — I will call my clients out when I see them falling into historical patterns. I also assign homework so clients aren’t just thinking about therapy one hour a week but working toward their goals every day.

How do you help clients deal with relationship conflict?

As a therapist, I’m never going to change your organic response to conflict, but I can teach you to work around it. Identifying how your childhood patterns influence your adult relationships is critical. I grew up with a dad who was pretty rageful, so if you start yelling at me during an argument, that’s all I hear. I become so flooded with emotion that I can’t have a productive conversation.

I teach clients how to listen to their partners and let their partners know they are listening. If, during an argument, your partner is repeating herself or raising her voice, it’s because she doesn’t feel heard. But if you start repeating back what she says so she knows you are listening, the conversation slows down. It helps lower blood pressure and heart rate and increase oxygen flow.

It’s important to understand the rules of

fair fighting and what you absolutely should not do. For me, it’s cursing. I’m a gritty New Yorker who loves a good F-bomb. But when I’m upset, you’ll never hear profanity come out of my mouth. I’m intense enough as is, so I know that any profanity from me is going to be received very intensely.

Be aware of how you present yourself. Communication skills are not on-and-off switches; they’re dials. My goal is not to turn someone who is very outspoken into

somebody who’s muted. I want to teach them how to dial down that part of their personality so that the person they’re talking to can truly hear them.

How does jealousy affect relationships?

Jealousy can cause serious conflict and can manifest in small ways: for example, you text your partner and he doesn’t respond, but then you scroll through social media and see that he’s been posting during that same time. While jealousy as an emotion is perfectly normal, our reactions, and the extent to which our jealousy is tied to deeper issues, can become problematic. The jealous partner will often try to control the other.

Some people have lived with jealousy for so long that they don’t trust themselves to know when something is a legitimate threat or when it’s just in their head. Harboring extreme jealousy can feel like walking with a pebble in your shoe. Most cases require



healing your attachment style — the predispositions stemming from childhood that guide how your needs are met in relationships.

What are the pros and cons of online dating?

In the past, your dating pool was limited to your geographic area and social circles. Online dating has blown through those barriers, which has been tremendously beneficial for society.

On the negative side, humans have this thing called choice overload. I get it every time I walk into a discount store and see merchandise in different shapes, sizes, and colors. A similar phenomenon happens with online dating. Seemingly insignificant things that would have been forgiven ten years ago, like being a slow responder to messages, can be the reason why someone moves on. Our attention spans are practically nonexistent.

If you want to be more successful at online dating, check the apps daily and respond to messages. Make sure your profile looks like you care. The same thought you put into your LinkedIn profile should go into your dating profile.

Stop looking for common hobbies with potential partners and drill down on common values. Passion for learning? Desire for novelty and excitement? Being family-oriented? These will help determine how happy you will be in the long run. Your hobbies will look different in your twenties and in your sixties. What will make or break your long-term happiness are the broader values and principles you share.

— *Julia Joy*



Laura Kavanagh (center) with FDNY members.

The Leadership Ladder

Laura Kavanagh '21SIPA breaks ground at the FDNY

On March 8, 2022, Laura Kavanagh '21SIPA, the acting commissioner of the Fire Department of the City of New York, presided over a ceremony at FDNY headquarters in Downtown Brooklyn. Beside her, thirteen women, recent graduates of the fire academy, stood proudly in their uniforms. It was International Women's Day, and the symbolism of Kavanagh, the first woman to lead the 157-year-old department, welcoming a group of new female firefighters (pushing their number in the department to 134 — the most ever), was hard to miss. "You have become role models and heroes for a generation of women and anyone who thought they could not have a place at the table," Kavanagh told the inductees.

She could have been speaking about herself. Last February, after fire commissioner Daniel Nigro retired, Mayor Eric Adams named Kavanagh as Nigro's interim successor, calling her "a born leader who will guide this department

with distinction." And in October he affirmed Kavanagh's leadership by swearing her in as commissioner of the department's eleven thousand firefighters and four thousand EMS workers. Plaudits poured in from elected officials and union leaders. New York City Council member Gale Brewer '97GS praised Kavanagh as "a problem-solver at a time when this skill is in great demand."

Kavanagh entered city government as an aide to Mayor Bill de Blasio '87SIPA and joined the FDNY in 2014 as assistant commissioner of external affairs. In 2018, Nigro named Kavanagh first deputy commissioner — second in command — expanding her purview to day-to-day agency management. Now, as the department's top civilian administrator, Kavanagh has broken the mold (Nigro, the son of an FDNY captain, started out as a firefighter). "I'm not a first responder," she says. "But all big entities need people who are good at running things, and that's what I've done my whole career."

Kavanagh likens her job to that of any company head, and her mandate, as she sees it, is to modernize the department. That means procuring next-generation safety equipment and getting language-translation apps in the hands of EMS crews; improving training for firefighters and medics in a time of terrorism, mass shootings, and super-high-rise construction, in which accidents are common and rescues complicated; working with houses of worship and schools to teach fire safety; and increasing diversity through ambitious recruitment efforts.

Kavanagh grew up in California. Her mother was a teacher, and her father worked for the phone company. She studied political science at Whittier College, then moved to New York and became a community organizer, a job in which “you go into a new place, gain an understanding of the culture, and figure out what you’re advocating for and how to accomplish it,” Kavanagh says. “People wonder how I was able to quickly acclimate to the department, and I tell them I’ve had decades of training.”

After Kavanagh was promoted to second-in-command in 2018, she enrolled in the master’s of public administration program at the School of International and Public Affairs. “I wanted as many tools as possible to build an infrastructure that supports people who are coming to the department from diverse backgrounds,” she says. “Columbia was a way of having a partner in that effort, and one that the fire department deserves.”

At SIPA, Kavanagh found herself among other leaders with ambitious organizational plans who sought insights in class on how to meet their goals — an experience that she found invaluable. “My favorite thing in the entire world,” she says, “is getting things done.”

