

FALL 2018

COLUMBIA

MAGAZINE

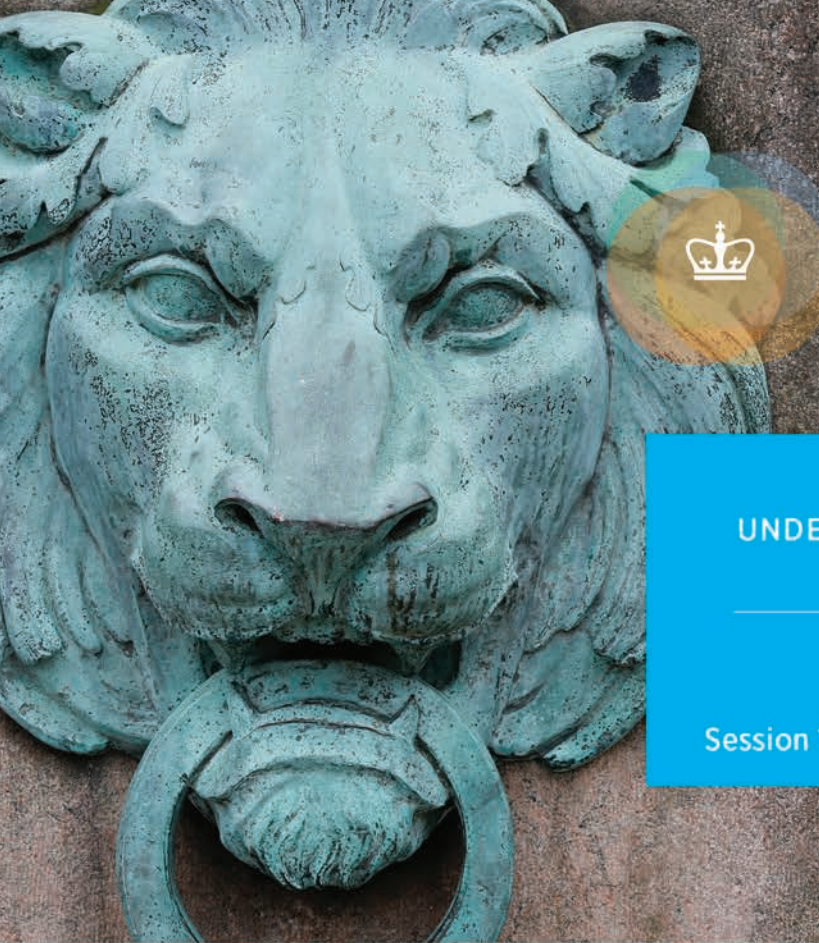
COLUMBIA MAGAZINE



THE GREAT UNRAVELING

Is the US electoral system coming apart at the seams?

FALL 2018



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Take a quiz on some of Columbia's famous
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 **COLUMBIA UNIVERSITY**
IN THE CITY OF NEW YORK



A GIFT KEEPS GIVING

What a superb publication we received from you! The medical-data feature ("From Code to Cure," Spring/Summer 2018) was brilliant, the Tracy K. Smith piece ("Poet in Motion") was also wonderful, and so were several of the short entries.

Many years ago, my wife Marcia and I gave a small sum to fund a PhD program in the art-history department. Some of its graduates still remain our friends today. That was our only connection to Columbia, and because of it we have received your excellent magazine all these many years. Our gift has been repaid many times over.

John A. Friede
Peterborough, NH

BEYOND THE UNIVERSE

I agree with Columbia research scientist Anna Ijjas when she suggests that our universe wasn't born in a

one-time explosion but has always been expanding and contracting ("Was the Big Bang Really a Big Bounce?" Explorations, Spring/Summer 2018). I am not a scientist, but I have always questioned those trying to find the answers to existence.

For the Big Bangers: where did the tiny, intense speck of matter come from? An eternal waxing and waning of the universe makes more sense: no beginning, no end. We humans, confined to a time-space existence, cannot comprehend either infinity or eternity. The universe has no boundaries, for if it did, what would be beyond the edge?

For those seeking answers, keep trying!

Helen Cornell Koenig
'43BUS
Bernardsville, NJ

The article about Anna Ijjas's research surely exemplifies that mixture of math and imagination that leads to new realms of understanding. What a wonder it will be when

humankind discovers physics we have yet to even imagine. It is so exciting to live in this age of research and discovery.

G. Lynn Thorpe '77LAW
New Rochelle, NY

POEMS, PLEASE

While I am an appreciative reader of your redesigned magazine, I have been lamenting that poems no longer seem to be part of the editorial content. I was therefore pleased to see the feature article on poet Tracy K. Smith in your most recent issue ("Poet in Motion," Spring/Summer 2018). I hope this may initiate a return of poetry to your pages. Columbia has a large and distinguished group of alumni who are published and teaching poets, as well as notable faculty poets, past and present. One way of honoring that tradition would be to publish a poem in each issue of *Columbia Magazine*.

Jeanne Marie Beaumont
'90SOA
New York, NY

FEEDBACK

MEDICAL MYSTERY

Columbia Magazine had a great cover illustration of a caduceus. But there was no information about the artist or process. Please tell us more.

Frank Margolis
'64GSAS
Baltimore, MD

The image was created by Megan Berkheiser of Pushart studio, in Savannah, Georgia. The artist sourced cables, motherboards, and other computer parts and then constructed them into a three-dimensional sculpture. You can find more information at Pushart.com. — Ed.



FEEDBACK

TWO RUTHS

The marvelous Ruth Bader Ginsburg is indeed succinct, direct, and appropriate in thoughts and language (“Supremely Quotable,” College Walk, Spring/Summer 2018).

Early in their long acquaintance, my wife, Ruth Lubic, a nurse-midwife and holder of three Teachers College degrees, provided the Ginsburgs with instruction in participatory childbirth. It was reported as follows in the *Washington Post Magazine* of May 27, 2007:

“On Ruth [Lubic]’s advice, Ginsburg delivered her second child without medication. Of the 1965 birth of her son, Ginsburg says, ‘I felt so satisfied, even triumphant.’ Ginsburg, just the second woman to sit on the high court, marvels at Ruth’s accomplishments and how hard she is willing to fight for her cause. ‘I could never do what she does,’ Ginsburg says. ‘She could probably do what I do if she goes to law school.’”

So we add to the RBG persona warmth and an engaging modesty.

William Lubic ’49CC
Washington, DC

MARCHING TO A DIFFERENT DRUM

John Gadjó’s letter “Ba(n)d Behavior” (Feedback, Spring/Summer 2018) argues that Columbia should make an effort to improve the quality of the marching band to accompany its push to improve the football team. It certainly would be interesting to see the University

provide the band with money, recruiting, and practice facilities. But that support is not going to come any time soon, and, frankly, it would detract from the band’s uniqueness.

The band is the most inclusive group on campus, taking in anyone who has the spirit to participate, including students from Barnard, General Studies, Columbia Engineering, Columbia College, and members of every race, political bent, and ethnic group. The band does not discriminate against anyone, including those who can’t actually play an instrument. The band supports all the teams — not just football and not just when they are winning. Its routines and chants are often political, biting, and crafty, and sometimes crass, sexually suggestive, and self-deprecating. The band’s signature “scramble band” format was developed precisely because the members lacked the time and resources to march in perfect formation while playing traditional band tunes. Instead, they exercise their own style, which is precisely what Columbia is all about.




DID YOU SEE US AT COMIC-CON?

In a first for a university magazine, *Columbia Magazine*’s story “A Life in Comics,” published in the Summer 2017 issue, took home the Will Eisner Comic Industry Award for best short story at the annual Comic-Con convention in San Diego. The winning work, by Nick Sousanis ’14TC, tells how Butler librarian Karen Green ’97GSAS became Columbia’s first curator for comics and cartoons.

Those who wish that the band would be more traditional must remember that the admissions office strives to admit a class of nonconformists, and the band reflects this perfectly. We should be proud of that.

Kevin G. Chapman ’83CC
West Windsor, NJ

.@columbiomag always does a bang up job with each issue. I really dig this season’s interview with @Freakonomics host (and Columbia alum) Stephen Dubner. Well done! #columbiauniversity

 **Alley Lyles ’13GSAPP**
@alleylyles_

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	School of Pharmaceutical Sciences
GS	School of General Studies	PS	Vagelos College of Physicians and Surgeons
GSAPP	Graduate School of Architecture, Planning, and Preservation	SEAS	Fu Foundation School of Engineering and Applied Science
GSAS	Graduate School of Arts and Sciences	SIPA	School of International and Public Affairs
HON	(Honorary degree)	SOA	School of the Arts
JRN	Graduate School of Journalism	SPS	School of Professional Studies
JTS	Jewish Theological Seminary	SW	School of Social Work
KC	King’s College	TC	Teachers College
LAW	School of Law	UTS	Union Theological Seminary
LS	School of Library Service		

“There’s something special about being part of one unifying day when alumni from all parts of the world and all stages of life come together. **Stand with me on October 24** to build a better future for students and a better world.”



**Rita
Pietropinto Kitt**

'93CC, '96SOA

Columbia Alumni
Association (CAA)
board chair



PHOTO BY: BARBARA ALPER

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COLLEGE WALK

NOTES
FROM 116TH
STREET AND
BEYOND



A Bookish Birthday

At 125, Columbia University Press has its cake and eats it too

The cake, encased in a plain cardboard box, was wheeled on a metal cart into the titanic exhibition space of the Javits Center. With the 2018 Book-Expo America in full swing, the cake glided under the hanging banners of publishers large and small, along avenues formed by the stalls and tables of hundreds of exhibitors, past queues of badge-wearing conventioners, past Ruth Westheimer '70TC, who was signing copies of *Roller-Coaster Grandma: The Amazing Story of Dr. Ruth* (for ages eight through twelve), before arriving at the rarefied precincts of aisle 2700, home of the university presses.

The black-clad caterer pushing the cart stopped at the booth of Columbia University Press (CUP), located next to Harvard and across from Yale, Princeton, MIT, and Johns Hopkins. CUP, the fourth-oldest continuously operating university press (Hopkins was the first) was founded in 1893 by president Seth Low 1870CC and future president Nicholas Murray Butler 1882CC, 1884GSAS. The 125th would be observed with campus parties and an exhibit in Low Rotunda, but none of the

treats for those occasions would make so grand an entrance. The caterer removed the cake from the box and set it on a bare table next to floor-to-ribs stacks of copies of *The Madhouse Effect: How Climate Change Denial Is Threatening Our Planet, Destroying Our Politics, and Driving Us Crazy* and *The Best American Magazine Writing 2017*. CUP sales director Brad Hebel took up a yellow-handled cake knife and sank the blade.

The president and director of CUP, Jennifer Crewe '79SOA, was in meetings, pinballing between the Javits Center and the CUP headquarters, tucked away on West 62nd Street near Lincoln Center. Crewe, who became director in 2014 — the first woman to head up an Ivy League university press — leads a staff of sixty in a humming paper-filled warren that includes a bookcase dedicated to all twenty-seven volumes of *The Papers of Alexander Hamilton*.

The press produces some two hundred books a year — about a quarter by Columbia faculty — and has a history of publishing eminent thinkers like philosophers Julia Kristeva and Gilles Deleuze, critics Jacques Barzun '27CC, '32GSAS and Lionel Trilling '25CC,

'38GSAS, and Asian Studies pioneers Wm. Theodore de Bary '41CC, '53GSAS, '94HON and Donald Keene '42CC, '49GSAS, '97HON. Three US presidents — Wilson, Taft, and Truman — have been CUP authors. The press's first book, published in 1894, was *Classical Studies in Honour of Henry Drisler* (Drisler 1839CC was a Columbia professor of classics). "We were founded as a separately incorporated, not-for-profit company to help disseminate the knowledge generated at Columbia," says Crewe. "That meant publishing field-changing, research-extending books that no commercial publisher would touch."

Today, CUP has an operating budget of \$11.5 million, of which \$1 million comes from the University. The rest is from sales. "We tweak our list so that we have enough books that will earn a surplus to offset works of scholarship that we know will lose money."

When Crewe began working at CUP part-time as a graduate student in 1978, the press's biggest seller was *The Columbia Encyclopedia*, which helped subsidize monographs on Tunisian cinema and Hegelian thought in France. Back then, the office was in McBain Hall, a freshman dorm on West 113th Street. After graduation, Crewe worked for two commercial publishers, then returned to CUP in 1986 as humanities editor. The press moved to West 62nd Street in 2000, just as the rise of the Internet caused the reference market to tank. "The University had to step in and bail us out," Crewe says.

When Crewe's predecessor as director, James D. Jordan, retired in 2013, Columbia conducted internal and external reviews, and both concluded that CUP should become part of the University — an idea that Crewe had always supported. And so on January 1, 2016, the press and the University were officially integrated, with provost John Coatsworth ratifying Low Library's commitment to the union by assigning Crewe the additional title of associate provost.

Crewe sees big advantages to the relationship, including closer intellectual ties with the University and faculty, and an opportunity for CUP to start its own fundraising project with the help of the Office of Alumni and Development. That the printed word remains popular in the digital age is icing on the cake.

Crewe never did get a slice of the BookExpo birthday dessert. It was chocolate, the size and shape of an oversize coffee-table book, the dark frosting emblazoned in the center with a white CUP logo and the number "125." As Brad Hebel cut the slab into perfect little squares, an imperceptible signal went out to the librarians, bloggers, salespeople, agents, and paper-company reps, who now gathered at the CUP stall for a needed sugar boost. Some had seconds.

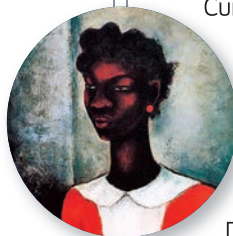
As Harry Truman, whose lectures at Columbia in 1959 were published by CUP as *Truman Speaks*, once said: "There's nothing better than cake but more cake."

— Paul Hond

THE SHORT LIST

VIEW Works by Édouard Manet, Henri Matisse, and Charles Alston '29CC, '31TC, among other artists, are featured in **Posing Modernity**, an exhibition that explores the evolving representations of Black figures in modern and contemporary art.

Curated by Columbia art-history professor Denise Murrell '14GSAS. Wallach Art Gallery, October 24, 2018–February 10, 2019. wallach.columbia.edu



Charles Alston, *Girl in a Red Dress*, 1934.

DISCOVER

Don't miss this annual kid-friendly opportunity to meet Columbia scientists at the **Lamont-Doherty Earth Observatory Open House**. Tour labs, participate in hands-on activities, and learn about extreme weather. October 13 at 10 a.m. in Palisades, New York. openhouse.ldeo.columbia.edu

CHEER Calling all Lions fans! Starting this fall, **ESPN+**, the new streaming service from ESPN, will air over 1,100 Ivy League sporting events, including conference football and basketball games. Subscriptions cost \$4.99 per month. plus.espn.com

VISIT Alumni artists reflect on the scientific and social impact of climate change in **Indicators**, an exhibition at the Storm King Art Center co-curated by Sarah Diver '16GSAS. See work by Hara Woltz '06GSAS; Allison Janae Hamilton '10GSAS, '17SOA; Una Chaudhuri '82GSAS; and David Brooks '09SOA. Through November 11 in Cornwall, New York. stormking.org/indicators

READ **Columbia Global Reports** releases three books this fall. In *The Curse of Bigness*, Columbia Law School professor Tim Wu unpacks the "oligopoly age"; in *The Nationalist Revival*, journalist John B. Judis explains the rise of authoritarian leaders; and in *Saudi America*, Bethany McLean reveals how fracking influences geopolitics. Buy copies or subscribe. globalreports.columbia.edu

School Spirits

A student-run business raises the bar

It's nighttime and Riverside Church is quiet, but in a large room on the fourth floor, thirty people sit at two long tables, facing an altar-like tableau of glass bottles, behind which stand five Columbia students in black T-shirts that say "Columbia Bartending Agency." Spirits are being moved — poured, mixed, and shaken — and the clean-cut CBA instructors, who could pass for the peppy counselors of a church youth group, are, if you will, the cocktail clerics, even if not all of them are of legal drinking age (in New York you can serve alcohol at age eighteen).

CBA, founded in 1965 with other student-run businesses as part of a University initiative, is an independent entity, offering a course in "mixology" that is open to the public and held throughout the year. Full-time Columbia students, who make up most of the classes,

can, after completing the course, join CBA as bartenders and get freelance gigs around town.

For instructor Emery Jamerson '15CC, CBA has been a godsend. A convivial fourth-year med student at VP&S, Jamerson ("Like the whiskey, but with an R") has been bartending with CBA for seven years. He has mixed Manhattans in Upper West Side brownstones and made Cosmos at corporate headquarters. He loves talking to people and helping them celebrate, but he begins the class with a sobering fact. "If you over-serve somebody and they do something destructive," he says, citing New York State's Dram Shop Act, "you as a bartender can be legally responsible for the damage that that person does." Good to know!

Safety is lesson one. The instructors talk blood-alcohol content and intoxication-rate factors. Anna Alonso, a linguistics major,

Kubrick's Columbia



"By the time I was twenty-one I had four years of seeing how things worked in the world," filmmaker Stanley Kubrick once told the *New York Times*. "I think if I had gone to college I would never have become a director." But Kubrick did go to college, sort of: in 1948, as a young staff photographer for *Look* magazine, Kubrick was dispatched to Morningside Heights to shoot university life. Kubrick had joined *Look* in 1945 as a chess-playing, camera-toting seventeen-year-old from the West Bronx, and for the next four years he shot vivid, moody images of street life, circuses, boxers, and lovers, with an arresting theatrical style that clearly foreshadowed his film work. Looking at this photo, taken inside a Columbia laboratory (no, that's not Peter Sellers), it's hard to miss the aesthetic connection to Kubrick's 1964 black comedy *Dr. Strangelove*. An exhibit of Kubrick's *Look* photography, featuring more pictures taken on campus, is on view at the Museum of the City of New York until October 28.