As commissioner, Kavanagh, when not holding meetings, seems to be everywhere: speaking at an EMT graduation ceremony, swearing in fire chiefs, and — painfully, inevitably — attending funerals for the fallen. She also makes time to visit firehouses and EMS stations. “As a leader, you have to constantly be reminded of what you’re here for,” she says.

Kavanagh is forever humbled by the frontline workers. “Their care and concern for others ahead of themselves is truly exceptional,” she says. “After 9/11 and after COVID you saw the department rebound and respond. A lot of that comes from the family we have here: people know that if something happens to them, their loved ones will be taken care of, and their memory will live on. I think that helps them deal with the day-to-day reality of such a dangerous job.”

And it’s the people who make Kavanagh’s job, with its endless demands and pressures, so extraordinarily rewarding.

As she says, “I’d much rather be in a firehouse or EMS station talking to our members than anywhere else.”

— Paul Hond

At the Movies

From industry veterans to promising newcomers, alumni directors and screenwriters lit up the big screen with notable feature films in 2022



The Inspection

Elegance Bratton ’14GS, who broke onto the scene with the 2019 documentary *Pier Kids*, based his debut feature film, *The Inspection*, on his own experiences. The film, which Bratton wrote and directed, stars Jeremy Pope as a gay Marine grappling with homophobia at home and in the military.



Black Adam

Sohrab Noshirvani ’12SOA and Rory Haines ’11SOA cowrote this action film about Black Adam, an ancient Egyptian superhero from the DC Comics universe. Dwayne “The Rock” Johnson stars as the title character.

Susanna Fogel ’02CC, Katie Silberman ’12SOA again teamed up with director Olivia Wilde as the writer of *Don’t Worry Darling*, a psychological thriller set in retro-styled suburbia. The film stars Florence Pugh and Harry Styles.



The Fabelmans

Tony Kushner ’78CC, ’10HON, best known for his early-1990s play *Angels in America*, cowrote and produced this period drama with Steven Spielberg, who directed it. Inspired by Spielberg’s youth, the film is about an aspiring young filmmaker in postwar America.



Don’t Worry Darling

Following the success of the 2019 comedy *Booksmart*, which she cowrote with



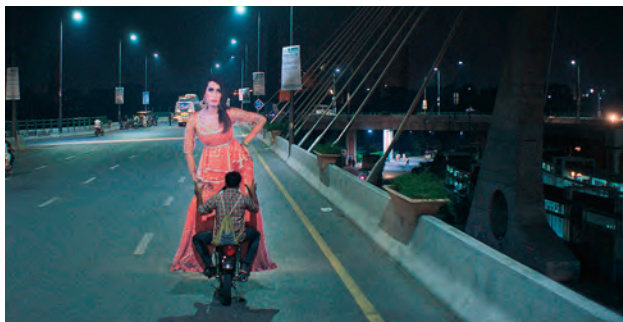
Devotion

Written by Jake Crane '12SOA and Jonathan A. H. Stewart '12SOA and based on a 2015 book by Adam Makos, *Devotion* tells the true story of celebrated Korean War fighter pilots Jesse Brown and Tom Hudner and their fateful 1950 combat mission.



The Greatest Beer Run Ever

Cowritten and directed by Peter Farrelly '86SOA, this dramedy is based on the true story of John "Chickie" Donohue, a former Marine who delivered beer to Vietnam War service members.



Joyland

Saim Sadiq '19SOA directed and cowrote this Pakistani film — which won a jury prize at Cannes — about a family whose youngest son falls in love with a transgender dancer. The production team also includes cowriter Maggie Briggs '19SOA; editor Jasmin Tenucci '20SOA; and producers Apoorva Charan '18SOA, Mona Maahn '18GS, '22SOA, Katharina Otto-Bernstein '86CC, '92SOA, and Ramin Bahrani '96CC.



Paradise Highway

Written and directed by Norwegian filmmaker Anna Gutto '16SOA, this thriller about the dark world of child sex trafficking stars Juliette Binoche and Morgan Freeman.



Where the Crawdads Sing

Olivia Newman '12SOA directed this film adaptation of Delia Owens's blockbuster 2018 novel of the same name. Starring Daisy Edgar-Jones, the mystery thriller is about an isolated young woman living in a North Carolina marshland who gets accused of murder.

NEWSMAKERS

● John F. Clauser '69GSAS,

a physicist best known for his experiments into the fundamentals of quantum mechanics, won the 2022 Nobel Prize in Physics along with Alain Aspect and Anton Zeilinger.



● Michigan congresswoman Elissa Slotkin

'03SIPA retained her seat in the US House of Representatives after a competitive midterm race. California congresswoman Sara Jacobs '11CC, '12SIPA also won reelection.

● Brown Girls, by Daphne Palasi Andreades

'19SOA, and The School for Good Mothers, by Jessamine Chan '12SOA, were shortlisted for the Center for Fiction's 2022 First Novel Prize, which honors up-and-coming authors.

● The Trace, a news platform covering gun violence, won 2022 awards for general excellence in online journalism and for community-centered journalism from the Online News Association. Staffers include editor in chief Tali Woodward '07JRN and writers Jennifer Mascia '07JRN and Chip Brownlee '20JRN.

● Forbes honored Pittsburgh wealth manager Derek Jancisin '10CC as part of its 2022 Top Next-Gen Wealth Advisors list, which recognizes finance professionals under forty.

● Wildlife ecologist Rae Wynn-Grant

'16GSAS received a Women of Discovery Award from WINGS WorldQuest, which supports women in environmental science.



● Journalist Atossa Araxia Abrahamian '08CC, '11JRN

received a \$40,000 Whiting Creative Nonfiction Grant to complete her investigative book *The Hidden Globe*, about the world of extraterritorial jurisdictions.

● Gabriella Canal '21JRN and Michael

Fearon '21JRN won a Student Academy Award from the Academy of Motion Picture Arts and Sciences for *Seasons*, a documentary about an aging farmer, which they produced while at Columbia Journalism School.



NEW CENTER FOR POLITICAL ECONOMY TO PROMOTE FAIRER, MORE EQUITABLE GROWTH

Columbia World Projects has launched a new Center for Political Economy, which will bring together faculty from across the University to reimagine economic policies to make them fairer and more inclusive.

The center, which is supported by a \$10 million gift from the William and Flora Hewlett Foundation, aims to promote novel collaborations between economists and historians, legal scholars, political scientists, sociologists, public-health experts, engineers, and data scientists. Its organizers say the center is designed to correct for the overly narrow focus on the mathematical aspects of economics that has dominated the field in recent decades and to direct attention to the social and political realities that ought to form the basis of economic policy.

Leading the center are four inaugural codirectors: Ira Katznelson '66CC, the Ruggles Professor of Political Science and

History and a deputy director at Columbia World Projects (a University-wide initiative that supports research to solve real-world problems); Suresh Naidu, a professor of economics and international and public affairs; Katharina Pistor, the Edwin B. Parker Professor of Comparative Law and director of the Center on Global Legal Transformation; and Kate Andrias, a professor of law and codirector of the Center for Constitutional Governance.

"With the creation of this center, Columbia University will be joining a critically important national and global effort to address the nature of political economy and how it determines matters such as the distribution of wealth and the relationship of the public and private spheres of our lives," says President Lee C. Bollinger. "I can't think of a subject more urgent or consequential, and I'm deeply grateful to the Hewlett Foundation for its support."

COLUMBIA ENGINEERING LEADS MAJOR INITIATIVE ON SMART STREETSCAPES

The National Science Foundation has awarded a \$26 million, five-year grant to a team led by Columbia Engineering, together with academic partners at Florida Atlantic University, Rutgers University, the University of Central Florida, and Lehman College, to develop a new Gen-4 NSF Engineering Research Center for Smart Streetscapes (CS3).

The initiative, which involves collaborations with dozens of industry partners, community organizations, municipalities, and K-12 schools, will harness advances in wireless communications and remote-sensing technologies to plan more livable, safe, and inclusive urban environments.

The center's organizers say that its research could lead to more effective ways of managing automobile and pedestrian traffic, emergency-response services, waste removal, and pest control. Innovations will be piloted in three cities — New York, West Palm Beach, and New Brunswick, New Jersey — with an eye toward identifying

novel technologies that might be deployed more widely.

At Columbia, the engineering school's key partners on the initiative include the Data Science Institute, the Faculty of Arts and Sciences, the School of International and Public Affairs, and Columbia Technology Ventures. Andrew Smyth, the Robert A. W. and Christine S. Carleton Professor of Civil

Engineering and Engineering Mechanics, is the center's principal investigator.

"By helping cities better meet the needs of local communities, this project exemplifies what

I call the Fourth

Purpose of the

University — a vision that embraces the capacity of

educational institutions to advance human welfare through academic work and with outside partners," says President Lee C. Bollinger.

"Our partnership provides an unprecedented opportunity to pool the strengths of our institutions, embedded in cities that can serve as models for other urban areas around the world," adds Provost Mary C. Boyce.



GERALD LEWIS JR. APPOINTED VP OF PUBLIC SAFETY

Gerald Lewis Jr., a law-enforcement professional who has led public-safety departments at several universities, has been named Columbia's vice president of public safety.

Lewis was previously the University of Connecticut's top police officer; before that, he served as chief of police at the University of Texas at San Antonio and at East Carolina University. During his time at UT-San Antonio, Lewis was recognized as campus safety director of the year by *Campus Safety* magazine.

Prior to entering higher education, Lewis was a New Jersey State Police officer for twenty-six years, rising to commanding officer and chief spokesman of the department.

"Gerald brings to Columbia a relentless focus on safety and an unwavering commitment to diversity, inclusion, and community partnerships," says David M. Greenberg '14SPS, the executive vice president for University Facilities and Operations. "He will be a critical partner in the ongoing work of the Inclusive Public Safety Advisory Committee — which mirrors committees he founded at UT-San Antonio and the New Jersey State Police — while continuing to enhance the many safety resources available in and around our campuses."

GIVING DAY DONATIONS APPROACH \$30 MILLION

On Columbia Giving Day 2022, a twenty-four-hour fund drive held on October 26, alumni, parents, faculty, students, staff, and friends around the world made a total of 19,229 donations, adding up to nearly \$30 million. Their gifts will support financial aid, research, athletics, patient care, and global initiatives that address urgent societal challenges.



FIVE COLUMBIANS NAMED RHODES SCHOLARS

Five Columbians recently received prestigious Rhodes Scholarships, which provide students full support for graduate study in any discipline at Oxford University.

The awardees are alumna Ilina Logani '22CC, who will pursue a master's in comparative social policy; Columbia Engineering senior Julia Zhao, who will work toward a master's in engineering science; and three Columbia College seniors: Sophie A. Bryant, who will pursue a master's in global and area studies; Astrid Liden, who will pursue a master's in refugee and forced-migration studies and sociology; and Gloria Charité, who hopes to earn a doctorate in cognitive psychology.



From top: Ilina Logani, Julia Zhao, Sophie A. Bryant, Astrid Liden, and Gloria Charité.



GLOBAL CENTER LAUNCHED IN ATHENS

This past fall, the University announced the launch of a new Columbia Global Center in Athens. The Athens center will join Columbia's network of Global Centers in Amman, Beijing, Istanbul, Mumbai,

Nairobi, Paris, Rio de Janeiro, Santiago, and Tunis. The centers serve as the University's physical and intellectual presence around the world, supporting faculty work and providing students unique educational opportunities.

"From their inception, the centers and their teams have been immersed in activities that address global challenges, from economic inequality to human rights to the refugee crises to the COVID-19 pandemic," says President Lee C. Bollinger.

At the Athens center, members of the Columbia community will have opportunities to work with local academics and practitioners in areas such as classics, business, climate change, health, and migration.

NEW COMMISSION ON THE HISTORY OF RACE AND RACISM ESTABLISHED

In December, President Lee C. Bollinger announced the creation of the President's Commission on the History of Race and Racism at Columbia University.