COURTESY OF THE MUSEUM OF THE CITY OF NEW YORK / SK FILM ARCHIVE, LLC

pantomimes the loss of judgment, inhibitions, reaction time, and coordination that signal drunkenness. John Pavlides, a soft-spoken biochemistry major, describes the chemical breakdown of alcohol in the body. As for the delicate business of cutting someone off, Jamerson offers some tips. "You can shift blame," he says. *"Hey, I'm sorry, I would love to serve you, Person Who Is Falling Over and Spilling Drinks, but my manager says I can't."*

With the hazards accounted for, attention turns to the speed rack, that row of vodka-gin-rum-tequila-triple-sec-whiskey-bourbon bottles that a busy bartender must juggle with Whac-A-Mole quickness. Garnish is discussed — Alonso shows how to cut limes — and Pavlides rhapsodizes about the bouquet of crushed mint leaves in a julep.

While nimbleness and a fine-tuned palate make for better barkeeps, the most important quality emphasized in the course is confidence. "We send new bartenders all over the city," says CBA executive director Josh Woodbridge, a financial-economics major, "and they need to be able to talk to people."

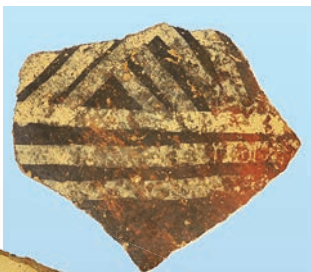
In the second hour, students get their feet wet by attempting to mix a Tequila Sunrise: orange juice, tequila (water tonight: the real stuff comes later), and a drizzle of bright-red grenadine around the edges, to bleed down to the bottom.

For Jamerson, who plans to be an ophthalmologist, bartending doesn't just help pay the rent. "It's really invigorating," he says, "when your job is to help people be happy."

— Paul Hond

GREAT EXCAVATIONS

An archaeologist digs in the archives and pieces together some Columbia history



In 2015, Senta German '99GSAS, a scholar of the Aegean Bronze Age (the period of the pre-Greek civilizations of the Mediterranean, circa 3,000 BC to 1,000 BC), organized a conference at the University of Oxford. German was serving as a teaching curator at Oxford's Ashmolean Museum as part of a Mellon Foundation program to restore the role of artifacts as tools of instruction. Among the speakers at German's symposium was Roberto C. Ferrari, Columbia's curator of Art Properties. That's how German learned about the sherds.

A sherd, short for "potsherd," is a ceramic fragment, and Ferrari told German that a cache of some seven hundred Aegean sherds were packed away in a storage vault in Avery Hall. About half the sherds dated from the Bronze Age, and Ferrari, knowing this was German's specialty, asked her if she would examine these ancient pieces and help Art Properties catalog them.

German began the project in 2016. The sherds had been collected by Clarence Hoffman Young 1888CC, 1891GSAS, who entered graduate school at a time of feverous excitement around archaeology. "For centuries, historians had been scrambling over above-ground classical monuments. It was only in the 1860s, with the advent of the field of archaeology, that they began

digging," German explains. In the 1870s, while Young was a boy in Manhattan, the German archaeologist Heinrich Schliemann found, in Turkey, the ruins of what he claimed was the city of Troy, site of the Trojan War, as described in Homer's *Iliad*. "Until then, no one thought Homer was based on actual history," German says.

At Columbia, Young, electrified by these events, sought out Augustus Merriam, a professor of Greek literature and the first US scholar to devote himself to classical archaeology. In Butler Library's Rare Book and Manuscript Library, German unearthed correspondence between Young and Merriam from the early 1890s. The letters revealed an eager grad student who idolized his teacher and a dynamic archaeologist in need of an assistant. "Merriam sent Young to Greece to take photographs of objects and to make impressions of inscriptions, and that's how Young learned," says German. Young also joined two digs on Crete, and German believes that some of the sherds came from that trip.

Merriam died in 1895, and it was Young, then an instructor in Greek at Columbia, who, German says, "took up the mantle of the guy who's not just reading Plato but looking at objects." Young became a professor of Greek in 1905 and of Greek archaeology in 1919. In letters to

COLLEGE WALK

President Nicholas Murray Butler, Young asked, and received, permission to return to the Mediterranean to collect materials for his students. “He wanted to have a drawer of sherds in his office — a tradition at Oxford and Cambridge,” says German. “Then, while teaching, he could say, ‘Hold on, let me show you.’”

Young retired in 1937. By then, the sherds were in Schermerhorn Hall, in offices and storage cases. At some point they faded from view. The pieces resurfaced in 2005, when students cleaned and numbered them. By the time German got to them, they were in boxes in Avery. German photographed the sherds, measured them, noted their thicknesses, and identified their decorative motifs and the parts of the vessel they came from. A century after their excavation, Young’s Bronze Age sherds are now cataloged and available for research.

Young never became a renowned archaeologist like his hero Merriam. He settled into the role of educator and administrator, a Columbia lifer who attended football games and oversaw entrance exams in Greek and Latin for Columbia College. He died in 1957 at age ninety. In the archives, German found an autobiographical article by Young that suggested a self-written obituary. In it, Young emphasized the importance of teaching.

“That’s where he saw his value and importance,” German says. “These objects are a part of that legacy — bringing the ancient world to life.”

— *Paul Hond*

Voices from Campus

“The scientific evidence of the ill effects of separation is overwhelming ... It is immoral to separate children from their parents in order to send a message.”

— Irwin Garfinkel, dean of the School of Social Work, on the government’s “zero tolerance” immigration policy

“People may just say that they will no longer take race or ethnicity into account, and as factors in admissions. And if they do that then there will be a change in the composition of student bodies and that would be terrible.”

— Lee C. Bollinger on the Trump administrations’s call to end university affirmative action

“We are truth tellers, we are truth seekers, and the best of us have no ideological predilections. The conceit of journalism is that if you merely tell the truth about the world in a democratic society, good things will come out as a byproduct.”

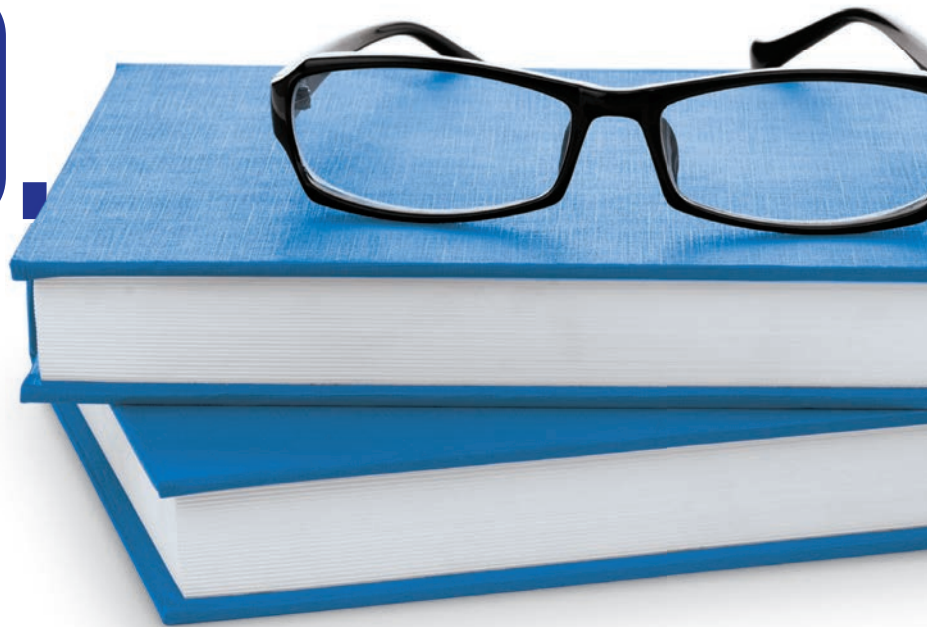
— Neil Barsky ’84JRN, a journalist and filmmaker and the founder of the Marshall Project, at the 2018 J-School Alumni Awards

“The very survival of the planet depends on coming to grips with how we share what we have here. Anyone not committed to that in their souls, I think, is committed to the wrong thing — and perhaps is really committed to evil.”

— Frederick A. Davie, executive vice president of Union Theological Seminary, at a UTS panel discussion



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The background of the entire page is a photograph of ocean waves, showing white foam and blue water under a bright sky. The text is overlaid on this image.

URBAN DESIGN'S NEW WAVE

GSAPP associate professor and MacArthur “genius” fellow Kate Orff is exploring new ways to harness the power of nature and helping communities adapt to the threats of climate change

By Justin Davidson '90GSAS, '94SOA

Photos by Nathan Perkel



Kate Orff, the director of the Center for Resilient Cities and Landscapes at the Graduate School of Architecture, Planning, and Preservation (GSAPP), surveys the industrialized waterfront of New York's Newtown Creek.

Looking out from the Manhattan shoreline

at New York City's rivers and sounds, toward the double harbor, with its great watery foyer and complicated inner chambers, to the Narrows and the ocean beyond, our eyes see little of what's really there. The gaze glides across the steely, undifferentiated plane of water, pausing only when it reaches another urban shore: the lowlands of Red Hook, crowned by gantries, the hunched mass of Staten Island, the hardened podium of Liberty Island, the high-rises of Jersey City. But when Kate Orff scans the same geography, she registers the vista over multiple eons. Peering into the past, she sees a rocky subaqueous terrain full of ridges, vales, reefs, and channels. The present is flatter, and the future ... well, in the future all those landmarks just above the waterline may well be gone.

Orff is a landscape architect, though she might more accurately be described as a waterscape interventionist. She works at the juncture of city and sea, the fragile intertidal zone that urbanization has threatened and that is now, in turn, threatening cities by fading away. Along this damaged shoreline, concrete imprisons wetlands, effluent wipes out entire ecosystems, and river sediment gets swept out to sea without being replenished. The ancient waterscape encircling New York has been smoothing itself out for a century or more.

Orff has set herself the impossible task of restoring this lost topography, along with its oysters, horseshoe crabs, and finfish. Her mission is rooted in her belief that landscape design is regenerative, that it can reshape the natural world to make the built environment safer, saner, and more sustainable. By restoring natural ecosystems, we can help protect an endangered metropolis. Underwater crannies and barrier islands can shatter waves, mitigating the violence of storms. Oyster reefs can clean polluted bays. Marshes can sponge up floodwaters and

release them over time, heading off currents that might otherwise go churning down the streets of, say, Lower Manhattan, to fill basements and subway tunnels.

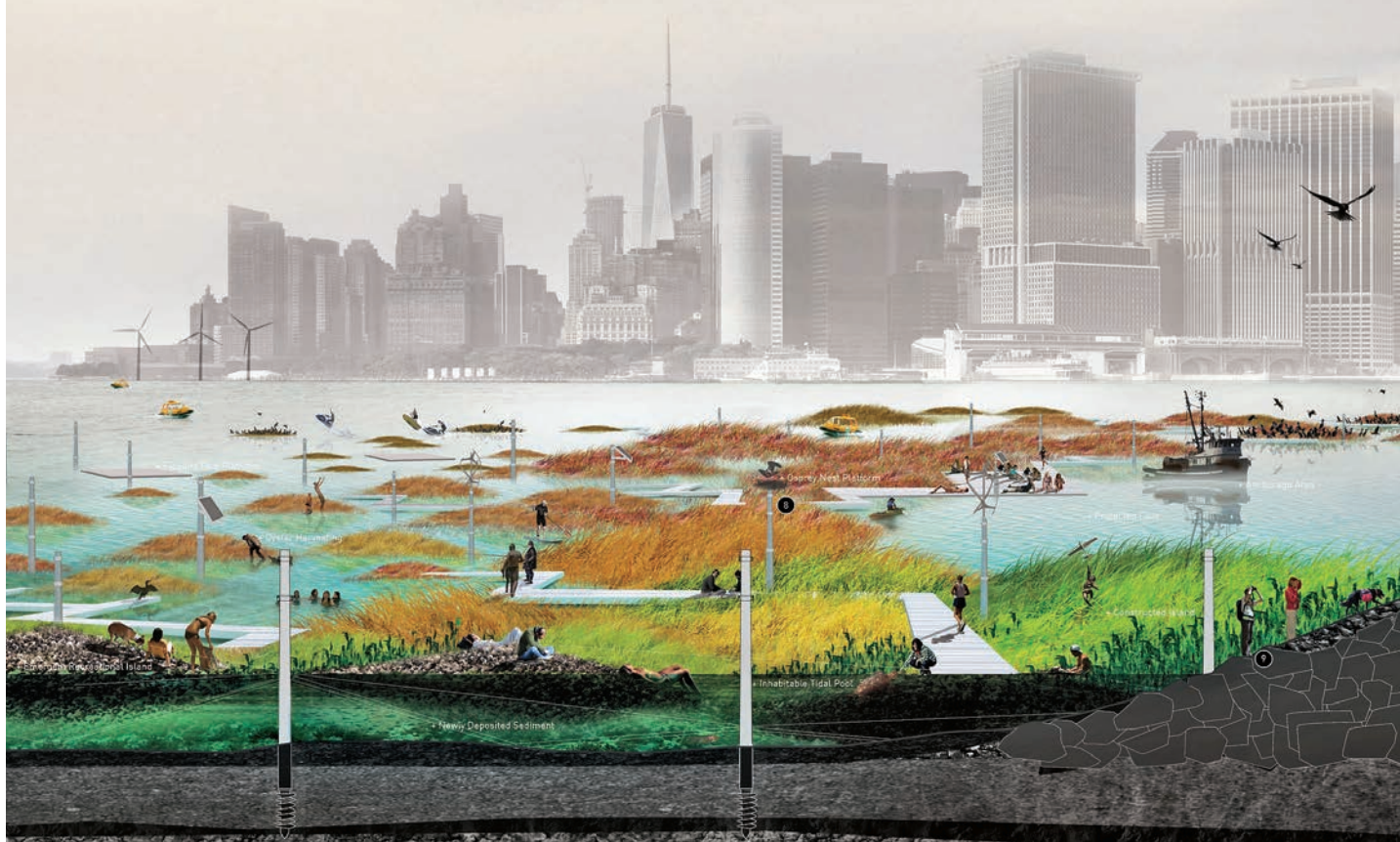
An associate professor at Columbia's Graduate School of Architecture, Planning, and Preservation (GSAPP) and a 2017 MacArthur Fellow, Orff, forty-seven, embodies the environmental conscience of the design profession. As the founder of SCAPE studio, she puts global theories into practice at a manageable scale: restoring a small city park, a stretch of New York coastline. As the director of GSAPP's Urban Design Program, she is trying to terraform a whole institution, recruiting Columbia's lawyers, engineers, climate scientists, sociologists, economists, and policy experts to help solve our environmental challenges when they can, as quickly as they can.

Not content to holler about baleful trends, Orff is ready to fight them. Her favorite projects involve the communal labor of fixing up the shoreline, rock by rock, root by root, reef by reef. It's unglamorous work, requiring patience and an appetite for uncertainty. Unlike a building, a work of landscape architecture generally opens when it's still immature, bare, and vulnerable to erosion. It evolves over time, not always predictably. When an architect designs a skyscraper, developers can foresee the result, schedule a ribbon-cutting for politicians and the press, and then measure the building's success in dollars. By contrast, Orff's current endeavor, Living Breakwaters, a seventy-four-million-dollar pilot project to construct a set of artificial reefs off the southern tip of Staten Island, is a long-term initiative to build what she calls "a calmer, safer, more productive relationship with water." Orff plans to lay down fingers of concrete riddled with nooks and niches, essentially an underwater metropolis for a new population of oysters, horseshoe

crabs, migrating birds, eelgrass, and rock-loving fish. The hope is that these teeming barriers will dampen the assault of storm-pushed waves and at the same time prime the natural cycle that can rebuild the eroded beach. Will the tides cooperate? Will the community embrace the responsibilities of stewardship? Will the next phase get funded? Maybe.

Orff's first serious explorations of landscape and ecology within the field of architecture came in 2010, when her Columbia colleague Barry Bergdoll '77CC, '86GSAS, then chief architecture curator at the Museum of Modern Art, tapped her to participate in a 2010 show called *Rising Currents*. Bergdoll wanted the exhibition "to jump-start a dialogue on the urgency of climate change and rising sea levels among public officials, policymakers, and the general public." Orff reached back to her childhood summers on the Chesapeake Bay and came up with the idea of putting oysters to work in the waters of Brooklyn's famously filthy Gowanus Canal. These industrious little bivalves scrub pollutants from water, and in a project she titled *Oyster-ecture*, Orff envisioned cultivating the creatures in New York's most fetid channel, then seeding harbor reefs, and eventually preparing the way for the return of sidewalk vendors shucking the local catch. Some of the show's reviewers were doubtful. "Because the contributors to this show are young and relatively untested ... there are some slightly hokey elements," wrote the *Times*' architecture critic.

The *Rising Currents* proposals seemed a lot less whimsical after Superstorm Sandy muscled into New York in 2012. MoMA's exhibition looked suddenly prescient, and so did Orff's mollusk-centered proposal. Largely thanks to Rebuild by Design, a federally funded program launched by the Obama administration to help protect coastal communities from nature's increasing violence,



Oyster-tecture, commissioned for the Museum of Modern Art's *Rising Currents* exhibition in 2010, envisions active oyster reefs in New York Harbor.

Orff's project was, as she says, "pushed through an engineering sieve." One result was Living Breakwaters, the Staten Island experiment. Orff thinks of that project not as a culmination but as a toehold in the fight to protect cities from climate change.

Orff grew up in the once-gated suburb of Crofton, Maryland, where she could roam free across an estate bounded by three major roads. Though she spent some weekends sailing along the salt marshes of the Chesapeake Bay, hers was not an especially pastoral childhood. Her closest encounters with nature came tending the box turtle she kept on her porch and working summer jobs at a local garden store. "I wasn't out walking through a field overcome by the sublime landscape," she says. "It was pretty prosaic."

She attended the University of Virginia with vague ideas about becoming an artist, then gravitated to the interdisciplinary program in political and social thought. An energetic undergraduate with clearer ideas about how to reshape society than how to organize her life, she tossed an

assortment of interests — anthropology, women's studies, radical politics, environmental science, sculpture — into an ad hoc curriculum and wrote a senior thesis on ecofeminism. Somehow she wound up in a course on landscape architecture taught by Reuben Rainey '71GSAS, cofounder of the UVA architecture school's Center for Design and Health.

"At first it felt like an art-history class — 'Oh, here's a nice garden in Italy!' — but by the end I understood that this isn't just history; it's a contemporary profession that actual people do."

That slow-mo epiphany propelled Orff to Harvard's Graduate School of Design in the mid-1990s. There she met Rem Koolhaas, the Dutch Yoda of architecture who has achieved global celebrity dispensing gnomish wisdom and developing outlandish designs that sometimes even get built. He took Orff and a small group of students to study the Pearl River Delta in China, one of the world's most complex urbanized ecosystems. Under Koolhaas's tutelage, she internalized the idea of the land as a restless, dynamic thing, and twenty years later she still

treasures her teacher's praise: "Rem said to me: 'You're like landscape itself: fluid, moving, and adaptive.'" She agrees. "I like to take an experience and push it in new directions. I have no fear or anxiety."

Her professed unflappability is occasionally undermined by her obvious sense of emergency. From time to time, Orff starts talking with a throaty urgency, as if she has so many thoughts that she can't possibly fit them all into an ordinary conversation. But she does face down the prospect of terrestrial doom with pragmatic optimism, the attitude of an architect trained to solve problems on time and under budget. "I don't just want to talk about big ideas. I want to ask, what are the fundable, implementable actions we can come up with *right now*?"

Orff moved to New York and started her practice out of her studio apartment near Union Square in 2004, but it was only in 2007 that she made her first hires. By that time she had gotten a part-time job as an adjunct professor at GSAPP, and the affiliation proved transformative.

"I was one of the first landscape architects to set foot in Avery Hall," she

says, “and now I’m riding the slipstream between the academic and the practical, which is incredibly productive. I can test some ideas at the level of the studio. At Columbia I can test others at the global scale.” Rather than start a landscape-architecture program (which Columbia still lacks), she tucked her field into an existing program in urban design. She didn’t want landscape architects talking only to each other.

Amale Andraos, dean of GSAPP, shares Orff’s multidisciplinary aspirations and sees her as one of a corps of architectural thinkers who are expanding the school’s domain. “She’s incredible at weaving things together and thinking across scales. She’s not afraid of thinking about how you actually implement ideas,

“Columbia is ready to be shaken up,” she says. “The arts and sciences are very separated, and I have a role to play in bridging those two worlds.” Orff would like to see specialists in disparate fields forming teams of environmental Avengers. To that end, she has pulled in a \$2.6 million grant from the Rockefeller Foundation to establish the Center for Resilient Cities and Landscapes at Columbia, which she will direct. Keenly aware of the need to harness elite scholarship for the benefit of people across the rapidly urbanizing world, Orff hopes to create a highly pragmatic program that will award a Certificate of Resilience. “It’s targeted to people like middle managers of African cities” — on-the-ground decision-makers who understand it’s sometimes preferable

apartment towers on the Manhattan side of the East River. At their base, SCAPE created a precious square of public space in a neighborhood hemmed in by roads and tunnel entrances. What looks like a pleasant garden is actually a complicated hydraulic machine. It protects against floods, reuses graywater from the high-rises for irrigation, and absorbs storm overflow, storing it in an underground cistern — the whole system celebrated by an ornamental fountain. “It’s like a landscape version of a Chinese dish: water five ways,” Orff says.

The plaza is a handsomely designed patch of nature, but Orff is far more preoccupied by its functionality than its appearance. She recalls her friend Jeanne Gang, an architect and MacArthur Fellow herself, asking her over drinks, “What does a Kate Orff landscape look like?”

“God help me if I can ever answer that!” Orff laughs. “Just take me out back and shoot me.”

She’s happy to delegate questions of style to her staff. “I like to empower other people,” she says. Orff played varsity lacrosse at UVA and also coached a high-school girls’ team, an experience that shaped her leadership philosophy. “Architects never get any business training, but that was mine,” she says. That experience led her to hire talented designers — mostly women — who share her sense of mission. She likes to offer guidance but not obsessive supervision.

Orff infuses her publications with elements of her practice: the focus on process, the team-building, the feedback loop between research and design, the combination of bitter realism and can-do energy. Most architectural monographs feature pictures of extant or imagined buildings caught in gorgeous light and unpeopled glamour. Hers are an entirely different beast.

For her first book, *Petrochemical America*, she collaborated with the photographer Richard Misrach, whose bleak, haunting pictures of industrial landscapes in Louisiana stirred Orff’s apocalyptic imagination. She garlanded the photos with maps, charts, drawings, explanatory texts, and flowcharts explain-



The SCAPE exhibit at the 2018 Venice Biennale. The architectural materials on display will be redeployed to help preserve the salt marsh in the Venetian Lagoon.

but she also has a very strong ethical and design sense. It’s never either/or with Kate.” Appointing her to lead the urban-design program, Andraos says, is a measure of “how far urban design has shifted from being just about large-scale architecture to systems thinking and infrastructure and landscape.”

In fact, Orff is thinking even beyond the overlapping fields within GSAPP.

to deploy young volunteers with sticks and seeds than to construct a multimillion-dollar wastewater-treatment plant that will inevitably break down.

Even idealistic landscape architects need corporate clients, though, especially if they have thirty people on the payroll, as SCAPE does today. One of those clients is JDS Development’s CEO, Michael Stern, who has built a pair of copper-clad

ing how the broken terrain got that way and how the next generation might nurse it back to health. Her most recent book, *Toward an Urban Ecology*, contains friendly snapshots that team with people: divers, kayakers, students planting marsh grasses, kids gathering oyster shells. Diagrams show how the habitats of sharks, mussels, and high-rise-dwelling Manhattanites are all connected. Rather than clamor for concrete barriers or multibillion-dollar sea gates that would take decades to build and might fail anyway, she proposes a sort of roving perpetual field trip, in which each participant has a job, a question, and a useful pair of hands. Everyone has a good time. Her contribution to this year's Venice Architecture Biennale takes a similar approach. She describes the installation, an exploration of the ecological and human forces that have shaped the Venetian Lagoon, as an "activist ecosystem maker project."

Though Orff's vision is sweeping, her work is an incremental slog, shot through with bolts of inspiration. "Projects like Living Breakwaters are important because they create regulatory pathways," she says. *Regulatory pathways* — now there's a phrase to lift the spirits and quicken the pulse! Sound the bugle for a first step toward slightly more appropriate environmental rules! But of course she's right to focus less on what she's accomplished so far than on what she might yet be able to achieve. Today's radical intervention can become commonplace tomorrow, but not with outdated policies and regulations that stand in the way of innovation. Ordinarily, adding any kind of solid mass to the shallows around New York City is considered an illegal attack on the environment. "But if we don't make exceptions for projects like this, then we're going to lose all our intertidal wetlands," Orff warns.

That prospect is bad enough from the point of view of a migrating osprey, but it's just as threatening to a cliff-dwelling urbanite. Ask Houston, New Orleans, and Red Hook what happens when those natural buffer zones fade away: whole neighborhoods drown. In another project, Orff's firm is working to replen-

"I want to ask, what are the fundable, implementable actions we can come up with *right now*?"



ish the silt that dammed-up rivers long ago stopped depositing in San Francisco Bay. "If we don't add sediment, you have nothing but flat open water. And that is collapse. I keep reminding people: the alternative to resilience is collapse."

A thread of cognitive dissonance runs through Orff's career. Her analysis of environmental problems is so relentless and precise that her solutions can seem quixotic. All the pilot projects, surgical insertions, and eelgrass-planting afternoons amount to bailing out the Titanic with a teacup. Orff acknowledges the vast gulf between what must be done and what can be done right now. "It's

almost overwhelming," she says. "The tools we need are just beyond our grasp." The 2016 presidential election kicked them even farther away. "After several months of despair I just decided to double down and keep going," she says mournfully. Orff went looking for a bigger teacup. Soon she may graduate to a ladle or a bucket, hoping all the while that humanity will one day be able to rig up the sump pump it needs to keep this wounded old ship afloat. ☞

Justin Davidson '90GSAS, '94SOA is the architecture critic at New York magazine and the author of Magnetic City.

IN THE LION'S DEN

Words and pictures
by Julia Rothman

Stepping inside the Park Slope, Brooklyn, townhouse that Michael Garrett '66CC, '69LAW, '70BUS, shares with his wife, Sandy, you are welcomed by the four thousand lions they've collected from their travels around the globe.

Lions are grouped by theme.

Lions with orbs sit on a small table in the living room. Lion candlesticks stand behind them.



"The paw on the orb symbolizes domination of the world."

"I wore
my gaudiest
pieces for you!"



Lions are also grouped by color.





Lions are embroidered on footstools.

"Sandy stitched this one for us with our initials!"



Lions embellish dozens of ties.

"I wore suits for forty years in my legal career. So I tried to wear a lion tie every day. Some are silly, but others are exquisite. There's Hermès and Ferragamo and Liberty of London..."

"There are two reactions people have to a collection this size. They're either fascinated by it or they think I'm nuts."

Garrett's obsession started with a lion costume. When he arrived on campus his freshman year, he went to a sports orientation. At the time, women weren't allowed on the field, and all the cheerleaders were men. "I remember seeing these wild guys with large cardboard megaphones doing gymnastics and having a great time. I wanted to join in." As a sophomore, he became captain of the cheerleading team, which meant he got to wear the lion suit.

The costume was heavy cloth and covered in fur, seven feet tall with internal supports on the shoulders. There was a mesh section in the mouth to see out of. The Broadway costume shop that made it sewed a wine sack into the right arm so when Garrett waved to the crowd, he could take a sip.



"I met President Kennedy in that lion suit!"



"This was drawn in the early 19th century by someone who had never seen a lion. That's why the face is so strange."

Covering the walls of the stairway to the second floor are tons of framed images — from 18th-century bookplates to magazine covers to circus advertisements. The artwork depicts lions in a myriad of styles.

Everything is a story!



"I bought this woodcarving on the beach in Jamaica. The Rastafarians didn't have change, so they offered me hash instead."



"I found this in Turkey. I don't know who this guy is, but it had a great lion, so I had to have it."

"These are match safes. Before they invented safety matches, matches would explode, so you kept your matches in a closed metal safe."




"A hardware store on the East Side bought this toilet on spec. It was sitting on their floor for years. I saw it and bought it in thirty seconds. We decorated the rest of the bathroom around it."



Garrett's not sure what will happen to his collection when he's not around anymore. His son, Justin Garrett '98CC, might take a few lions, but Garrett is hoping to keep the collection together. He plans to photograph and archive it.

"I aspire to be a lion — to exude strength, wisdom, fortitude, and courage."

Garrett says most people are afraid to really dive into things, to really make a commitment. He's been in his house for forty-eight years. He's been married fifty-one years. He's been a lion-obsessed alumnus for even longer. He's never questioned his commitments. 



INNOVATORS WITH IMPACT

*Meet four passionate, creative,
and gutsy social entrepreneurs
who are taking on injustice and
inequality across New York City*

By Julia Joy

Photos by Allison Michael Orenstein

The South Bronx might be the poorest congressional district in the United States, but Jerelyn Rodriguez '11CC thinks the borough is rich with rising tech talent. “The Bronx is full of creativity, innovation, and grit — people here invented hip-hop and helped lead the graffiti-art movement,” she says. Many neighborhoods, however, lack the educational resources to nurture the potential of their young people. Rodriguez’s non-profit organization, the Knowledge House, strives to fill that void, providing free coding and entrepreneurship programs for low-income students.

Rodriguez knows the borough’s challenges firsthand. A South Bronx native, she grew up in a single-parent household, surrounded by poverty. But through the support of her mother, a teacher, Rodriguez attended a private high school in Manhattan and eventually went to Columbia College, where she majored in film studies. She started working in education reform after graduating and grew frustrated by the dominant focus on college as the sole pathway to success. “Being on the college track worked for me, but a lot of my friends dropped out or didn’t even get to college,” she says. So Rodriguez looked for new ways to bring professional opportunities to her community.

She created the Knowledge House in 2014 as a pathway for young people in the Bronx (ages sixteen to thirty) to break into the tech industry without earning a degree. Rodriguez, who was featured on *Forbes*’s “30 Under 30” list in 2016, says that with the ubiquity of smartphones and video games, the students are already tech-savvy: “Because they consume technology every day, they can gain these skills and actually make a lot of money.”

To date, the Knowledge House has trained over a thousand students in digital literacy, coding, advanced Web development, and entrepreneurship at


its Hunts Point headquarters, as well as through programs at schools and government agencies across New York City. “They give us the tools we need to be relevant and stay relevant,” says Stephon Nixon, a former student who was hired as a technical-data analyst at Viacom. Critically, the Knowledge House not only offers participants an education but also guides them through the hiring process, with 75 percent landing entry-level jobs or free-lance contracts.

Rodriguez hopes that graduates of the Knowledge House will help to revitalize their communities by starting their own ventures and employing their peers, while bringing their unique perspectives. “We want to develop talent in low-income places and nurture people of color who can offer innovative solutions in the mainstream tech industry, which lacks diversity,” she says. “We’re hoping that one of these ideas pops, that one of these kids gets discovered, and that one of their startups can actually create jobs. We’ve already seen our students do amazing things.”

JERELYN RODRIGUEZ

*Technology against
poverty*



A portrait of Thomas Campbell, a Black man with a short haircut, smiling and looking towards the camera. He is wearing a dark blue plaid blazer over a light-colored, patterned button-down shirt. The background is a solid orange color.

Public housing has long been associated with soulless brick high-rises, riddled with crime and dysfunction. Thomas Campbell '09BUS is ready to transform that reputation. With his real-estate development company Thorobird, Campbell wants to provide low- and middle-income tenants with dwellings they're proud to call home. "We set out to uplift communities by adding affordable apartments and by improving people's living conditions," says Campbell.

Rather than shuffle poorer residents of the New York metropolitan area into ghettoized complexes, Thorobird works with private investors and the government to develop new, modern housing projects in economically distressed neighborhoods. Tenants, who are selected by municipal housing authorities, remain in their communities and live in apartment buildings that feature patios, gardens, and other communal spaces.

"Physical and social amenities give people a sense of ownership and control,"

says Campbell. "When people are packed away into crowded, isolated developments, they tend to feel institutionalized."

In the Mount Hope neighborhood of the Bronx, the company is constructing a 138-unit building that will have a rooftop terrace, balconies, and a support office for its mixed-income residents, including the formerly homeless. And in Brooklyn's rapidly gentrifying Bedford-Stuyvesant neighborhood, Thorobird is building a complex that will house 236 apartments, a senior center, an art gallery, a supermarket, and an aquaponic farm to grow fresh produce. Campbell says that the inclusion of the store and farm are a result of conversations with the neighborhood's community board. "We learned that Bedford-Stuyvesant is a food desert, because a lot of the mom-and-pop stores that used to sell healthy food have been priced out," he explains.

"We differentiate ourselves from other firms by getting to know a community and understanding exactly what it needs before we build," adds Campbell, who credits his professors at Columbia Business School's Eugene Lang Entrepreneurship Center and Tamer Center for Social Enterprise for giving him the skills to launch the startup in 2010. "Misguided, top-down housing policies have historically failed local communities. We think that our projects are sustainable, that they're going to be great investments in terms of financial and non-financial return. That's good business."

**THOMAS
CAMPBELL**

*Rethinking
housing projects*

For young people in trouble with the law, the courthouse is usually a place where lives are derailed.

But architect and artist Rachel G. Barnard '11GSAPP wants to change that. Her nonprofit Young New Yorkers — the first arts-based alternative-sentencing program in Brooklyn — has helped more than seven hundred young adults avoid lifelong criminal records by teaching them to express their creative voices.

Barnard, who is originally from Australia, launched the organization in 2011 after winning a Goodman Fellowship, a grant administered by Columbia's Graduate School of Architecture, Planning, and Preservation that awards \$20,000 to a student social venture. Young New Yorkers works directly with the court system and offers its programs to young people ages sixteen to twenty-five who have been charged with low-level misdemeanors, such as graffiti and petty theft. Normally, defendants might be punished with community service or jail, but people who are sentenced to a Young New Yorkers program attend court-mandated art workshops, where they can use illustration, photography, and other media to grapple with questions of personal identity and responsibility.

"Once arrested, young people often hear themselves described as criminals or even monsters," explains Barnard. "But when they bring their artwork into the courtroom or when they host an exhibition, they're given a chance to step up and become known for their whole selves." The workshops, which last from one day to eight weeks, culminate in a courtroom-based art show, where participants re-meet the officials who prosecuted and sentenced them in a more celebratory setting. After the program, most have their cases sealed.

"This humanizes the courtroom," says Barnard. "It gives the people who are involved in sentencing a chance to see the kids beyond their rap sheets, which we believe leads to better case outcomes. That means fewer young people are saddled with lifelong criminal

records that can have devastating collateral consequences."

Young New Yorkers continues to grow — this year it expanded from Brooklyn into Lower Manhattan — and Barnard's approach to finding creative solutions to institutional problems has gained traction. In January 2018, New York City named her a public artist in residence to work with the Department of Probation on improving relationships between offenders and probation officers.

"So much of my art practice is about acknowledging that in an era of mass incarceration, policies need to change, but so do the working cultures of courtrooms," says Barnard. "I'm looking to use art not to fight the system but to create change from within."

RACHEL G. BARNARD

*Art over
incarceration*



APRIL TAM SMITH

The ethical eatery

April Tam Smith '10BUS had, as she puts it, “zero experience” in the food-service industry when she took a leap of faith that seemed totally crazy: she opened a vegan restaurant in one of Manhattan’s hottest tourist spots, with the idea of donating all its profits to worthy causes.