Guided by a commitment to historical accuracy and inclusivity on campus, the faculty-led body will assess and establish guidelines for existing and future symbols and representations at Columbia, placing them in historical context and their relationship to racism.

The commission is the latest outgrowth of the Columbia University Antiracism Initiative, launched in the wake of George Floyd's murder in 2020. It will be led by codirectors Mabel O. Wilson '91GSAPP, the Nancy and George Rupp Professor of Architecture, Planning, and Preservation and a professor in the Department of African American and African Diaspora Studies, and Ira Katznelson '66CC, the Ruggles Professor of Political Science and History. Members will include Trustees, faculty, alumni, and other stakeholders.

One of the commission's first projects will be to support the expansion of the Columbia University and Slavery project, in which undergraduate students research and publish their findings about the University's historic ties to slavery and anti-slavery movements. Students working on the project were recently asked to produce public displays that soon will mark campus buildings where race-related incidents occurred in the past.

"Columbia is highly regarded for its diversity, but it's important to recognize that this was not always the case," says Trey Greenough, a General Studies student who developed historical materials for Furnald Hall, where in 1924 white students burned a cross to protest the presence of a Black student resident. "The path that led to Columbia's current demographic composition was hard fought and riddled with discrimination. The building-markers project is a phenomenal way to begin educating the Columbia community about these historical nuances."

INSTITUTE FOR IDEAS AND IMAGINATION RECEIVES \$7.5 MILLION GRANT

Columbia's Institute for Ideas and Imagination, which promotes new ways of thinking about art, scholarship, and knowledge at Columbia's Global Center in Paris, has received a \$7.5 million grant from the Stavros Niarchos Foundation.

The funding from the foundation, which has been among the institute's major donors since its launch in 2018, will support the institute's fellowship program while endowing its directorship and a lecture series, *Rendez-vous de l'Institut*.

To date, the Institute for Ideas and Imagination has hosted more than forty yearlong fellowships that bring scholars and writers together in Paris to pursue their own work while participating in collaborations that foster artistic and intellectual innovation. The current cohort includes writers and translators from Greece, the UK, and France; filmmakers, composers, and photographers from Peru, the Philippines, and South Africa; and Columbia faculty working in law, philology, music, architectural history, and anthropology. In addition, the institute partnered with Columbia's Harriman Institute and others to



Reid Hall, the home of Columbia's Global Center in Paris.

offer four residencies specifically for Ukrainian writers, journalists, and artists for the 2022–23 academic year.

"The Stavros Niarchos Foundation's gift is transformational," said Mark Mazower, a Columbia historian and the institute's director. "It confirms the Institute for Ideas and Imagination in its core mission of bringing together the worlds of scholarship and the arts, while enabling us to enhance our international impact at a time when we need more than ever to find new ways of communicating ideas that matter."

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BOOKS

Diary of a Misfit

By Casey Parks '18JRN (Knopf)

Casey Parks '18JRN never expected that coming out to her family would be easy. So it wasn't much of a surprise when the pastor of her Pentecostal church asked God to kill her in front of the entire congregation, or when her mother sent her an e-mail saying that Parks made her want to throw up. But what she never could have imagined was support from her grandmother, a "tough, foul-mouthed" woman from the tiny town of Delhi, Louisiana, who quietly revealed to Parks that she had grown up across the street from "a woman who lived like a man."



Parks first learned about Roy Hudgins in 2002, long before trans rights were on the political agenda or pronouns appeared in anyone's e-mail signatures. At that time, she was a college student in Jackson, Mississippi, trying to reconcile the feeling of kissing a girl for the first time with her Bible Belt upbringing. She was curious about Roy — who mowed lawns and

played country music and who, her grandmother confided, had once been the most important person in her life. "Everyone loved Roy, because he was a good, Christian person," Parks's grandmother said. That resonated deeply, writes Parks. "I wanted to believe that people would accept me just because I was good."

Parks didn't have room in her life then for anyone's story but her own. But seven years later, after moving to the "lesbian paradise" of Portland for a dream job as a reporter for the *Oregonian*, Parks decided to make good on a promise to find out what had happened to Roy, with whom her grandmother had lost touch in the 1950s. "Roy gave me a reason to call my grandmother. He gave me a reason to go home."

Parks was too late; during those seven years, Roy had descended into dementia and died. But over the next decade, Parks made dozens of trips back to Delhi (pronounced "DELL-high"), talking to everyone she could find who had known him. Eventually, those trips became her first book — an astounding blend of journalism and memoir that paints a moving portrait of not one but two misfits and of the places they called home.

On her trips to Delhi, Parks learned of the dark mysteries bookending the quiet life of Roy Hudgins. The first was about his origins: Roy was raised by an adoptive couple who had always dressed him as a boy. Could that be because they had kidnapped him from an abusive family and needed to keep him in disguise? The second was about his death in a Delhi nursing home, a place where he was tragically misunderstood (a story about the staff putting him in a pink sweatsuit breaks Parks's heart, and ours). How did he really die?

Parks grapples with these unknowns, trying to determine whether Roy's identity was driven by nature or nurture and whether his community betrayed him in the end. But these mysteries are not what drives Parks's reporting or this remarkable book. Rather, the most poignant questions she asks are the simplest — stand-ins for her own fears and anxieties. Was Roy happy? Did his life have meaning? Did he have people who loved him?

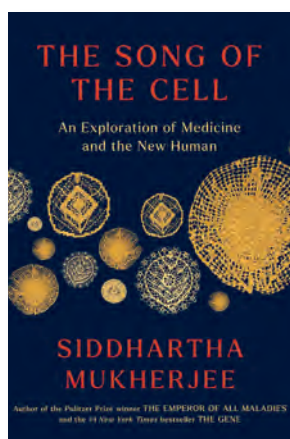
And so, as we learn about Roy, we also learn about Parks. About her deeply complicated relationship with her mother, Rhonda Jean, a brilliant woman tormented by the suicide of her first love and ruined by her addiction to a potent opioid nasal spray. About the church that was a refuge until it wasn't. About how she sometimes felt too gay for Louisiana but too Southern for Portland. About her lifelong fear of being alone, until she found someone who quieted it. "Maybe something would always be missing," writes Parks. "But I could patch those holes by creating a new and better life."