A finance executive with a passion for philanthropy, Smith wanted to use her resources and network to launch a social enterprise that would generate revenue and invite participation from the local community. So in August 2017 she opened P.S. Kitchen, a restaurant that serves up plant-based cuisine with compassion.

Tucked beside Times Square on West 48th Street, the two-story eatery is casual and trendy, with exposed brick, pink neon lighting, and a menu that features Beyond Burgers and mushroom bao. Smith, who works in equity derivatives for an investment bank, self-financed the business along with her cofounder, portfolio manager Naren Karanam. Though she relies on industry professionals to manage the restaurant and curate its menu, Smith coordinates with local nonprofits such as the Bowery Mission

to hire employees who are in desperate situations — approximately one-third of P.S. Kitchen’s staff have been homeless, incarcerated, or the victims of domestic violence.

Smith, who regularly volunteers in impoverished communities, sees the restaurant’s hiring policies as equally important as the profits that it donates to groups such as Share Hope, a clothing company that supports health and education programs for garment workers in Haiti. “Whether I’m talking to someone in Haiti or South Africa, or from a hard background here in New York City, I hear the same messages,” she says. “People want jobs, and they want the dignity that comes with being able to provide for their families.” Smith adds that while the Bowery Mission and other organizations have great job-training programs, participants often struggle to find employment. P.S. Kitchen helps them to reenter the workforce. “We’re happy when people move on from us, because it means they’ve found other opportunities and they’re opening up a position for somebody else,” she says.





Smith has always had a strong work ethic, and she doesn't take her own prosperity for granted. She emigrated from Hong Kong to Miami at age eleven and watched her mother, a garment-factory worker, put in the effort to succeed in the United States. She says that using her earnings to give others a hand up is only fair. "So much potential has yet to be unleashed in the world," she says. "People sometimes forget how privileged they are to have been born at the right place and time, even if they've worked hard to get to where they are."

With P.S. Kitchen, Smith hopes to establish a sustainable, community-centered way of giving back. "If we wanted to start a business that donates the maximum amount of profit, we could have traded stocks," says Smith, who won the Social Enterprise Leadership Award from Columbia Business School's Tamer Center for Social Enterprise this year. "But we think there's something special about having this space of generosity that creates jobs and brings together people through food. In New York, power and money create a lot of noise, and we want to inspire others to look outward." 🏆

BALLOT BREAKDOWN



**Partisan gerrymanders. Voter purges.
Cyberattacks. Electoral College backlash.
With the voting system under stress — and with
crucial elections looming — we asked Columbia
professors for a status report on the central
mechanism of US democracy.
Here's what they told us.**

BY PAUL HOND ILLUSTRATIONS BY ELLEN WEINSTEIN

FAITH IN THE SYSTEM IS FRAYING

“A HEALTHY DEMOCRACY is predicated on the electorate’s faith in the integrity of the voting system,” says Ester Fuchs, an expert in US elections and the director of the Urban and Social Policy program at the School of International and Public Affairs. “The losers have to accept the outcome of an election and in the period between elections have to be willing to abide by the laws and the decisions of those who are elected. When the system is threatened — which is to say, when large numbers of people feel alienated or think that the system is rigged or that it’s not legitimate — you’re really threatening the foundation of democratic governance.”

For Fuchs, one of the major flaws in the voting system can be found in the Constitution itself: the Electoral College. In this much-maligned process, each state gets a share of 538 electoral votes, according to its number of senators and representatives in Congress. New York, for instance, has twenty-seven congressional districts, plus two senators, for a total of twenty-nine electoral votes. (Washington, DC, thanks to the Twenty-third Amendment, gets three.) The electors, handpicked by their state’s parties, pledge to cast their ballots for their party’s candidate. In most states, the winner of the popular vote gets all the state’s electoral votes. The candidate who nets a 270-vote majority becomes president.

“Interestingly, the founders put the Electoral College in place to take power *away* from the populace,” says Fuchs, who sits on the faculty steering committee of the Eric H. Holder Jr. Initiative for Civil and Political Rights, an undergraduate program that recently held events on the state of voting in the US. “In the early version of the Electoral College, electors were supposed to be independent — they didn’t have to follow the popular vote.” Alexander Hamilton, in *Federalist No. 68*, wrote that this flexibility “affords a moral certainty, that the office of President will never fall to the lot of any man who is not in an eminent degree endowed with the requisite qualifications.”

“But over time,” Fuchs says, “it became an accepted view that the Electoral College electors would be bound by the popular vote in each state, and would reflect it. So while in theory you might have a situation in which the popular vote does not reflect the electoral-vote victory, it would be like a hundred-year storm.”

“Except that we just had Gore vs. Bush in 2000 and Clinton vs. Trump in 2016. Bush lost the popular vote, and Trump lost the popular vote. Once you win a state by 51 percent, that’s as good as winning by 98 percent, and the difference between the 98 and the 51 is lost in the national calculation. Votes are diluted in the presidential election because all those people beyond the 51 percent in each state are not counted.”

Until the 2000 election, the public never paid much attention to the Electoral College, Fuchs says, because the numbers usually worked out: not since the nineteenth century — in 1876 and 1888 — had the popular-vote winner not prevailed. “But now that we’ve had these recent discrepancies, it’s just another area where people see the system as rigged against them. If you keep having elections where the popular vote is not consistent with the Electoral College vote, from a democratic-governance point of view, it’s a problem, and it’s dire.”

To abolish the Electoral College would take a constitutional amendment — a dim prospect, Fuchs says. “Because our politics is now so rabidly partisan and divided, and because each party is looking for leverage within legal and institutional arrangements, it will be more and more difficult to fix this. The small states and the rural states benefit from the status quo — why would they give up this system, when doing so would help more-populous places like California and New York be more fairly represented?”



SCOTUS OPENED A PANDORA'S BOX

THE 1965 VOTING RIGHTS ACT was a watershed in US history, outlawing repressive tactics, such as literacy tests, long used against Black voters in the American South. Section 5 of the act required localities with a history of voter suppression to submit any changes to their voting laws to a federal court for approval, a process called preclearance.

Decades later, some people felt that preclearance rules had become an onerous relic that unjustly targeted jurisdictions for their past misdeeds. A legal challenge to preclearance in Alabama reached the Supreme Court in 2013 as *Shelby County v. Holder*. In a landmark 5-4 ruling, the Supreme Court effectively gutted Section 5 of the Voting Rights Act by declaring unconstitutional the formula used to determine what jurisdictions required oversight. Writing for the majority, Chief Justice John Roberts concluded that states were being discriminated against based on past behavior, and that “nearly 50 years later, things have changed dramatically.”

“Within days of that Supreme Court decision, the states started passing laws,” says journalism professor and *New Yorker* writer Jelani Cobb, who is the director of the Ira A. Lipman Center for Journalism and Civil and Human Rights and a faculty adviser for the Holder initiative. “Legislators were waiting on the *Shelby County* decision to introduce the new bills.” Texas, one of fifteen states released from preclearance, promptly announced a “very restrictive voter-ID law in which a handgun license would be accepted at the polling place but not a college ID,” Cobb says. “The thinking was that this would favor Republicans.”

Shortly after *Shelby County v. Holder*, North Carolina passed House Bill 589, a series of restrictions aimed at voter ID and early voting. While crafting the bill, an aide to the Republican House speaker wrote an e-mail to the board of elections asking for “a breakdown, by race, of those registered voters in your database that do not have a driver’s license number.”

The North Carolina NAACP sued the state, and in July 2016, a federal appeals court declared that the North Carolina law targeted Black voters “with almost surgical precision” and struck down HB 589. The court observed that the bill excluded many of the photo IDs used by African-Americans and “retained only the kinds of IDs that white North Carolinians were more likely to possess.” Despite this legal setback, Cobb notes, North Carolina pursued other changes to the voting system: reducing the number of sites for early voting (popular among African-Americans) and challenging thousands of voter registrations on the basis of a single piece of mail returned to the post office. Four days before the 2016 election, a federal judge ruled that North Carolina had illegally purged some 6,700 voters and ordered the state to restore them to the lists.

But the early-voting restrictions took a toll. “Black Turnout Down in North Carolina After Cuts to Early Voting,” NBC News reported on November 7, 2016, the day before the presidential election. In the end, Donald Trump won the state that Barack Obama ’83CC carried in 2008.

“North Carolina is widely seen by conservatives and liberals as a laboratory for what the future of voter rights might look like,” Cobb says. “The demographics of the electorate in the coming years is the main battlefield in politics right now.”



STATES ARE PURGING THEIR VOTER ROLLS

“THE IDEA BEHIND purging is to keep the voting rolls relatively consistent with who’s actually around to vote,” says Columbia Law School professor Richard Briffault ’74CC, who studies state and local-government law. “People die and people move, and those are the legitimate grounds for taking people off the rolls. But we don’t have a well-organized, integrated system for advising local polling places of these changes.”

Some states have seized on the purported problem of rampant voter fraud — “millions and millions of people,” as President Trump has often charged, who impersonate dead or ineligible voters whose names remain on the rolls — as justification for sweeping new measures, like voter purges. But the claim of voter fraud is itself fraudulent: numerous studies have found virtually none at all. (A 2014 Loyola Law School study estimates a fraud rate of one incident per thirty-two million ballots cast, and the *Washington Post* found only four documented cases in the entire 2016 presidential election.)

For Briffault, the voter-fraud myth is especially pernicious because it’s a distraction from actual threats.

“Fraud is more likely to occur on the inside, through manipulations of the vote-counting machinery and absentee ballots,” he says. “Ballot security is the issue. Voter fraud is not. Yet all the rules we’re seeing around voter ID and purging pertain to *in-person* fraud — which is basically nonexistent.”

In Ohio, lawmakers came up with a method to purge the rolls. “If you don’t

vote during a two-year period, you receive a prepaid return postcard from the state, asking if you are still registered and if you are still at the same address,” Briffault says. “You can check yes or no and return it. Or you can do nothing. And there’s evidence that most people do nothing. If you don’t vote in the next four years and don’t return the postcard, you’re going to be purged.”

In 2015, Larry Harmon, a Navy veteran from Akron, went to vote and found he had been dropped from the rolls. An off-and-on voter who had sat out elections for various reasons, Harmon claimed he had a right *not* to vote, and that having not voted in the past shouldn’t prevent him from voting now. He sued the state. The US Supreme Court heard the case and handed down its decision this June.

“It was technically a statutory case about whether what Ohio did was consistent with the federal guidelines,” says Briffault. “The case wasn’t litigated on grounds of whether Ohio intended to suppress certain voters.”

By a 5–4 decision, the court upheld Ohio’s law. “The majority said the state could reasonably treat this as evidence that someone has moved,” Briffault says. “Justice Breyer’s dissent said that most people simply fail to return the postcard, and that unless you have other evidence that someone has died or moved, you shouldn’t be able to purge them.” Justice Sotomayor, in a separate dissent, wrote that day-to-day obstacles make it more difficult for “many minority, low-income, disabled, homeless, and veteran voters to cast a ballot or return a notice,” though the matter wasn’t raised in this case.

Briffault thinks the issue of discrimination *could* be raised, however, in this or other cases, with regard to minorities (a 2016 Reuters analysis found that the purging of 144,000 voters in three Ohio counties had a disproportionate impact on Black communities), the disabled, or anyone who doesn’t vote regularly.

“Unfortunately, many people don’t vote, but in some elections they want to vote,” says Briffault. “In that sense, the Ohio law discriminates most against people who are only intermittently engaged.”

GERRYMANDERING ISN’T GOING AWAY

AFTER EACH CENSUS, states redraw their congressional-district lines to reflect changes in the population, with the goal of achieving numerical equality among districts. But when one party controls both legislative chambers in a state, lawmakers can carve up districts in ways that redound to their electoral benefit. This practice is known as gerrymandering.

While racial gerrymandering is prohibited by the Fourteenth and Fifteenth Amendments and by the Voting Rights Act, partisan gerrymandering has been a legal gray area ever since Massachusetts

Cracking is when you take evenly divided areas and fragment them to the advantage of one party.”

This spring, the Supreme Court, in *Gill v. Whitford*, ruled on a redistricting plan in Wisconsin that Democrats claimed made it hard for them to win a fair share of seats.

“Wisconsin is evenly divided politically between Republicans and Democrats, but because of packing, Democrats win fewer districts by wider margins — 80–20 or 90–10 — while Republicans win more districts by narrower margins,” Briffault says. “There are no 90 percent Republican districts.

The Supreme Court has been going “round and round” on the issue.

governor Elbridge Gerry approved a redistricting map in 1812 that favored the incumbent Democratic-Republican Party over the Federalists, with critics noting that one particularly contorted district resembled a salamander.

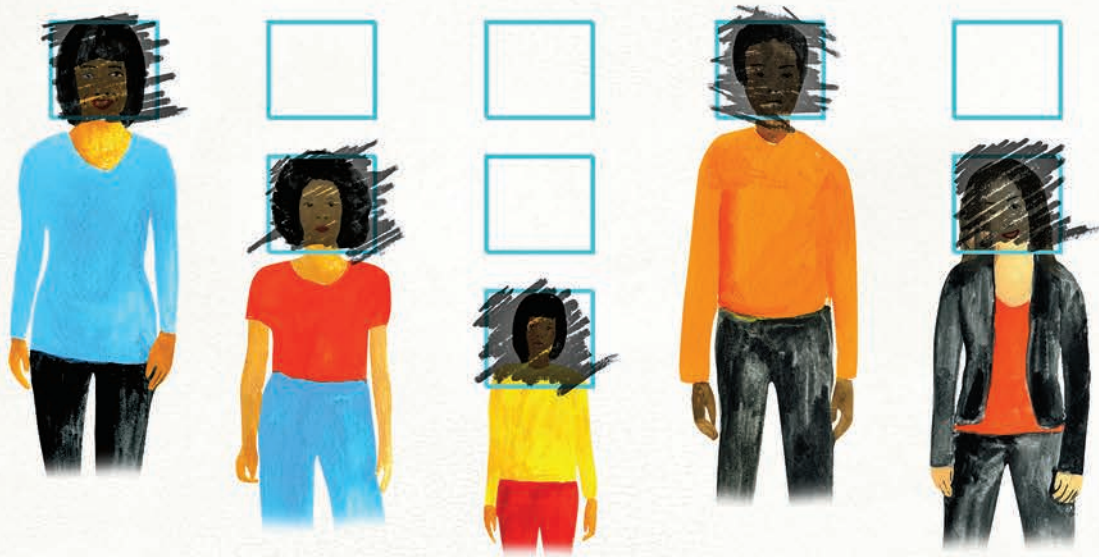
“The Supreme Court has been going round and round on partisan gerrymandering,” says Briffault. “What they’ve said is that districting is so inherently political that it has been difficult to find principled criteria in the Constitution or constitutional law that the courts could use to distinguish what’s permissible from what’s impermissible.”

Gerrymandering is achieved in two ways, Briffault says: packing and cracking. “Packing is when districts are drawn in a way that concentrates huge numbers of voters from one party in just a few districts, while the rest of that party’s voters are stretched out as relatively powerless minorities in the other districts.

“The claim in *Gill v. Whitford* was that the Republican-controlled state legislature diluted the Democratic vote and maximized the number of districts Republicans would likely control — and that this violates the guarantee of equal protection under the Fourteenth Amendment.”

The Supreme Court, in a 9–0 decision, held that the Wisconsin Democrats who brought the suit had failed to show they were personally affected by the gerrymanders. “The court didn’t rule out that partisanship *could* be the basis of overturning a gerrymander. But you still have to show that you, as an individual voter, were directly affected, and the Wisconsin case has been sent back to the lower courts to explore that.

“So the matter has been kicked down the road, and we’re not really any further along than we were before,” says Briffault. “The issue remains live.”



CYBERSECURITY: IT'S NOT JUST HACKING

"WHEN MOST PEOPLE think of cybersecurity risks in elections, they focus on the voting machines," says Jason Healey, a senior research scholar at SIPA specializing in cyber-conflict. "But if you're a hacker, the electronic voting machines are very difficult to affect on a wide scale: every county has a different system, and the machines aren't necessarily connected to the Internet. You might be able to affect voting machines in a particular district, and while that might be damaging, it'd be really tough to produce a large-scale effect."

Healey, a US Air Force Academy graduate with a liberal-arts degree from Johns Hopkins, was director for Cyber Infrastructure Protection at the White House from 2003 to 2005. He says the most vulnerable components of the election system are the ones responsible for voter registration ("those are just Microsoft systems connected to the Internet; you can do a lot there") and vote tabulation ("the Russians have affected vote tabulations in Ukraine — why hack the voting machine when you can hack the tabulation database?").

A state's voter-registration database "is probably the biggest vulnerability," says Steven Bellovin '72CC, a Columbia computer-science professor who lectures on the security risks of electronic voting systems. The registration database provides a large "attack surface," he says, since local authorities need to access it from all over the state. "Hackers can delete or alter records, or steal personal information to use for targeted propaganda."

Like Healey, Bellovin isn't too worried about a national election being hacked, and advocates paper-based systems to insure against irregularities. In New York City, the paper ballots that are fed into the tabulating machines can be recounted by hand in the event of a dispute.

But that's not the case everywhere. "After the problems in Florida in the 2000 presidential election — the famous recount with the hanging chads — the Help America Vote Act was passed by Congress to help states upgrade antiquated voting systems," says Bellovin, who served as a technical adviser on the US Election Assistance Commission, which grew out of the Help America Vote

Act. "Unfortunately, many jurisdictions installed computerized voting systems. Computer scientists have long been opposed to this. No computer scientist trusts computerized voting systems. They're just not secure enough. Across the country, people are casting votes on these electronic voting machines that leave no paper trails."

Bellovin is "much more worried about computer error — buggy code — than cyberattacks," he says. "There have been inexplicable errors in some voting machines. It's a really hard problem to deal with. It's not like, say, an ATM system, where they print out a log of every transaction and take pictures, and there's a record. In voting you need voter privacy — you can't keep logs — and there's no mechanism for redoing your election if you find a security problem later."

Healey believes that if you have a good election system, you should be able to go back and, if necessary, recreate the votes cast. The problem, he says, is that the mere suspicion of tampering can shake the confidence of the electorate. "In the end it's about trust in the electoral system. That's front and center, especially now."

REALITY IS UNDER ATTACK

IN THE HOURS after the 2016 presidential election, Jonathan Albright, who is now research director for Columbia's Tow Center for Digital Journalism, was thinking about all the disinformation that had circulated on the Internet during the campaign — what he calls “arguably the most powerful propaganda machine in the history of US election politics.”

Albright wanted to know how this propaganda spread. How were the websites connected? What did these networks look like? Albright fired up his laptop and went on a data-gathering binge that broke the “fake news” story wide open. With a mix of journalistic sleuthing, social-scientific analysis, and computational ingenuity, he mapped the flow of deceptive data as it moved through social media — Twitter, Facebook, Instagram, and Google — to the personalized home pages of YouTube. He discovered a vast “influence network” of dubious sources pumping out click-friendly, viral-ready messages that formed an “ecosystem of real-time propaganda.” Studying 306 fake-news sites, he found that they contained more than a million hyperlinks, suggesting an exponential scope far greater than previously understood, with content being shared *billions* of times.

While the threat of this data-bombing is evident, the actual fallout is nearly impossible to assess. “Surveys have repeatedly proven to be imprecise in measuring the effects of certain ads on people’s voting behavior,” Albright says. “I’m not sure if we’ll ever be able to go back and empirically quantify what effect these millions of different messages had on each neighborhood or family group in 2016. It’s very difficult.”

This past July, a federal grand jury in the Justice Department’s investigation into Russian interference in the 2016 presidential election indicted thirteen Russian nationals for their work with the Internet Research Agency (IRA), a Kremlin-linked “troll factory” based in St. Petersburg that Albright had helped expose. According to the indictment, the IRA set up hundreds of Facebook accounts and bought thousands of ads designed to exploit social divisions, stoke anger, and, ultimately, damage Hillary Clinton and help Donald Trump.

Albright says these attacks are evolving as trolls adapt their tactics to a shifting digital landscape. “In 2016 we saw meme-focused and outrage-focused messaging” — politically charged posts on issues like immigration, which infiltrators used to track the responses of Facebook users and compile data on them. “But in 2018,” Albright says, “the strategy is more participation-based: there’s a push to create confrontations that are public and visible.” He points to bogus Facebook groups like Resisters (whose page has since been deleted), which plugged an event urging opponents of US immigration policy to “take over” the headquarters of US Immigration and Customs Enforcement. “There’s a push to integrate into existing events

“There’s a push to create confrontations that are public and visible.”

and then either collect information on the participants or promote the event to groups further out on the fringe.”

Albright has also untangled the IRA’s targeting of certain audiences with messages “meant to sow distrust in institutions, including voting systems,” he says. “In the last few years there was a lot of effort aimed at African-American voters and younger urban audiences to dissolve trust in the integrity of voting systems and in the process of voting itself — creating the perception that your vote doesn’t matter, that the system is rigged.”

While social-media companies have taken steps to filter out the fake from the real — an exceedingly demanding task — Albright believes that what needs to be understood and addressed most are the *sources* of fake news and the phenomena that drive online traffic. And he warns that this battle over reality will only get more complicated as technology advances and becomes more available.

“We are quickly moving into an era where the ability to edit images or videos — even to change faces — is going to improve so much,” he says, “that you won’t be able to trust anything.”

THE 2020 CENSUS NEEDS OUR FULL ATTENTION

EVERY TEN YEARS, as required by the US Constitution, the federal government counts the residents of the country. This survey, or census, provides the base population number from which the 435 seats of the House of Representatives are apportioned, and by which legislative boundaries are redrawn.

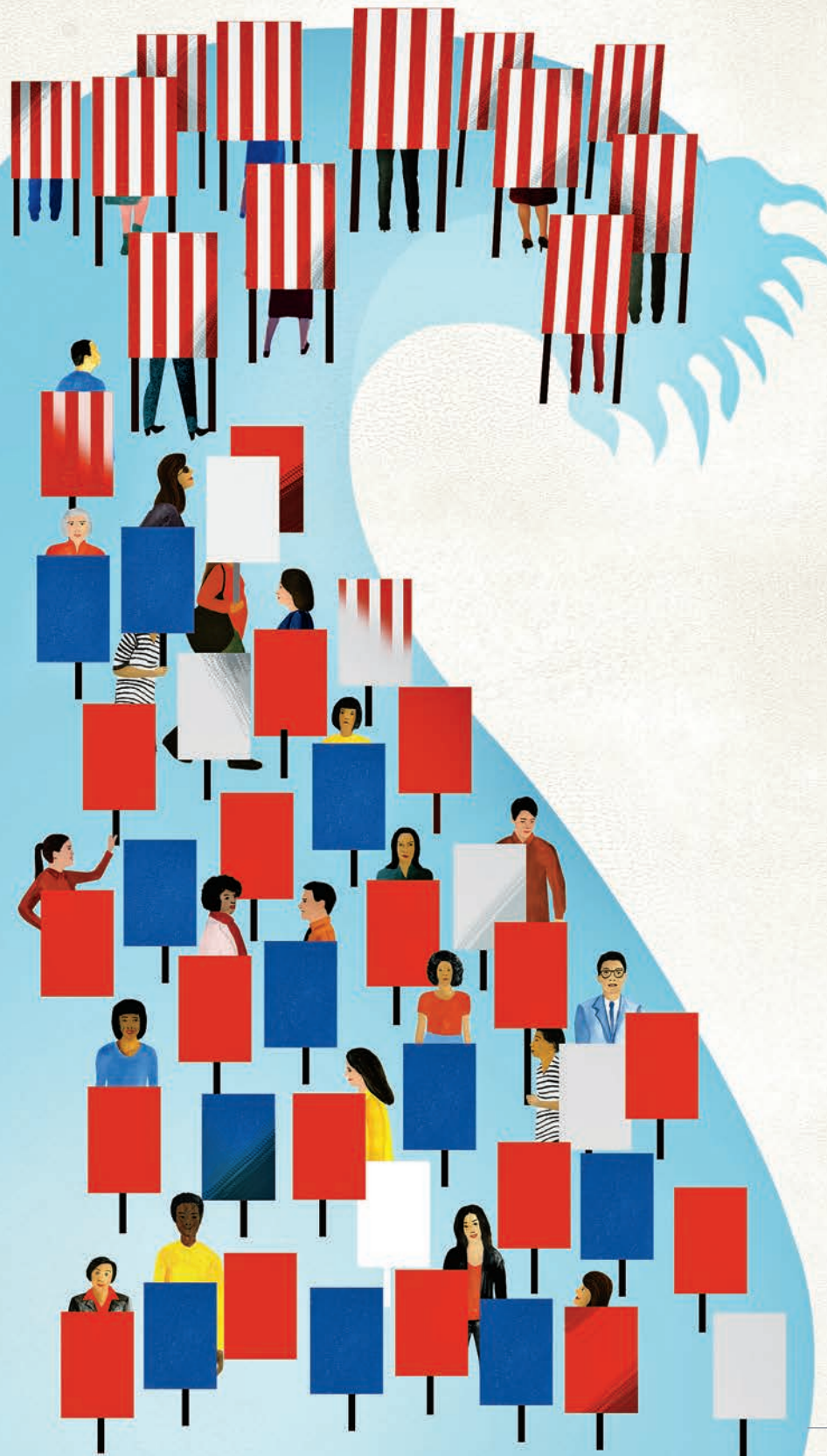
But according to SIPA professor Kenneth Prewitt, who directed the US Census Bureau from 1998 to 2001, this essential tool of American democracy is in serious trouble.

“It’s hard enough to do a census in a big country,” Prewitt says. “But at this point in preparing for the 2020 census, the fundamental operations are understaffed, underfunded, and performing less well than they were in 2000 and 2010. In 2000, knowing the response rate had been falling over the century, we invested in an ad campaign as well as a major partnership effort with churches, chambers of commerce, local schools, and so forth. This is not happening now at the scale needed.”

But Prewitt’s biggest concern is the addition of a controversial question.

In March, the US Department of Commerce, which administers the census, announced that it would be introducing a new question about citizenship. Prewitt worries that the climate of fear around immigration will suppress the response, with many people less likely to be forthcoming to the inquiring, clipboard-holding government employee at the door — “and there’s little the Census Bureau can do to fix that.”

In June, five immigrants’ rights groups sued the Commerce Department, claiming that a citizenship question would result in undercounts, with a loss of representation and federal funds for necessities such as transportation and education. In July, a federal judge allowed the suit to go forward, chiding the Trump administration for a “strong showing of bad faith.”



“This gets even more complicated,” says Prewitt. “Don’t forget: the 2020 census takes place smack in the middle of what could be one of the nastiest elections in recent history. The interaction between the census and the election will shape the census experience, and, if it’s not handled well, the census could easily feed a very unpleasant political environment.”

“If it appears that the census is being used by the administration to strengthen its constituency and not count the people it doesn’t think ought to be counted — if brown people aren’t going to get the attention they deserve and are going to be left out of the census, whether it’s by design or the result of operational deficiencies — it’s going to be a story that will feed into white nationalism.”

The census was enshrined at the Constitutional Convention in 1787, including its infamous Three-Fifths Compromise, which permitted states to count a slave as three-fifths of a person. For decades, this particularly rewarded the South in congressional seats and Electoral College votes. Over time, however, the census evolved into a vital, nonpartisan democratic instrument — and, for Prewitt, a source of civic pride. “You really get a picture of the country, and I came back with a deep respect for how complicated the country is,” he says of his time as director. “It was a very positive experience. That’s what I worry about in 2020: will it be positive for people? Will they take pride in responding to it? You want to make it a celebration of the country. Will it feel like a celebration in 2020?”

“The census is part of our democracy and our Constitution. The framers were conscious that if you live in this country, if you work and pay taxes, you have certain rights, including a right to representation, and you don’t have to be a citizen. To challenge this undermines what the census has always meant.

“Nothing is worse for me than having a census that seems to have partisan goals, because if the census doesn’t float above partisanship, then nothing does. The whole idea of civic responsibility just washes away.”

VOTER ENGAGEMENT IS THE ANSWER

“WE NEED TO MAKE IT easier for people to register. We need to make it easier for people to vote. We need to make it easier for people to access information about candidates,” says Ester Fuchs. “There’s nothing in our Constitution that says it should be hard for people to vote. The idea of a democracy is that we want to engage as many people as possible.”

Fuchs believes that the fundamental fairness of the voting process has been eroded. “You have these legal barriers being put up, like voter-ID laws, which make it harder for people to register and to vote; you have court cases that have exacerbated the inequality in the election system; and you have the problem of gerrymandering. And that’s apart from Russian intervention in the elections and the president actually calling into question the legitimacy of institutions in this country, including the free press.

“There’s nothing in our Constitution that says it should be hard for people to vote.”

“In order for a democracy to work, you want to create a system that is as fair as possible, that the public views as fair. Without that, a democracy cannot sustain itself. I think that democratic governance in the US is really on the edge of crisis.”

And yet Fuchs, who calls herself a “pragmatic utopian,” is hopeful. A believer in Tip O’Neill’s adage that “all politics is local,” Fuchs says that solutions must come from the ground up. In 2012, with her former student William von Mueffling ’90CC, ’95BUS, she started a not-for-profit website and mobile app for New York City voters called Who’s on the Ballot, which provides a district- and citywide listing of the candidates, with links to their campaign websites and Twitter feeds, as well as election schedules and polling-place information. Run through SIPA, the project is one of the ways that Fuchs wants to educate the electorate.

“Education campaigns are crucial. We need to put civics back into eighth-grade education. Few people understand how elections work or how a bill becomes a law or how government impacts their lives. The way to get people engaged is to get them to understand that government decisions affect their day-to-day lives, and that there’s something at stake if they don’t participate.”

She also thinks the current political turmoil, despite the gloom and despair of large swaths of the electorate, could fertilize the democratic soil.

“To the extent that insurgent candidates can raise money online, to the extent that young people and especially young women are willing to run for public office, this will energize people,” Fuchs says. “They’ll see themselves in the political process again. They’ll decide that there’s a reason to engage.”



P. Roy Vagelos,

the man who's changing the future of medical education in America, shares stories over a slice of pie

By Paul Hond

Photos by Nathan Perkel

The city of Rahway, population thirty thousand, sits on the New Jersey Transit Northeast Corridor, thirty-eight minutes southwest of Penn Station. A former manufacturing hub, it retains, despite the new condo developments, the gritty brick-and-mortar charm of an American factory town. There are shingled houses and gabled roofs, a curving Main Street, and, by the river, a spindly-legged, pale-blue water tower with RAHWAY stamped on its saucer-shaped tank.

On Irving Street, a couple of blocks from the YMCA and the movie house, sits Mr. Apple Pie, a scrappy little diner with a FOR SALE sign in the window. The interior is small and narrow, with booths on the right and a lunch counter on the left. Handwritten cardboard signs tacked above the counter announce the specials, and on the walls hang three small Portuguese flags and a large American one.

At 2 p.m. on a recent Friday, a slim man with white hair sporting a gray blazer over a blue shirt opens the diner door, setting bells tinkling. As P. Roy Vagelos '54PS, '90HON enters the establishment, his dark eyes fill with wonder. The counter used to be on the opposite side of the room. And the booths have been moved. Pulled by his curiosity, Vagelos takes long strides to the back of the

restaurant and peers into the kitchen. The grill is in a different spot too. Vagelos resists an urge to go in and inspect further.

Returning to the dining room, Vagelos, eighty-eight, settles himself at a table, orders a slice of pie, and contemplates his improbable journey. Born in October 1929, three weeks before the stock-market crash, Pindaros Roy Vagelos, the son of Greek immigrants, spent much of his childhood in this place. It was here that Vagelos — shaped by the Great Depression and driven by a restless, competitive will — first set foot on his path to becoming a physician, a front-line biochemist, and a celebrated business leader. Over a seven-decade career, he has marshaled resources to fight disease, supported scholarships for students from immigrant backgrounds, and — through a revolutionary debt-free tuition program that began this year — changed medical education at Columbia forever.

When Herodotus and Marianthi Vagelos bought the restaurant in 1943, it was known as Estelle's Luncheonette. The couple's three kids — Roy, Helen, and Joan — helped run Estelle's, and the family ate dinner there six nights a week. Roy, a violin-playing, sports-loving math whiz at Rahway High,

worked behind the counter every day after school. He was a soda jerk, a dishwasher, a potato peeler.

He was also a listener. The suppertime crowd was mostly chemists and engineers from nearby Merck & Company, Rahway's biggest employer. It was a time of great excitement in biochemistry. Multivitamins and antibiotics were being manufactured for the first time, and Roy in his apron soaked up the scientific shoptalk amid the clatter of forks and plates. He was impressed by these chemists and wanted to be like them — wanted to make medicines that would improve people's lives.

"The customers inspired me," Vagelos says. "And they encouraged me to pursue chemistry. Subjects involving memorization, like history or poetry, were difficult for me, because I had a terrible memory. But I could do math, and I could figure things out."

Of course, as a working-class kid who had raised rabbits for meat during the war, he would need money for college. So Vagelos applied for scholarships, which, when he got them, allowed him to study chemistry at the University of Pennsylvania and, four years later, medicine at Columbia. "Going to Columbia changed everything," he says, and his eyes brim as he recalls the Christmas party in Plainfield, New Jersey, during his second year of medical school, where he met Diana Touliatou '55BC, a Barnard first-year from Washington Heights majoring in economics. Like Vagelos, Touliatou was the child of Greek immigrants and a scholarship recipient. They were married in the summer of 1955.

Vagelos did his residency at Massachusetts General Hospital, where he treated polio patients shortly before the first vaccine was licensed. He and Diana then moved to Washington, DC, so he could fulfill his two-year military requirement at the National Heart Institute. At NHI he worked in the lab of Earl Stadtman, one of the world's leading biochemists,

studying fatty-acid metabolism. A laboratory novice, Vagelos quickly found himself in an "anxious race" with world-class biochemists to understand how cells synthesize fatty acids. He delighted in the adrenaline-fueled eighteen-hour days, and, under Stadtman, his passion shifted from clinical medicine to research. "Earl was incredibly generous," Vagelos says. "He would teach you for



Vagelos worked as a summer intern in the Merck labs in 1951, after his first year in med school.

a while, and at the end of that time he would give you credit for everything you did. That's very unusual. Most people will continue to put their name on your papers. Not Earl."

Vagelos stayed at NHI until 1966, when he became chair of biochemistry at Washington University in St. Louis. The Vageloses built a nice life in the Midwest, with four kids and good friends. Then, in 1975, Roy got a call from back home: Merck wanted him to lead its research division. Vagelos, whose parents still lived in Rahway, could hardly pass it up.

At Merck, Vagelos changed the company's method of drug discovery, encouraging his scientists to target disease-causing

enzymes and build compounds to block them. This led to the development of Mevacor — the first statin, or lipid reducer, to reach the US market. Vagelos oversaw the production of best-selling medications for heart disease, hypertension, and high cholesterol, and in 1985 he was named CEO. As a scientist, Vagelos brought an unorthodox style to the job. He was willing to learn from his

subordinates, and he possessed thorough scientific knowledge of the products. But it was his response to the disease known as river blindness that brought Merck worldwide acclaim.

In 1987, the Merck drug Mectizan, an antiparasitic for pets and livestock, was shown in French trials to reverse and prevent river blindness, which afflicted tens of millions of people, mostly in West Africa. The disease is caused by river-bred blackflies, whose bites deposit larvae that spread through the body, causing severe itching, skin deformities, and, when the larvae reach the eyes, blindness.

Mectizan could defeat this blight with minimal or no side effects. But those at risk were too poor to afford the single tablet per year they needed. So Vagelos, who had tried without success to enlist the Reagan

administration to help in the effort, came out with a statement: Merck would provide Mectizan free of charge to anyone who needed it, for as long as it was required.