When Parks started traveling to Delhi, she hoped that the project might end up as a podcast or radio story. Then she befriended two filmmakers and began bringing them along on her trips to Louisiana, thinking that it might become a documentary. But in 2017, Parks started a journalism program at Columbia, where her mentor, *New York Times* journalist Andrea Elliott '99JRN, recommended that Parks apply for Samuel Freedman's legendary book-writing class.

How lucky we are that she did. Parks's prose is honest, vulnerable, and beautifully rendered. At one point in the book, Parks sits at a gay bar in her college town of Jackson and wonders if Roy ever felt the sense of community that she felt there. "As far as I could tell, he never had any role models to show him how one moves through life as a misfit." With this book, Parks becomes what Roy always needed — a hopeful voice for anyone who feels like they don't belong. — *Rebecca Shapiro*

The Song of the Cell

By Siddhartha Mukherjee (Scribner)



Cells are the building blocks of living things: we learn this as early as elementary-school science class. But for many of us, our knowledge stops there. In *The Song of the Cell*, oncologist and Pulitzer Prize-winning writer Siddhartha Mukherjee shines a spotlight on these tiny, miraculous units, delving into the history of their discovery, the myriad medical breakthroughs they have made possible, and the hope they bring for the future.

This is Mukherjee's fourth nonfiction book and in some ways his most audacious, as the subtitle, "An Exploration of Medicine and the New Human," suggests. He starts the book not in a modern medical lab but in seventeenth-century England, where a scientist named Robert Hooke looked into a makeshift microscope at a slice of cork and saw a "great many little boxes."

From there, Mukherjee, also an assistant professor of medicine at Columbia, takes us on a ride through what is essentially the history of modern biology, chronicling not just the triumphs but also the failures, hubris, and conflicts necessary for scientific progress.

Though focused on a singular microscopic entity, the book's contents are sprawling. Divided into six parts, Mukherjee's account starts with the basics of the cell and then explores microbes, infections, and the advent of antibiotics. Mukherjee then moves on to the interior anatomy of the cell, cellular reproduction and IVF, and how cells become organisms. From here, he looks at blood: the components of blood, types of blood cells, T cells, and immunotherapy. On a detour into the COVID-19 pandemic, he takes a fresh angle on a now-familiar subject as he considers the role of different kinds of cells in different organs in the body.

The book's title comes from the final section, "Rebirth," which, along with stem-cell therapies and transplantation, injury and repair, and cancer, delves into the "songs" of cells — their messages — which we have yet to fully know or understand. The future of cell biology is exciting, though Mukherjee acknowledges the thorny ethical questions that these developments bring and sets forth the tenets he believes necessary to navigate them:

"As humans entering a new realm of medicine, we will have to learn how to embrace them, challenge them, and incorporate them into our cultures, societies, and selves."



Mukherjee is admired for making complex scientific concepts accessible even to the most apprehensive reader, and he does so again here. Blending patient case studies and anecdotes with medical history and research, he brings the science out of the lab and makes its implications tangible. And along with sweeping insights and knowledge, he shares his abiding wonder at what medicine has achieved and what we still don't know.

In the end, this expansive, immersive book posits a new way forward in medicine thanks to the cell: new ways of treating patients, new medicines to create, new ways of healing, and new ways of understanding ourselves.

— *Jaime Rochelle Herndon '14SOA*

The Hyacinth Girl

By Lyndall Gordon '73GSAS (W. W. Norton)

In October 2019, librarians at Princeton University broke the metal bands around fourteen boxes that had for more than sixty years guarded the secret of T. S. Eliot's relationship with Emily Hale, a friend of his cousin's whom he first met in Cambridge, Massachusetts, when they were teenagers. Over the course of more than a thousand ardent letters,

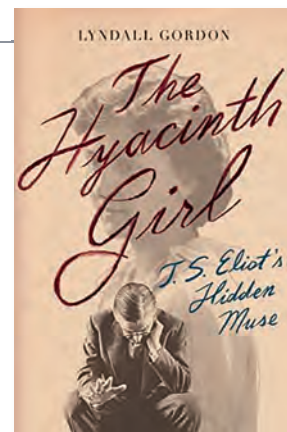
researchers discovered, the poet turned this obscure drama teacher into a mostly unwilling — and always unacknowledged — Beatrice to his questing Dante. Eliot burned almost all of Hale's letters to him, yet literary biographer Lyndall Gordon '73GSAS draws from the one-sided archive an even-handed story with a single question at its heart: what is the relationship between

a great writer's private experiences and his public creations?

It is an especially resonant question to ask of Eliot, whose reputation rests on impersonality, the poet as Olympian observer of cultural fracture and human frailty. Gordon is unapologetically gleeful to find, right at the beginning of the correspondence in 1930, Eliot's clear identification of Hale as *The Waste Land's* "hyacinth girl" — previously, she observes, such conjectures provoked "annoyed reviews from men." And she shows how Hale's acknowledged presence in the poem can open up, rather than close off, avenues of interpretation.

For Eliot, Hale embodied the pull of the past: in her New England rectitude and directness, her straight back and clear voice, she reminded him of his mother. Overcome with desire but paralyzed by self-doubt, he moved to England and, in 1915, married a very different muse, the tormented and tormenting Vivienne Haigh-Wood. It would be nine years before Eliot's relationship with Hale resumed, when, at age forty-two, he wrote her what he called his "first love-letter."

Newly baptized as an Anglo-Catholic, Eliot refused to contemplate divorce, even after separating from Haigh-Wood and then colluding in her committal



to an asylum. When she died there in 1947, he still refused to speak of marriage to the woman to whom, for nearly two decades, he poured out devotion and whom he placed at the core of his finest work. "I am sure there is something most precious and invaluable about unsatisfied desires," he told her. Despite flashes of eroticism, the idea of Hale remained more poetically important to Eliot than the reality. And so he chose his work over his life — and hers.

Inevitably, a gulf opened up between Hale and her "adoring Tom" after he became a Nobel Prize-winning literary celebrity more concerned with posterity than the present. In 1960, after marrying his young secretary, he composed a letter to be unsealed at the same time as the Hale correspondence. "Emily Hale would have killed the poet in me," he declared. Eliot intended this statement to posthumously neutralize Hale's importance. But Gordon makes a compelling case that she mattered: in Eliot's life and poetry, certainly, but also in her own right.

— Joanna Scutts '10GSAS



JACQUES PÉPIN '70GS, '72GSAS, '17HON took his first art class as a student at Columbia fifty years ago, and it's been a cherished hobby for him ever since. In his latest book, *Art of the Chicken*, the celebrated chef, television personality, and author shares paintings of, stories about, and recipes for his favorite ingredient.

READING LIST

New and noteworthy releases

SOCIAL MEDIA, FREEDOM OF SPEECH, AND THE FUTURE OF OUR DEMOCRACY

Edited by Lee C. Bollinger

'71LAW, '02HON and

Geoffrey R. Stone When

radio and television first emerged, the federal government created an agency to oversee the new methods of communication. But social media has no such governing body, and questions about free speech, hate speech, and the spreading of misinformation have risen to the forefront of public conversation. In their timely new essay collection, First Amendment scholars Lee C. Bollinger and Geoffrey R. Stone have assembled a formidable group of more than thirty contributors — including Hillary Clinton, Apple general counsel Katherine Adams, and journalist Emily Bazelon — to tackle this critical issue.

MAP OF HOPE AND SORROW

By Helen Benedict

and *Eyad Awwadawnan* For hundreds of thousands of refugees from Africa and the Middle East, Greece has been a beacon, the gateway to Europe and the promise of a better life. But today, many find themselves in limbo — trapped there for years in what are arguably Europe's worst refugee camps. Columbia journalism professor Helen Benedict teamed up with Syrian writer and refugee Eyad Awwadawnan to tell five of their stories. The profiles are compelling and empa-

thetic — Awwadawnan was himself a resident of a Greek refugee camp — and together form a harrowing depiction of an urgent humanitarian crisis.

COME BACK IN SEPTEMBER

By Darryl

Pinckney '88CC In her

creative-writing seminar at Barnard College, Elizabeth Hardwick liked to tell students that the only reasons to write were “desperation or revenge.” But neither seem to be present in Darryl Pinckney's new book, a beautifully rendered look at his life-altering friendship with Hardwick, which began when he was a student in that seminar in 1973. Hardwick was an unlikely mentor for Pinckney. But, Pinckney writes, “I was pretty sure there was no other writer like her.” Part portrait and part coming-of-age memoir, it's an ode not just to Hardwick but to the vibrant intellectual world she folded Pinckney into.

BROTHERLESS NIGHT

By V. V. Ganeshanathan

'07JRN The Hippocratic Oath says that doctors should do no harm. But what does that mean during war? For Sashi, the protagonist of V. V. Ganeshanathan's stunning second novel, it's a complex question. When the book opens, Sashi is a teenager hoping to study medicine. Her dreams are derailed by Sri Lanka's escalating civil war, so Sashi decides to join a family friend and become a medic for the



militant Tamil Tigers. But with atrocities happening all around her, she struggles to find a way forward. “I want you to understand,” Sashi says. That’s an impossible order, but thanks to Ganeshanathan’s vivid, heart-wrenching prose, we get a sense of the tragic decade-long conflict and of its profound human toll.

FLIGHT

By Lynn Steger

Strong '14SOA It's the first Christmas since their mother died, and adult siblings Henry, Kate, and Martin are convening with their families at Henry's new upstate New York house. But everyone has their mind on another home — the one their mother has just left behind in Florida, with no instructions for the future. Lynn Steger Strong, also the author of the acclaimed novels *Want* and *Hold Still*, is an astute chronicler of family dynamics, particu-

larly when financial interests collide. She showcases that skill again here, creating a cast of lived-in characters and pitting them against one another in unpredictable ways.

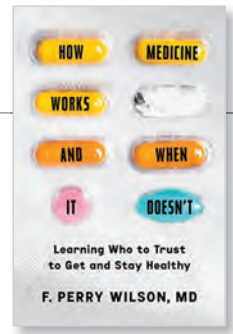
G-MAN

By Beverly Gage

'04GSAS It's nearly impossible to overstate the impact that J. Edgar Hoover had on twentieth-century American history during his almost fifty-year tenure as director of the FBI. In her revelatory new biography — named one of the *Washington Post's* top ten books of 2022 — historian Beverly Gage delves deep into the life and career of this monumental figure. This is Gage's first biography, but she has already proved herself a master of the form, giving us a riveting, impeccably researched portrait not just of this complicated man but also of the changing world around him.

Trust Me, I'm a Doctor

In *How Medicine Works and When It Doesn't*, Yale medical professor and nephrologist F. Perry Wilson '06VPS explains how medical progress happens and why understanding this process can help rebuild the relationship between patients and their doctors



Columbia Magazine: Why don't people trust their doctors?

F. Perry Wilson: I struggle with this a lot. I think that in the modern era there's a selling of certainty. Opinions that sound decisive are amplified. But medicine is an imperfect science, a science of playing the percentages. We don't know for sure if this medication will help, but this is our best option right now.

We're quite conservative in what we say to our patients, but we're competing in a media landscape with people who are essentially promising cures. It's very reassuring to believe, for example, that if you get cancer, you can just take a megadose of vitamins and you'll be cured. It's not true, and it's not honest, but it's really attractive to people. Medicine is complicated, and there are no magic bullets, just better and worse choices.