It was a bombshell. Overnight, Merck became the poster child of corporate social responsibility. Profits rose, affirming Vagelos's philosophy of doing well by doing good. Today, with a distribution network developed and supported by the World Health Organization, the World Bank, the Carter Center, the Gates Foundation, and others, the Mectizan Donation Program reaches more than 250 million people a year. "River blindness is being eliminated," Vagelos says, with obvious pride.

In 1994, Vagelos stepped down from Merck due to a company rule that CEOs retire at sixty-five. That was the year he was invited to speak at the Rahway High School commencement.

The school had changed since Vagelos's day. The students were now mostly Latino and Black, many were poor, and few went on to college. The Ivies weren't even on the radar. Roy and Diana Vagelos talked it over and decided to fund full scholarships at Rahway High for any student who got into a top-tier school.

Kids responded. At least two or three a year became Vagelos Scholars, and Vagelos got to know many of them. That's how he met Rosa Mendoza '14PS.

"Rosa!" Vagelos says, lighting up at the name. "She is unbelievable. The impact she has on faculty at Columbia is something like I've never seen. Yet she's very understated. And she's a wonderful doctor — incredible with patients."

Like Vagelos, Rosa Mendoza took an unlikely route to Columbia. The youngest of four children, she was born in rural El Salvador in 1986, during a civil war that only worsened the country's extreme poverty. Her parents were subsistence farmers who grew corn, mangoes, and papayas. Some years, after a dry winter, the family did not have enough corn for tortillas, their main staple.

Mendoza was five when her parents left El Salvador for the industrial town of Linden, New Jersey. She and her siblings stayed behind with their aunt and grandmother while their parents worked in plastics factories and sent money back home. A few years later, it was Mendoza's turn to go to *los Estados Unidos*.

"It was tough, because I had gotten so used to my grandmother and my aunt, and I loved them," she says. "Of course, I loved my parents, too, and I remembered them, but it wasn't easy to move away. It was scary."

She didn't speak English and had to navigate a world completely different

from all she had known. The experience forced her to "mature faster than usual," she says. Between ESL classes and Nancy Drew mysteries, she picked up the language quickly. When she was thirteen, her family bought a house in Rahway.

Mendoza attended Rahway High, where she was an A student who volunteered at the local nursing home. In eleventh grade she was invited to the annual Vagelos Scholars dinner. Two seniors were being honored: one was bound for Princeton, the other for Penn. Just knowing this chance existed gave Mendoza



"Every step of the way when I've had to make the biggest decisions, he has been there for me."

Rosa Mendoza '14PS

"tremendous hope." She worked hard and got into Princeton — thirty miles from home, but so much farther than that.

As a Vagelos Scholar, Mendoza majored in molecular biology. In her third year she volunteered as a translator at a local hospital, and that's when she realized she wanted to be a doctor. She discussed it with Vagelos, who told her to follow her heart — and to keep pushing herself academically. Mendoza did, and in 2010 she got into every medical school she applied to, including Columbia.

Her decision hinged on financial aid: which school could offer the best package? Vagelos ended any suspense.

He told Mendoza that if she chose P&S, he would cover her loans, and she could graduate debt-free.

It's Wednesday at 12:30 p.m., and Mendoza walks the corridors of the Columbia-affiliated Farrell Community Health Center, a tidy two-story primary-care clinic on West 158th Street near Riverside Drive. Mendoza, the attending doctor, commutes from Rahway, where she lives with her husband, Diego, in a second-floor apartment on a quiet street, not far from her parents'

house. As she passes exam rooms and conference areas, the staff greet her with warm smiles.

On this day, Mendoza has seen an eighty-year-old man, an expectant mother, and a transgender teenager. She'll see more patients and hear presentations from the residents — another thirty cases before she leaves at 6 p.m.

"We in family medicine deal with the bread and butter," Mendoza says. "Knee pain — you don't, at least not initially,

have to go to an orthopedist for that. An adult with asthma doesn't necessarily have to follow up with a pulmonologist. We're over-utilizing specialist services. Nationally, we need to focus on primary care." She adds, wryly, "But then again, I'm biased."

Many of Mendoza's patients suffer from hypertension, diabetes, or asthma. But the clinic sees it all. Mendoza values the variety: she's a committed generalist, curious about everything, with a special interest in community health and obstetrics.

"With hypertension and asthma, we have to acknowledge the economic stressors and deal with them," she says. "Family medicine can do that, because it allows us to see the whole family and to look at the social context. We're really good at context. And that makes patients trust us more, and therefore be better able to manage their problems."

While family medicine is "one of the most important fields," Mendoza says, "it is also one of the lowest-paid." According

to the Association of American Medical Colleges, the US will face a shortage of up to forty thousand primary-care doctors by 2030. Mendoza suggests that primary care has become devalued, not only because physicians earn less but also because, unlike cardiology or orthopedics, it does not attract a lot of research-related dollars. She wants to see the field restored and respected as the bulwark it is. “In the long run we end up saving the health-care system money and protecting patients from getting those illnesses that require expensive procedures,” she says.

Mendoza works at the clinic one day a week while completing a two-year research fellowship in community health at Columbia — her area of focus is adolescent birth control — after which she’ll look for a full-time job.

“I do want to stay in academic medicine,” she says. “I want to be a mentor to new doctors and teach them how important community health is. My goal is to

find a place where I can teach and also serve patients who are *underserved* — the people I’m coming from.”

Throughout Mendoza’s career, Vagelos has been a guiding presence. “I would call Dr. Vagelos more than a mentor,” Mendoza says. “Every step of the way when I’ve had to make the biggest decisions, he has been there for me.”

In 2015, the Vageloses were guests at Mendoza’s wedding, held at St. Mary’s Catholic Church in Rahway. The groom’s brother officiated. At the dinner reception, Mendoza’s mother, who spoke little English, went over to the Vageloses and hugged them. Then, as if to express something beyond language, she took their plates to the buffet table and filled them up with food.

In December 2017, Columbia announced that Roy and Diana Vagelos were giving \$250 million to Columbia’s medical school. Of that

amount, \$150 million has gone to an endowed fund to replace all student loans with scholarships, making Columbia’s medical school — renamed the Vagelos College of Physicians and Surgeons, or VP&S — the first debt-free school of medicine in the country.

“The debt taken on by medical students is enormous,” Vagelos says. “As a result, many students, because of their loans, have turned away from less lucrative specialties like primary care, pediatrics, and medical research. If we can change that, I think we’ll have done something important for these students and, ultimately, for the field of medicine.”

The Vageloses have deep ties to Columbia. As well as supporting scholarships, they were the catalysts behind Columbia University Irving Medical Center’s precision-medicine initiative and the principal contributors to the Roy and Diana Vagelos Education Center, a state-of-the-art glass tower of classrooms,

Vision of a debt-free future

“I tell my patients, once you have glaucoma, you have it for life, and I have to see you for the rest of your life,” says David Solá-Del Valle ’11PS, an ophthalmologist at Massachusetts General Hospital. “That means doctor and patient have to click. I love reaching that point: getting to know the family, practically becoming *part* of the family over the years.”

For Solá-Del Valle, it all started the day in 2007, during his second year at P&S, when he was called to the financial-aid office. The summons terrified him. Had he defaulted on his loans?

He approached the office with dread. When he got there, he was handed a letter, which said that Dr. P. Roy Vagelos had paid off all his loans. His medical training was now debt-free.

Standing there, Solá-Del Valle began to cry.

He called his mother in Puerto Rico. Solá-Del Valle’s parents had divorced when he was four, and he grew up with his mother in Caguas, twenty miles south of San Juan. The median income of Caguas is \$24,000, with a poverty rate of 37 percent, but Solá-Del Valle had always dreamed of being a doctor. He excelled in high school and rode a full scholarship to Harvard, where he graduated magna cum laude. When he got into P&S, he agreed to take the \$200,000 plunge (the average debt per student for the Class of 2018 was \$190,000). His mother worried that it would be years before he could have a good life.

The Vagelos letter changed that. Solá-Del Valle entered his third-year rotations lighter of spirit.



“I had freedom: money was truly not an issue. I knew that no matter what I did, I wouldn’t have debt.”

He began shadowing doctors. One of them was Scott Smith, a glaucoma specialist. As soon as Solá-Del Valle entered the operating room and saw the lasers, he was hooked.

Glaucoma is hardly the most remunerative field, but Solá-Del Valle didn’t mind.

“I could have done refractive surgery to make a lot of money, and maybe I would have *had* to do that if not for Dr. Vagelos,” he says. “Instead, I was able to choose something I love.”

meeting rooms, medical facilities, and clinical-simulation spaces, which opened in 2016. At Barnard, where Diana chairs the Trustee Committee on Campus Life, they funded the Vagelos Computational Science Center, endowed a professorship in chemistry, and built the Diana Center, a 98,000-square-foot hub for student life and the arts.

In addition, they offered a matching challenge to help fund the debt-free medical school, which proved so compelling that it quickly raised \$25 million, enabling Columbia to start the program this year. Of nearly seven hundred students enrolled in the medical school, about half qualify for student loans. Going forward, all financial aid will be in the form of scholarships.

Lee Goldman, chief executive of CUIMC and dean of the medical school, says that the problem of med-school debt is often downplayed, since people assume graduates will make a lot of money. “But in medicine,” he says, “you finish four years of school, then you do another three to seven years of internship, residency, and fellowship training, all while your debt is accumulating interest. Then you have to find a career that will allow you to pay those debts.”

While Goldman is pleased that Columbia is the first among its peer schools to replace student loans with scholarships, he hopes it will not be the last. “It would be great if other schools follow us,” he says. [Just before *Columbia Magazine* went to press, NYU announced its own debt-free initiative.] “We’re not trying to gain some permanent competitive advantage in attracting students; we’re trying to change the field of medicine.”

The Vagelos live in Somerset County, New Jersey. Since 1995, Roy Vagelos has been board chair of the biotech company Regeneron, headquartered sixty miles away in Tarrytown, New York. On the morning of his visit to Rahway, Vagelos got in his silver Lexus and took a drive down memory lane, otherwise known as I-78. He stopped first in Watchung, where he and Diana and the kids had lived when he was at Merck. Feeling nostalgic, he drove by their old



house, then continued to Rahway, past Rahway High, where he’d graduated first in the Class of 1947, and over to Campbell Street, where he found a parking spot directly in front of his childhood home, two blocks from the diner.

Vagelos got out of his car and gazed at the gable-roofed house, whose siding is now painted a pale yellow. He walked to Irving Street, to Mr. Apple Pie. No one passing him on the sidewalk would know that this was one of Rahway’s great benefactors, the former head of Merck who had sent hundreds of kids to college, set new standards for corporate philanthropy, and introduced debt-free medical education to the United States. Today he was just a guy on his way to get a bite — which is to say, he was simply himself.

Half an hour after his arrival at Mr. Apple Pie, Vagelos sits in the booth, telling stories. Someone asks him about his time at Merck, noting that while he was CEO, *Fortune* magazine named Merck the country’s most admired company seven years in a row.

“We were doing things that were magical,” Vagelos says, with that look of

youthful, shiny-eyed wonder that often comes over him. “And when you have that magic, you have a responsibility to use it to affect people who have a dire need. You can’t do it for the whole world, because you can’t afford it. You must pick examples and do it big.” It’s a message that applies to everything Vagelos has done, from fighting disease to eradicating student debt. “Don’t showboat,” he says. “Make it real.”

And what about the old restaurant? What happened to Estelle’s after he left for college?

“My dad retired in 1956,” says Vagelos, cutting another bite of pie. “He sold the business to a young couple, but he could not *stand* not working. So he went back to the restaurant and offered to help out. He worked for a few years until they really got going, and then they didn’t need him anymore. He was in his seventies and took another job as a cashier in a diner a couple of blocks from Merck. When he was eighty, they said, ‘You’ve had enough.’ So he quit and got into gardening.”

Vagelos’s voice softens. “He became a retiree,” he says. “Which is something I’ve not yet accomplished.” 🍷

EXPLORATIONS

FRONTIERS OF
RESEARCH AND
DISCOVERY

What gorilla poop reveals about our messed-up diet

For years, scientists have been warning us that our bodies aren't equipped to handle all the salt, refined sugar, and saturated fat that we consume. Our modern Western diet, they say, is the main reason why rates of obesity, type 2 diabetes, and heart disease are skyrocketing.

Now Columbia researchers say they've found evidence that our taste for processed foods may be damaging our bodies in other, more subtle ways. Specifically, they say that a lack of fiber in our diet may be disrupting the natural composition

of our gut bacteria, which are known to play a critical role in regulating our immune, metabolic, and hormonal systems, as well as in aiding healthy digestion.

The scientists, led by Columbia epidemiologist Brent Williams, came to this conclusion after inspecting the excrement of dozens of wild gorillas and chimps living in the Sangha region of the Republic of the Congo. The apes' droppings, collected by members of the Wildlife Conservation Society over a three-year span and then analyzed by Williams's team, reveal that the mix of bacteria in the animals' intestines changes dramatically from season to season, in accordance with how much fiber they eat. (The apes subsist for most of the year on leaves and bark, which contain enormous amounts of fiber, but they consume a less fibrous diet of ripe fruit every summer.)

"We found that whenever the apes have access to fruit, all sorts of fiber-eating bacteria that ordinarily permeate their guts disappear," says Williams.

The discovery is important, Williams says, because it shows how highly sensitive gut bacteria are to changes in diet. And this, he says, should amplify public-health concerns about the

fiber deficiency that is now widespread wherever people consume large amounts of processed food.

According to Williams, scientists are just beginning to understand the effects of fiber deficiency. But he says that past studies have suggested that a wide range of health problems can result. In part, this is because gut bacteria that thrive on fiber produce fatty acids that have anti-inflammatory and anti-cancer properties.

Williams is now conducting experiments to determine how fiber deficiency may contribute to specific health problems, including certain types of colorectal cancer.

"You have to realize that our bodies evolved a complex symbiotic relationship with our gut bacteria over millions of years, and those relationships were forged, in part, by dietary habits that were dependent on what was seasonally available in our environment," he says. "We now rely less heavily on our environment for food, because the globalization of the food supply has placed everything at our fingertips. These relatively recent changes in our diet may be disturbing evolutionary relationships between microbes and humans, with substantial consequences for our well-being."



Another weird thing you probably didn't know about the Milky Way

Astronomers peered deep into the heart of the Milky Way recently and found that at its core, orbiting a supermassive black hole that has long been known to form the center of our pinwheel-shaped galaxy, are about ten thousand smaller black holes spiraling toward their demise, like water in a kitchen sink.

The research, led by Columbia astrophysicist Charles J. Hailey '83GSAS and based on data collected by NASA's Chandra X-ray Observatory, provides the first solid estimate of the total number of black holes in our galaxy. This information is expected to advance research in a number

of other key areas, including the study of gravitational waves, those elusive ripples in space-time theorized by Albert Einstein a century ago. Collisions among black holes are thought to be one potential cause of gravitational waves, and knowing how many black holes typically exist in a galaxy could help scientists determine the likelihood that any gravitational waves they detect emanated from such events.

"Our observations give hard evidence for the number and distribution of black holes in space, which will help theorists revise their understanding of these phenomena," Hailey says.

The center of our Milky Way galaxy, as seen from NASA's Chandra X-ray Observatory.

An invisible ink for non-spies

The practice of embedding messages within messages — called steganography — has been used by spies, soldiers, and criminals for centuries.

But steganography has everyday applications, too, and a team of Columbia computer scientists has developed a technique that can protect copyrighted material and prevent document tampering by hiding signs of authorship within a text. The system, called FontCode, accomplishes this by subtly tweaking the widths, heights, and curves of individual letters. The typographic alterations can encode significant amounts of data, such as information about a document's date of creation, but cannot be seen with the naked eye.

"The hidden message is preserved even if someone prints out the text," says Changxi Zheng, an associate professor of computer science, who led the team.

Zheng says that hiding information about a document's provenance is just one of FontCode's many potential applications. He

says the technology could also be used to encode information now contained in product barcodes and QR codes — the square grids that often appear in advertisements and which can be scanned with smartphones to link to websites.

"If you don't want to compromise the aesthetics of an advertisement with a QR code, you could embed the URL of your website right into the ad's text instead," he says.

And while there is nothing to stop spies or criminals from using FontCode to send secret messages, Zheng says they would likely be disappointed with the results. That is because documents that contain nonstandard variations of common fonts could easily be flagged as suspicious by any number of text-analysis programs that counterintelligence and law-enforcement officials use.

"If you're sending secret messages for nefarious purposes, you really want to conceal the fact that you're hiding something in the first place," Zheng says. "Our goal is to put information in a discreet form — not necessarily to hide it altogether."

EXPLORATIONS

Landscaping to save lives

A team of researchers led by Columbia public-health expert Charles C. Branas has discovered a surprisingly simple way to help reduce urban gun violence: clearing and landscaping trash-filled vacant lots, where crimes often occur. In a recent experiment in Philadelphia, Branas and his colleagues tidied up dozens of vacant lots in low-income neighborhoods and found that shooting incidents subsequently declined by 29 percent in their vicinity.

What explains this effect? Interviews with the residents led the researchers to conclude that people who live on streets that are free of blight are more likely to spend time outdoors, which, in turn, dissuades criminals from loitering.

Branas says the strategy could be useful in combating gun-related crime across the United States, where approximately 15 percent of all urban land is deemed vacant and is often filled with trash and overgrown vegetation.

"We have an area the size of Switzerland in our cities that's been abandoned like this," he says. "This is a big opportunity."



An abandoned lot in Philadelphia before and after revitalization.

Why you didn't get that raise

One of the cardinal rules of economics is that when the unemployment rate drops, wages go up. It's a matter of supply and demand: if fewer people are searching for work, companies must pay more to hire and retain them.