CM: Your discussion of the "illusory truth effect" — that people are likely to start believing something if they hear it enough — was a good explanation of why some people start to believe crazy theories when they're bombarded with them online. Short of censorship, how can that be curbed?

FPW: That's how our brains work. It's well documented that if you hear the same statement again and again, you're more likely to believe it's true. And that's how Facebook and Twitter work too. People retweet and forward things that confirm a worldview they're invested in: "COVID isn't real." "The vaccine is tracking you." I'd love to learn more about how these algorithms work, and I'd love to see more choice on the part of users about how this information is delivered.

CM: You note that one barrier in the patient-physician relationship is the exorbitant cost of medical care resulting from insurance and pharmaceutical-company practices. What do you think is the way forward?

FPW: I would love a single-payer system, which is used in every developed country in the world and which results in better outcomes for less cost than in the US. But the US is not Europe. We're a more conservative, more libertarian-leaning country. One possibility is all-payer rate setting, in which a hospital or health-care provider charges the same price for the service no matter who pays. It's done in the state of Maryland already. But the status quo is unsustainable. That's hard to argue with, even from the right. The rate of expenditure, growth, and cost is unacceptable to everyone, so we will see change.

CM: What can be done to help laypeople learn to assess medical information and advocate effectively for their own health?

FPW: What we really need to teach is reasoning and critical skills, so people look at more than just the headlines.

The book talks about causality, which is so critical to understanding medicine. My definition of causality is: if A causes B, then changing A changes B. People should be taught to understand the difference, for example, between a correlational study that says that drinking alcohol is linked to lung cancer and a study that says smoking causes lung cancer. The causal link is smoking — alcohol doesn't cause lung cancer directly, but people who drink may be more likely to smoke. Changing smoking habits changes lung-cancer rates, but changing drinking habits doesn't.

CM: Systemic constraints have limited the amount of time doctors can spend with their patients, and the doctor-patient relationship has suffered. What can physicians do to restore trust?

FPW: I think we've had our blinders on. We've medicalized our interactions with patients. We tend to ask, What's your condition? Then: What's the medication that treats this condition? When you only have ten minutes, that's maybe all you can do. But we've sort of abdicated our role in being a holistic advocate for our patients' health to focus on this very pharmaceuticalized approach to medicine.

There's a path here to build trust again between patients and physicians. Part of that is through rationality. Part of it is also through empathy. Physicians used to be management but are now labor. As of 2021, 70 percent of all physicians in the United States were employed by hospitals or corporations. I want doctors to remember that this is still a profession about human relationships. We on the physician side have to move closer to our patients.

— Beth Weinhouse '80JRN

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Shooting Stars

A Columbia telescope changed how we see the world

One day in 2004, John Briggs, an astronomer and antique-telescope collector in New Mexico, got a call from his friend Joe Patterson, a professor of astronomy at Columbia. The two had met in the early 1970s in the Mojave Desert, where Briggs attended an astronomy camp for teenagers that Patterson, a grad student at the time, had founded. (Briggs's bunkmate in the summer of 1973 was another young stargazer named Neil deGrasse Tyson '92GSAS.) Now Patterson informed Briggs that a telescope built by Lewis Morris Rutherford 1887HON, which the University had loaned out to the Smithsonian Institution years earlier, had been returned to Columbia in a giant crate. There was no room for it in Pupin Hall or anywhere else, and the astronomy department was seeking a worthy custodian for the artifact. And so Patterson asked his former camper if he would like to add the Rutherford telescope to his collection.

"I was like, 'Uh ... yes,'" says Briggs, a friendly, voluble encyclopedia of telescopic lore. "I had never seen it, but I sure as hell knew about it and about Rutherford and his scientific accomplishments."

In 1856, when the night skies of Manhattan appeared much starrier than they do today, Lewis Rutherford, a wealthy lawyer whose great-grandfather, Lewis Morris, had signed the Declaration of Independence, constructed, in the garden of his house at East 11th Street and Second Avenue, the largest private observatory in America. Two years later, the amateur astronomer and telescope builder became a Columbia trustee and began work on his masterpiece: a telescope with a thirteen-inch lens and an eyepiece that he ingeniously rigged with a camera, creating, essentially, a huge telephoto lens.

Soon after, Rutherford, who had practiced law with Peter Jay 1794CC and Hamilton Fish 1827CC, turned his attention away from jurisprudence and toward lenses, plates, emulsions, measuring devices, and the higher math of astrophysics. For twenty years he trained his telescopes on the moon, sun, planets, and stars, producing hundreds of startlingly revelatory images, including his famous 1865 photograph titled *The Moon, New York*.

"Rutherford was among the best astrophotographers of his day," says Briggs. "And this particular telescope, which was his largest and greatest, was the first to photograph the solar granulation, which covers the sun's surface."

Rutherford also pioneered astronomical spectroscopy, which measures the spectrum of electromagnetic radiation emanating from stars — the key to identifying their physical properties — and was among the first to publish a classification of the different patterns of light observed in different stars.

That a self-taught backyard astronomer should achieve such scientific heights rankled his formally trained con-

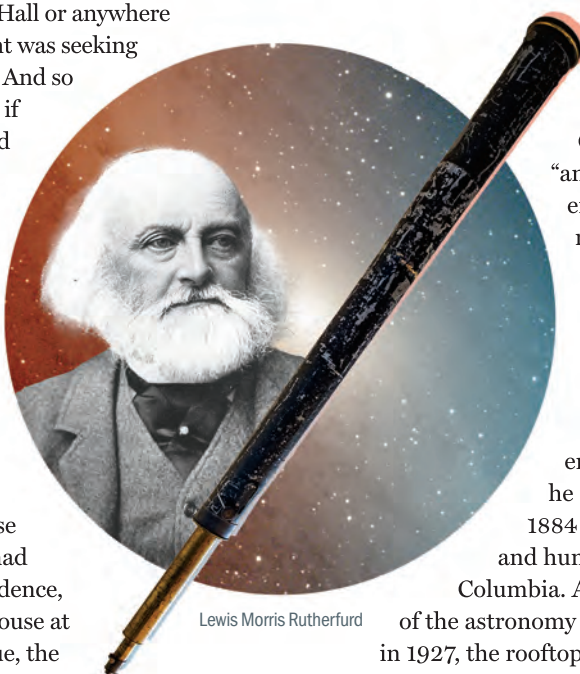
temporaries. "He must be recognized as the father of celestial photography," wrote the astronomer Benjamin Gould, a friend of Rutherford's, "and in spite of the cold indifference with which his first achievements were regarded by most astronomers, he kept steadily to his mission with an unostentatious disregard of obstacles until he saw it crowned with full success."