Yet this principle no longer seems to apply to the American labor market. For the past nine years, unemployment in the US has steadily declined, while the average worker's pay has barely kept pace with inflation. Economists, searching for explanations, have tended to blame the collapse of labor unions and the fact that many of the jobs created in recent years have been low-paying service positions.

In a forthcoming paper, Columbia economist Suresh Naidu, Microsoft Research economist Glen Weyl, and University of Chicago legal scholar Eric Posner argue that there is another important reason why wages in the US have stagnated: Americans have fewer choices of where to work. The authors say that this development, which is partly the result of a wave of corporate mergers that has swept through American industry since the 1970s, has diminished workers' bargaining power.

"More and more Americans work in labor markets where there are one or two big employers — say, a food-processing plant, a hospital, or a giant retailer — that provide a huge proportion of the available jobs," says Naidu, whose paper will appear in the *Harvard Law Review*. "So unless you're willing to uproot your family or spend years getting retrained, you don't have the option of leaving a position because you're denied a raise. This means that companies have more leverage over workers and can suppress their wages."

Naidu and his coauthors say that there are ready solutions to this



problem. For example, the US government could apply the same antitrust laws that it uses to protect consumers from monopolies on products and services to ensure that companies do not become so large that they squelch employment options. They note that on the rare occasions when workers have brought class-action lawsuits against companies for anticompetitive employment practices, US courts have tended to rule in the workers' favor. (The best-known case involved twenty thousand nurses who successfully sued a network of Detroit hospitals for colluding to suppress their pay.) But the Federal Trade Commission has been slow to scrutinize proposed mergers for their impact on workers, the authors say, because of a long-standing assumption that the US labor market is highly competitive and needs little policing.

"Generations of policymakers, legal scholars, and even economists have wrongly assumed that the US labor market can more or less function on autopilot," Naidu says. "But our research shows that the labor market is deeply uncompetitive at its core, and that something needs to be done to make it work better."

Brainteaser

Judging from *Homo naledi*'s skull (left), its brain was about one-third the size of a modern human's.



Anthropologists were left scratching their heads five years ago when a group of spelunkers exploring the Rising Star cave system outside Johannesburg stumbled upon ancient skeletal remains in what appeared to be a makeshift tomb. The never-before-seen protohuman species, soon dubbed *Homo naledi*, after the word for star in the local Sesotho language, had apparently been interred after death. Only one other form of early human, the Neanderthal, was thought to have buried its dead. And yet *Homo naledi* had a puny skull, with room enough for a brain less than one-third the size of the Neanderthal's — much smaller than scientists would have thought necessary for such sophisticated behavior.

Eventually, Ralph Holloway, a Columbia anthropologist who specializes in analyzing fossilized skulls for clues about the sizes and shapes of our ancestors' brains, got involved. This spring, after several months spent studying *Homo naledi*'s 250,000-year-old cranium, Holloway came to the surprising conclusion that its brain, despite being the size of an orange, was shaped very much like our own — and

therefore probably functioned somewhat similarly. For example, he determined that its brain had a very pronounced frontal lobe, which is involved in language processing, complex social behaviors, and other higher cognitive functions.

"Based strictly on the imprint of its brain on the inside of its skull, I would say that it's very likely that *Homo naledi* could grasp symbolism and had at least rudimentary language skills," says Holloway, who notes that anthropologists will need to unearth more artifacts from the area where the primate was discovered to say anything definitive about how mentally advanced it was.

Holloway's analysis raises fundamental questions about human evolution. That is because it challenges the view — long held by anthropologists — that our brains evolved to become unusually large before developing the special contours that give us advanced social and communicative skills.

"Many anthropologists consider brain size to be directly linked to complexity of thought," Holloway says. "But it appears that in the early stages of our evolution, at least, that was not the case."

School of rock

With its white-sand beaches and sunny weather, Barbados is a well-known magnet for tourists. Less well known is that the Caribbean island is also a popular destination for geologists and climate scientists hoping to assess the threat of sea-level rise.

Barbados is ideally suited for this kind of investigation because it is made largely of fossilized corals that reach from its shoreline high into its hilly interior. Since some species of corals only grow within a few feet of the ocean's surface, their chalky remains represent a reliable gauge of historical sea levels. By dating corals at various elevations on the island, Columbia scientists aim to determine how high our planet's oceans rose in the past — and therefore how high they could rise in the future.

"The big question is: are sea levels going to rise by a foot, by three feet, or by ten feet in the coming decades and centuries?" says Maureen Raymo '89GSAS, a paleoclimatologist and marine geologist at Columbia's Lamont-Doherty Earth Observatory who recently led an expedition to Barbados.

Raymo and her colleagues are equipped with new analytic methods. A geochemical-dating technique perfected by Columbia graduate student Michael Sandstrom can pinpoint the age of coral with unprecedented accuracy. The team has also brought GPS instruments that allow them to fix the elevations of samples with greater precision.

The scientists' work is complicated by the fact that the sea floor in this part of the Atlantic has for millennia been rising as a result of tectonic activity. "The corals on Barbados are being pushed upward at a rate of about a foot every thousand years," says Raymo. "We must correct for that movement to extract the information we want."

Raymo's team is looking at a few key periods of global warming, including one that occurred four hundred thousand years ago, when the oceans may have risen anywhere from eighteen to forty feet.

"If we can fine-tune that estimate, the next challenge will be to determine how quickly the sea levels rose," says Raymo. "And the answer to that question, too, should be in the corals." — *Kevin Krajick '76GS, '77JRN*



Graduate student Miranda Cashman observes a coral "mushroom" that was once a part of a sea cliff eroded by waves; it is now about a mile inland.



Marine geologist Maureen Raymo inspects fossilized corals, mollusks, and other sea creatures exposed by a road cut.



Graduate students Michael Sandstrom and Miranda Cashman gather precise measurements of reef locations and elevations.



This brain coral may be more than 120,000 years old.

STUDY HALL RESEARCH BRIEFS

We are family Columbia geneticist Yaniv Erlich has created the world's largest family tree. It charts the relationships of thirteen million people, dating as far back as eleven generations, using public profiles from the collaborative genealogy website Geni.com. The tree reveals, among other things, that marriage between cousins fell out of favor in Europe and America around 1875.

Needles to the rescue A study led by Columbia oncologist Dawn Hershman '01PH shows that joint pain caused by a common class of breast-cancer drugs can be reduced with acupuncture. The discovery is important, Hershman says, because nearly a quarter of breast-cancer patients who are prescribed aromatase inhibitors stop taking them or cut back on their dosages because of the resulting joint pain.

Missed connections Humans continue to grow new brain cells throughout adulthood, even into old age, but we may eventually lose the ability to form connections between the neurons, suggests research by Columbia psychiatrist Maura Boldrini. Her discovery, which counters theories that neuron production ceases during adolescence, could help in developing treatments for dementia.

Eat my dust A natural ecological boundary that runs down the middle of the United States, separating the arid western half of the country from the more verdant East, is gradually shifting eastward as a result of global warming, finds Columbia climate scientist Richard Seager '90GSAS.

Slow dancing The gravities of Jupiter and Venus are gently tugging on Earth, causing its orbit to shift every 202,500 years between an elliptical path and a more circular one, according to Columbia researchers Paul Olsen and Dennis Kent '74GSAS. Their study has implications for understanding Earth's climate and the development of the solar system.

Pick up the phone Emergency-room personnel who treat someone who has attempted suicide can significantly reduce the risk of that person making future attempts by placing follow-up phone calls to offer help in finding mental-health care, finds Columbia psychologist Barbara Stanley.

Stoner statistic Parents with young children at home are increasingly smoking marijuana and are therefore likely exposing their kids to harmful chemicals from secondhand inhalation, according to epidemiologist Renee D. Goodwin '03PH.

NETWORK

YOUR ALUMNI CONNECTION

The Workers' Warrior

It's a Sunday afternoon in June, and in McAllen, Texas, a crowd of protesters has gathered outside the Ursula Border Patrol processing center. The sun is strong, and there isn't a shade tree in sight, but the group is undeterred, waving signs and chanting, decrying the Trump administration's family-separation policy.

At the front of the pack is Ai-jen Poo '96CC, an activist and organizer who has spent over twenty years championing the rights and welfare of the US's 2.5 million domestic workers. As the executive director of the National Domestic Workers Alliance (NDWA) — which cosponsored the protest in

McAllen, as well as others across the country — it is her job to follow the issues and policies that affect the lives of workers, including nannies, housekeepers, and elder-care providers. Her constituents are overwhelmingly women and people of color, and many of them are immigrants, likely to be affected by border-control measures.

Throughout her career, Poo has argued that domestic workers, who are unprotected by most federal and state labor laws, face disproportionate discrimination in the workplace. "The people that care for our children and parents and clean our homes are such an intimate part of our lives," she says.

"So why don't we do more to protect and empower them?"

The daughter of Taiwanese immigrants, Poo originally studied ceramic arts at Washington University in St. Louis before she transferred to Columbia to get a bachelor's degree in women's studies. In the spring of 1996, she helped organize a student-led coalition to establish the Center for the Study of Ethnicity and Race at Columbia. The campaign was successful, and the experience helped shape Poo's career path. "I saw activism as my anchor," she says.

After graduating, Poo worked as an organizer in New York's Asian immigrant communities and then helped to found Domestic Workers United (DWU) — a group of New York-based nannies, housekeepers, and elder-caregivers. In 2007, under Poo's leadership, DWU convened a meeting of thirty similar organizations from around the country, which led to the formation of NDWA. DWU also achieved a major legislative victory in New York in 2010 when it pushed through the state-wide Domestic Workers' Bill of Rights — the first law in the United States to guarantee domestic laborers basic rights like overtime pay, paid leave, and legal protection against harassment.

"It was a real breakthrough moment, in terms of both tangible protections and ensuring that this kind of work was recognized by the state as deserving of respect and dignity," says Poo, who estimates that she took over fifty trips to Albany to lobby

Ai-jen Poo (right) and a group of colleagues gather before the Families Belong Together rally in Washington, DC, in July.



COURTESY OF AI-JEN POO



for the legislation. After the bill passed, Poo left DWU to take the helm of the national organization, NDWA.

Poo's work has been recognized with a number of awards, including a MacArthur "genius grant" in 2014, but in January 2018, she received an unusual honor: an invitation to be Meryl Streep's date to the Golden Globes. Poo was one of several activists there in support of the Time's Up movement against sexual harassment.

Poo says that seeing activism — particularly on behalf of women — get attention in popular culture felt like a historic moment, and she hopes to see that trend continue this fall.

There are a record number of women on the ballot for the midterm elections, and for the first time, NDWA has endorsed a political candidate: Stacey Abrams, who is running for governor in Georgia. If elected, Abrams will be America's first Black, female governor, and she has pledged support for Georgia's large population of domestic workers. Poo says that candidates like Abrams give her hope for the future.

"Women are showing up for each other," Poo says. "We have an unprecedented opportunity to create real, lasting change."

— Julia Bosson
'11CC, '16SOA

We Come in Peace

For nearly seventy years, since the opening of the 1951 science-fiction film *The Day the Earth Stood Still*, the phrase "we come in peace" has signified a particular kind of tentative diplomacy. Pakistani-born sculptor **Huma Bhabha '89SOA** mirrors that uneasy moment of first contact in a site-specific installation on the roof of New York's Metropolitan Museum of Art. In Bhabha's imagination, the museum becomes a landing pad, where two strangers — one dominant, the other subservient — confront each other. The sculptures, made from a variety of found materials, such as cork, Styrofoam, and clay, and then cast in bronze, may inspire sober reflection, but Bhabha invites all interpretations. "If they wish, viewers can make up their own story," Bhabha said recently. "My objective is to give life, personality, and power to the sculptures, so they become something or someone." *We Come in Peace* is on view through the end of October.

It's Miller Time

Columbia's Miller Theatre, lauded by the *New York Times* as "a hotbed of bold programming," celebrates its thirtieth-anniversary season with a lineup that promises to reaffirm the reputation not only of the venue but of Columbia's diverse artistic community. This year's Composer Portraits, a series that champions artists at the forefront of new music, features three alumni with singular styles and multiple talents.



KATE SOPER '11GSAS

October 27, 2018

Part Greek theater, part screwball comedy, Kate Soper's *Ipsa Dixit* blends drama, rhetoric, and innovative vocal technique to

create an inspired musical journey. Soper, who is both a composer and singer, joins members of the Wet Ink Ensemble to deliver what the *New Yorker* has called a "twenty-first-century masterpiece."



WANG LU '12GSAS

February 21, 2019

Born in Xi'an, China, composer and pianist Wang Lu was brought up listening to traditional opera and folk music. These influences,

seen through the prism of contemporary instrumentation and sonic experimentation, will be on full display in a performance that includes a world premiere presented with the percussion and piano quartet Yarn/Wire. Musicians from the International Contemporary Ensemble will also perform.



TYSHAWN SOREY '17GSAS

March 28, 2019

Tyshawn Sorey is an accomplished composer and drummer whose creative practice pushes

boundaries and eschews categorization. The 2017 MacArthur fellow embraces the roles of conductor, multi-instrumentalist, educator, and scholar to deliver radical innovation in its purest form. Miller will present several of his works, including the New York premiere of *New Quartet for JACK*, performed by the JACK string quartet.

For Your Consideration



There were a few prominent themes in this year's crop of Emmy nominations: dragons, robots, royal families, and Columbians. In total, nine alumni saw their television projects nominated. **Ramin Bahrani '96CC**, an associate film professor at Columbia's School of the Arts, directed an HBO film adaptation of Ray Bradbury's classic novel *Fahrenheit 451* that earned five nominations.

Dan Futterman '89CC and **Brian Yorkey '93CC** both created programs that received nods — the Hulu miniseries *The Looming Tower* and the Netflix drama *13 Reasons Why*, respectively. **Kate McKinnon '06CC** got her sixth

nomination for her work on *Saturday Night Live*, and **Brandon Victor Dixon '03CC** was recognized in the outstanding supporting actor category for NBC's *Jesus Christ Superstar Live in Concert*. The Netflix series *GLOW*, which was executive-produced by **Jenji Kohan '91CC**, received ten nominations; and the Netflix documentary *Icarus*, executive-produced by **Maiken Baird '89CC**, received three. Additionally, **Tony Gerber '95SOA** produced the nominated National Geographic documentary film *Jane*, about Jane Goodall, and **Juliana Lembi '17SOA** produced the nominated Netflix documentary series *Wild Wild Country*, about an Oregon cult in the 1970s.

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ASK AN ALUM WINE WISDOM

Julie Johnson '79NRS was working as a home health nurse in California in 1984 when she decided to hang up her scrubs and become a full-time vintner. Today she is the owner of Tres Sabores, a Napa Valley winery, and in 2017, she helped launch the Columbia Alumni Winemakers Collective, a growing network of over fifty wine professionals.

COLUMBIA MAGAZINE: Going from nursing to winemaking is a big pivot. How did you make the switch?

JULIE JOHNSON: I was introduced to wine in the Finger Lakes region of upstate New York by a young vintner. I was in nursing school then, and we started dating. After I graduated from Columbia, we moved to California, got married, and opened a winery together called Frog's Leap. Before we knew it, our business was growing, and I quit my job and pursued the wine business full-time. Eighteen years later, I launched Tres Sabores.

CM: Talk about Tres Sabores' approach to winemaking.

JJ: "Tres Sabores" is Spanish for "three flavors." For me, there are three elements that impact how a wine tastes: the variety of the grapes, the quality of the terroir (or earth) where the grapes are grown, and the spirit of the table — the ambiance, the food, the social setting. We have a vineyard of about twelve acres with hundreds of olive, pomegranate, and lemon trees, and everything is certified organic. When you foster natural systems, you get healthy soil that leads to balanced vines and fruit, and balanced fruit leads to really good wine.

CM: What's the most difficult part of being a winemaker?

JJ: Making the wine is the easier part. We're fortunate to have the right climate and vines, as well as the necessary equipment and experience. The harder step is actually selling the wine — navigating a huge network of distributors and restaurants that have little time for a small, artisanal producer.

CM: Are women underrepresented in the winemaking world?



JJ: Yes, although it's getting better. At universities that have viticulture and enology programs, the parity between genders is strong. But of winemakers who own their own companies, maybe 10 to 12 percent are women.

CM: You're the cofounder of Women for WineSense, a national organization that promotes wine education and appreciation. Why are those things important?

JJ: Well, wine is used for business and entertaining, so it can be useful to have expertise. But wine is also one of the great pleasures in life — and the more you know, the more enjoyable it can be. There's also substantial evidence that enjoyment of wine in moderation can be a health benefit.

CM: What advice would you give to an amateur sommelier?

JJ: Take classes: there are numerous schools and certifications out there. Start your own wine-tasting group,

meet regularly, and, if you're traveling, visit local vineyards and learn about the differences in regional wines.

CM: There seem to be a lot of oenophiles in the Columbia community. Any explanation for that?

JJ: I think some of it has to do with the fact that we've all spent time in New York City, with its spectacular food and possibly the world's most diverse wine market. It seems only natural that New York would inspire people to dip their toes into the wine world.

CM: If you could drink only one type of wine for the rest of your life, what would it be?

JJ: If I were forced to shut myself up in my cellar, I would be drinking Zinfandel or Cabernet Sauvignon from the barrel. When Armageddon comes, you'll know where I'll be, and I'll be perfectly happy.

— *Julia Joy*

A Career in Caring

Just a few years ago, Ron Gold '91BUS was a model of strength and independence — a successful banker and an avid amateur athlete. Then, on a warm November afternoon in 2011, his world was upended: as he was finishing a fifty-mile bike ride, a sleeping driver in an SUV crossed traffic and hit Gold, then fifty-one, head-on, causing massive internal injuries and shattering his spine.



His doctors initially thought that Gold, then a managing director at Barclays Bank in New York, wouldn't survive. After three weeks in a medically induced coma, he did, but he was paralyzed from the waist down. He needed someone to help him with daily activities like bathing and dressing, but his insurance stopped paying for home health aides after a month. He was stunned to discover that such urgently needed care is generally not covered by insurance at all. "That's when I realized I had entered the Wild West of the home-care industry," says Gold. While homebound, he thought about how he could create a new model for this kind of care.