Failing health caused Rutherford to abandon his work, and he made his last prints in 1877. In 1884 he donated his instruments and hundreds of photographic plates to Columbia. After Pupin Hall, the new home

of the astronomy department, was completed in 1927, the rooftop observatory was eventually

named for Rutherford. Today, Rutherford's revolutionary telescope resides in a converted gymnasium in Magdalena, New Mexico, that houses Briggs's collection of antique telescopes. It's the crown jewel of what Briggs calls his Astronomical Lyceum.

Rutherford died in 1892 at the family estate outside Hackettstown, New Jersey, called Tranquility. The celestial-minded will recognize that it shares its name with the site on the moon where, in 1969, astronauts Neil Armstrong and Buzz Aldrin stepped foot ("Houston, Tranquility Base here — the Eagle has landed"). Some might say it's a coincidence, but others see it as proof that for Lewis Morris Rutherford — and his telescope — the stars had a way of aligning. — *Paul Hond*



Lewis Morris Rutherford

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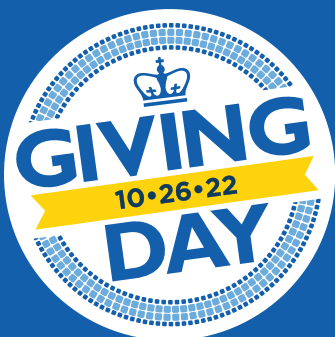
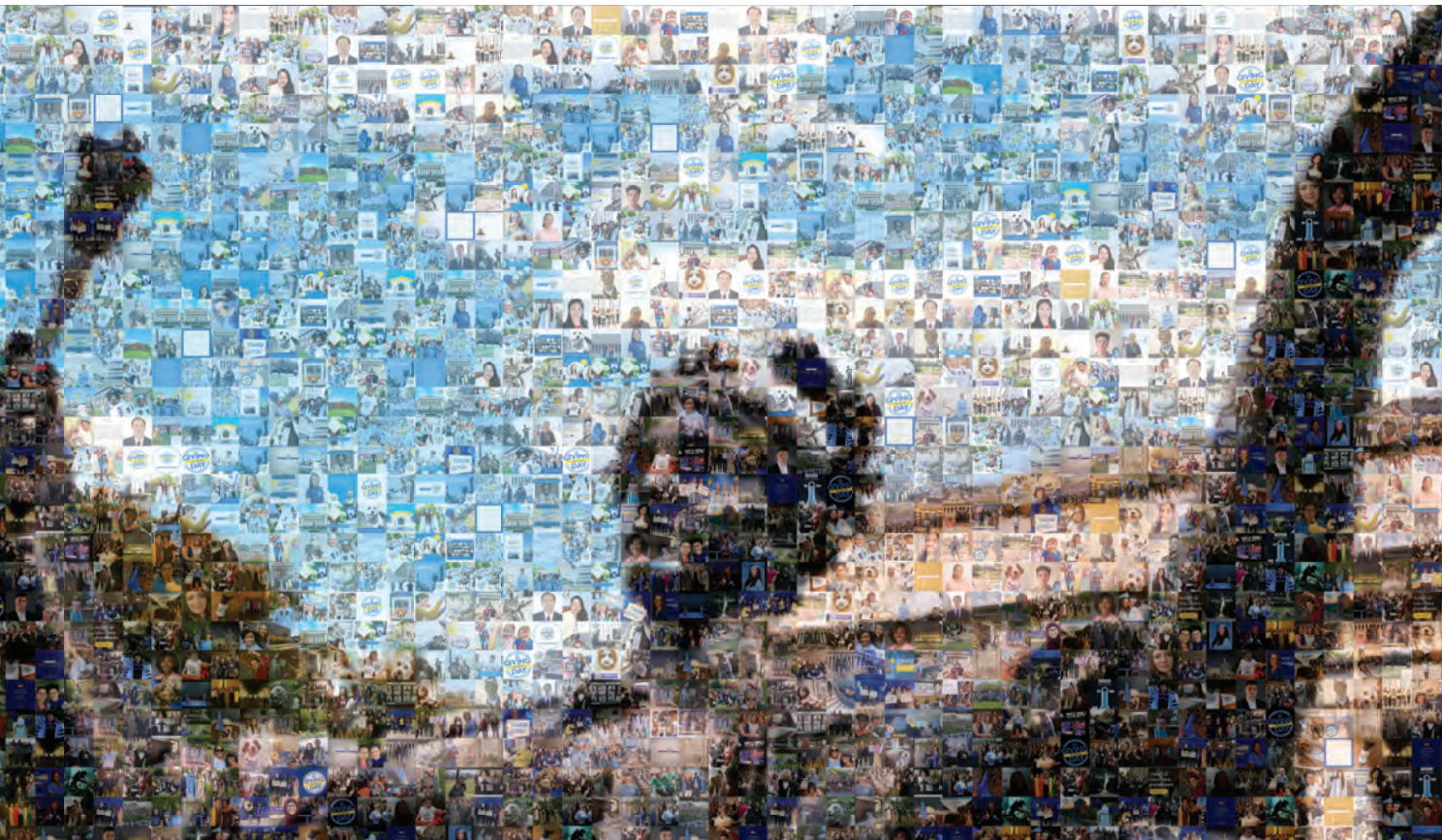


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¹ Cambridge Associates, Venture Capital Benchmarks, March 31, 2019.

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