The easiest way to find and hire a health-care worker is through an agency, Gold says. But because home-care agencies charge high fees — typically twenty-five dollars per hour, with a four-hour minimum (and less than half the money going to the caregiver) — most clients pursue what Gold calls the "underground market," directly hiring an aide that they find through word of mouth. Even if the referral comes from a trusted source, it's tough to know exactly what you're getting. "With home care, most people don't check out licenses or do criminal background checks," Gold says.

In 2015 Gold founded LeanOnWe, a network of caregivers in New York, New Jersey, and Connecticut that serves as a matchmaker between employer and home health aide. LeanOnWe has vetted and personally interviewed nearly a thousand caregivers, and each appears in a video on the LeanOnWe website, sharing his or her specialties and experience. Searching for help is free; LeanOnWe charges clients a one-time fee of \$395 when they hire a caregiver and a modest daily fee (usually around 5 percent of the caregiver's rate) thereafter. Rates are set individually between caregiver and client, which means that clients get a choice of highly qualified aides and caregivers are paid a living wage for their valuable work.

LeanOnWe is investing in new technology that will enable more sophisticated, targeted caregiver searches and real-time scheduling information. And while Gold is now healthy enough to return to Wall Street, he's become fully invested in his new career: "When someone tells me that we have been able to bring comfort during what is inherently a frustrating, powerless time in life, I find that really rewarding."

— Harriet Barovick

NEWSMAKERS

● Columbians won big at this year's Tony Awards. The two-part epic *Angels in America*, which was written by **Tony Kushner '78CC, '10HON** and produced by **Jordan Roth '10BUS**, won for best revival of a play. *The Band's Visit*, co-produced by **Steven Chaikelson '89CC, '93SOA, '93LAW**, took home ten awards, including best musical.

● **Olivier Knox '92CC** was appointed head of the White House Correspondents' Association — the independent organization of journalists who cover the White House — in July. A veteran journalist who has reported on six presidential campaigns, Knox left Yahoo News this year to join SiriusXM as chief Washington correspondent.

● *MIT Technology Review* magazine included **Yin Qi '13SEAS** on its list of "35 Innovators Under 35." Qi is the founder of Megvii, a Beijing-based face-recognition platform. The Chinese government has adopted the technology for security in train stations, and several banks are using it to confirm customer identities.

● **Benjamin Greenbaum '97CC, '06GSAS** was a winner of the Pershing Square Sohn Prize, which honors young scientists for achievement in cancer research. Greenbaum, an assistant professor at Mount Sinai's Icahn School of Medicine, uses math and physics to analyze data related to immunotherapy response.

● The Oscar-winning screenwriter and director **Jennifer Lee '05SOA** was named the new head of Walt Disney Animation Studios. Lee, who is best known for her beloved animated movie *Frozen*, will be the first woman ever to serve as chief creative officer for the ninety-five-year-old studio.

● Playwright **Robert O'Hara '96SOA** won the Herb Alpert Award in the Arts, a \$75,000 prize given annually to five "risk-taking" mid-career artists. O'Hara is best known for the plays *Insurrection: Holding History* and *Bootycandy*, both of which explore the intersection of racial and sexual identity.

● *The Mars Room*, the third novel by **Rachel Kushner '01SOA**, was named a finalist for the Man Booker Prize (see our review in the Spring/Summer 2018 issue). Kushner's first two novels, *Telex from Cuba* and *The Flamethrowers*, were both finalists for the National Book Award.



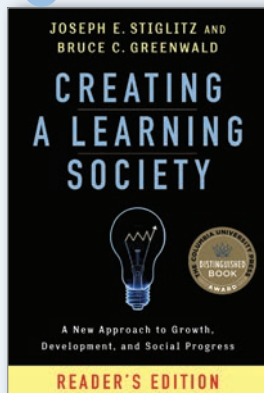
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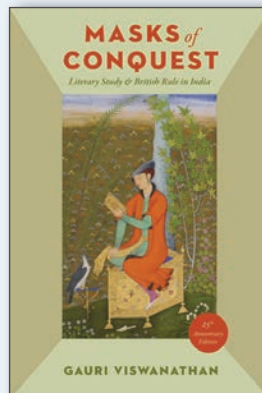
"Death of a Discipline is a visionary text which can be considered one of the most cutting-edge theoretical works today."

—*Studies in Ethnicity and Nationalism*



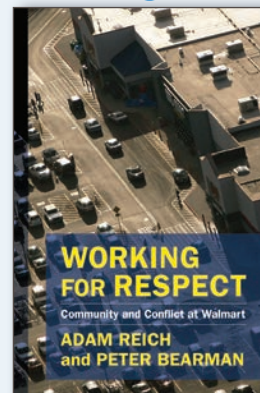
"If one's attention is on the economic long run and the processes involved in economic change, innovation and learning quickly can be seen as occupying the center of the stage."

—Richard Nelson, Emeritus George Blumenthal Professor of International and Public Affairs, Business, and Law



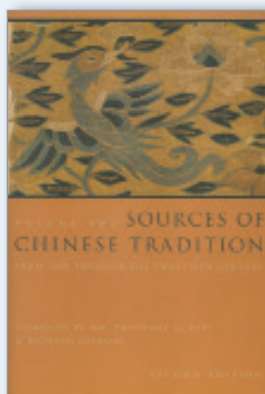
"The great merit of Viswanathan's closely argued and admirably researched book is to show that the exigencies of managing an empire played a far more important role than has hitherto been recognized in the emergence of the discipline as a social practice."

—*History of European Ideas*



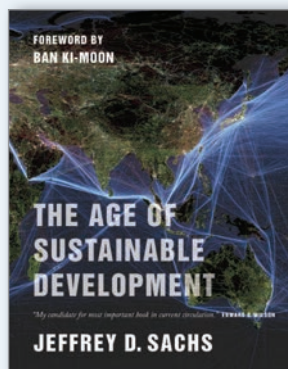
"I am obsessed with this book! The prose is riveting. The blend of disparate methods is spectacular. The sheer adventure of student organizers . . . will keep you turning the pages."

—Kathryn Edin, coauthor of *\$2 a Day: The Art of Living on Virtually Nothing in America*



"Sources is a monument to Wm. Theodore de Bary's lifelong belief in the possibility of a common curriculum for global citizens."

—Robert Hymes, Carpentier Professor of Chinese History



"Sachs provides a compelling and holistic framework for tackling some of the world's most complicated problems."

—Steven Cohen, executive director, Earth Institute



"Edward Said's eloquent call for an invigorated humanism has never been more relevant."

—Gauri Viswanathan, Class of 1933 Professor in the Humanities



"[Keene's] special gifts are on display in Emperor of Japan . . . [which] brings us as close to the inner life of the Meiji emperor as we are ever likely to get."

—*New York Times Book Review*

BULLETIN

UNIVERSITY NEWS AND VIEWS



CARNOY AND LAVINE NOW LEAD TRUSTEES

This fall, Lisa Carnoy '89CC and Jonathan Lavine '88CC became co-chairs of the University Board of Trustees, taking over from Jonathan Schiller '69CC, '73LAW, who led the board for five years.



Carnoy and
Lavine in 1988.

Carnoy is a leader in global finance and capital markets. She spent twenty-three years at Bank of America Merrill Lynch, most recently as division executive for the Northeast for U.S. Trust and as New York City market president for Bank of America. She has been a passionate advocate for diversity, cofounding several organizations that promote the advancement of women, including the Women's Leadership Council at Bank of America Merrill Lynch and, at

Columbia, the Women's Leadership Council for Athletics. A University Trustee since 2010, Carnoy has received Columbia College's John Jay Award for professional achievement, its Alumna Achievement Award, and the University's Alumni Medal. She most recently chaired the board's Alumni Relations and Development Committee and served on its Compensation, Finance, Officers, and Trusteeship Committees.

Lavine is co-managing partner of Bain Capital, the global investment firm. He joined the company in 1993 and soon founded its credit unit, Bain Capital Credit, where he still serves as chief investment officer. He and his wife, Jeannie, are prominent philanthropists and in 2007 formed the Crimson Lion Foundation, which supports a wide variety of organizations that fight social injustice and economic inequality. Lavine has received Columbia College's Alexander Hamilton Medal, John Jay Award, and Dean's Leadership Award for

the Class of 1988 twenty-fifth reunion. He became a member of Columbia's Board of Trustees in 2011 and most recently chaired its Committee on Finance and its Subcommittee on Shareholder Responsibility. He also served on its Alumni Relations and Development, Compensation, Officers, and Trusteeship Committees.

Carnoy and Lavine's joint leadership of the Board is the natural culmination of more than thirty years of collaborative service to the University. Before being elected trustees, Carnoy and Lavine worked together as officers on the Columbia College Board of Visitors; they now work together on the University-wide Columbia Commitment fundraising campaign and on the College's Core to Commencement campaign. As undergraduates, both were student-athletes — Carnoy lettered as a sprinter for women's track and field, and Lavine lettered as a member of the Lions golf squad — and they have remained involved in Columbia Athletics.

LEFT AND TOP LEFT: COURTESY OF LISA CARNOY; TOP RIGHT: COURTESY OF JONATHAN LAVINE

LORRAINE FRAZIER NAMED DEAN OF NURSING

Columbia University has appointed Lorraine Frazier as the new dean of the School of Nursing. An accomplished medical researcher and academic leader, Frazier is now also the Mary O'Neil Mundinger, DrPH, Professor of Nursing and senior vice president at Columbia University Irving Medical Center.

Frazier was most recently dean of nursing at the University of Texas Health Science Center at Houston; she previously held the same position at the University of Arkansas for Medical Sciences. She is an expert in biobanking, or the emerging science of collecting, storing, and sharing blood and tissue samples for the purpose of advancing medical research. As dean of Columbia's nursing school, she succeeds Bobbie Berkowitz, who had led the school since 2010.

"Under Dean Bobbie Berkowitz, the school has been preparing leaders who are shaping the health-care system and training students to practice at the profession's highest level," says President Lee C. Bollinger. "Lorraine Frazier is recognized for her scholarship and for her accomplishments as dean of two different nursing schools, experience that makes her ideally suited to carry Columbia Nursing forward to the next stage in its development."



Lorraine Frazier



Lions archers, from left: Brittney Shin, Bianca Gotuaco, Deborah Teo, Aileen Yu, Stephanie Kim, and Sophia Strachan.

WE ARE THE CHAMPIONS

The women's archery team triumphed at the National Outdoor Collegiate Championships in May, edging Michigan State by two points in the compound division. It was the team's second straight national title in that category and its third in four years.

The next month, the men's lightweight rowing team outpaced five other teams at the Intercollegiate Rowing Association's National Championship, claiming its second national title in three years. Leading up to the regatta, the Lions crew swept all its regular-season cup races.

Five other Lions squads topped the Ivies this year, with the women's fencing and men's squash, tennis, fencing, and baseball teams all winning league titles.

For details, visit gocolumbialions.com.

COLUMBIA AND IBM ESTABLISH NEW CENTER FOR BLOCKCHAIN TECHNOLOGY

Columbia University and IBM recently announced the creation of a new center devoted to research, education, and entrepreneurship in blockchain technology — a decentralized and highly secure method of storing digital information.

The Columbia-IBM Center for Blockchain and Data Transparency will create cross-disciplinary teams from academia, business, and government "to explore key issues related to the policy, trust, sharing, and consumption of digital data when using blockchain and other privacy-preserving technologies," according to a joint statement from the institutions. The center, supported by a steering committee of Columbia faculty and IBM scientists

and business leaders, will draw on the University's academic strengths in data science, engineering, business, and law, as well as IBM's expertise in technology research and development.

Blockchain technology has gained wide attention in recent years as the digital backbone of the virtual currency Bitcoin, but companies in many industries have shown interest in adopting it as a way to exchange value electronically. The technology enables large numbers of computers on secure networks to communally store data, such that any changes made to the data are documented on all the computers, thus reducing the risk that changes introduced by hackers might go undetected.

IMPROVING HEALTH, ONE NEIGHBOR AT A TIME

The Community Wellness Center on Columbia's Manhattanville campus opened this year, providing residents of Upper Manhattan a broad range of health services, including free blood-pressure readings and cholesterol screenings. Under the direction of Columbia physicians Olajide Williams '04PH and Sidney

Hankerson, the Wellness Center, located on the ground floor of the Jerome L. Greene Science Center, also trains residents of Harlem and the surrounding area to serve as community-health advocates, promoting cardiovascular and mental health among their neighbors. To learn more, visit communitywellness.manhattanville.columbia.edu.



A health worker takes a local resident's blood pressure.



The inaugural Obama Foundation Scholars. Top, from left: Gabriela Galilea, Ndansi Elvis Nukam, Pavel Kounchev, Ana María González Forero, Oluseun Onigbinde, Omezzine Khelifa. Bottom, from left: Alice Barbe, Peter Ndayihereje, Rumbidzai Chisenga, Hong Hoang, Vanessa Paranjothy, Trisha Shetty.

COLUMBIA WELCOMES OBAMA SCHOLARS

Twelve young civic leaders from as many countries are coming to Columbia this fall to participate in the Obama Foundation Scholars program, a new collaboration between the University and the nonprofit foundation created by former president Barack Obama '83CC. Participants in the yearlong residency will receive rigorous academic instruction and experiential training related to the policy, development, and social-advocacy work they do in their home countries. The program is part of the Columbia World Projects initiative, which was established last year to support academic endeavors that address pressing global problems.

Among the inaugural Obama Foundation Scholars are the founder of a Vietnamese nonprofit that mobilizes young people to promote environmental preservation; the head of a Singaporean organization that provides reusable menstrual products to women in poor communities; and the cofounder of a Nigerian company that simplifies public-finance documents to make government more transparent.

"We are proud to be a partner with the Obama Foundation in launching the Obama Foundation Scholars at Columbia to advance our shared mission of developing leaders who are not only dedicated to making a difference but also have the intellectual and practical skills to turn their ideas into action," says President Lee C. Bollinger.

To learn more about the program and its participants, visit president.columbia.edu/obama-scholars-program.

IN MEMORIAM

The University recently lost two of its most generous donors: H. F. "Gerry" Lenfest '58LAW, '09HON, who died at age eighty-eight on August 5; and Florence Irving '13HON, who died at ninety-eight on July 25.

Gerry Lenfest, a University Trustee from 2001 to 2013, supported a wide variety of Columbia programs and was "a true colleague in every major undertaking of the University over the last two decades," says President Lee C. Bollinger. Together with his wife, Marguerite, Lenfest established the Distinguished Columbia Faculty Awards to honor exceptional teaching in the arts and sciences; he created a matching-gift program that endowed twenty-five faculty chairs in the arts and sciences; he helped to fund the construction of the Lenfest Center for the Arts in Manhattanville; and he made major gifts to Columbia's Earth Institute, its law school, and its medical center.

Florence Irving, along with her late husband, Herbert '09HON, was a benefactor of the Columbia University Irving Medical Center, which was named in the couple's honor in 2016. CUIMC, Columbia's shared medical campus with NewYork-Presbyterian Hospital, is home to numerous buildings, institutes, and programs that have received crucial support from the Irvings, among them the Herbert Irving Comprehensive Cancer Center, the Irving Institute for Clinical and Translational Research, and the Irving Scholars Program.



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BOOKS

How to Change Your Mind

By Michael Pollan '81GSAS (Penguin Press)

You generally remember your first time. I remember mine. I'd just turned seventeen and was given some by a well-meaning friend. The two of us were spending the afternoon goofing around in a recording studio, and I thought the stuff would wear off after a couple of hours. It didn't. That moderate dose of blotter-paper LSD kept going and going, past the end of the session, during the car ride home (in which I hallucinated a golden retriever sitting next to me on the back seat), and on

through a National Honor Society banquet, where my parents and I sat at a big round table in the high-school gym and listened to a local TV weatherman give a talk about "excellence." This was 1983, not 1967. The very long tail of the sixties counterculture was still slithering through the party-hardy, *Fast Times at Ridgemont High*, Reagan-and-yuppies decade, and the whole experience, frankly, put a new spin on the notion of excellence. It was free of any untoward anything: no freak-out, no bumner, no leprechauns dancing on the chicken à la king. True to the spirit of the eighties, my first trip was more fun than life-altering, more like experience acquisition than vision

quest. I dabbled a few more times (like almost everyone I knew), and that was it. I'm born to be mild, I guess.

Reading *How to Change Your Mind*, an utterly devourable exploration of the long, strange history — and apparent renaissance — of psychedelics by Michael Pollan '81GSAS, I can now see that LSD (along with the extended family of consciousness-tweaking substances, including psilocybin and mescaline) is wasted on the young and the clueless. This companionable, illuminating gazetteer of the unexpectedly vast terrain of psychedelics, which finds Pollan journeying among far-flung laboratories and therapy rooms — where the terminally ill have been dosed to miraculous, mood-enhancing effect — and into the remotest outbacks of the human

brain, including his own, is aimed directly at people like me — that is, the many of us who have written off psychedelics. It offers a convincingly grown-up case for the potential of drugs that, having survived decades of vilification, now seem poised to revolutionize several fields, from mental health to neuroscience.

Pollan, who is sixty-three, never touched a blotter or magic-mushroom cap until researching and reporting this book. He refers to this as a "dereliction of generational duty." He somehow managed to escape the baby-boomer fascination with psychedelics, fueled by the Beatles, Aldous Huxley (who was injected with LSD on his deathbed), and, most of all, Timothy Leary.

Leary founded the Harvard Psilocybin Project in 1960, and Richard Nixon later deemed him "the most dangerous man in America." For Pollan — and for the book's admonishing chorus of researchers, psychiatrists, technicians, and therapists — Leary, who pushed acid out of the lab and onto the street, lives up to that description, at least when it comes to the cause of lab-centered research. "The force of the Leary narrative has bent the received history" of psychedelics, Pollan writes. Once the stain of counterculture set, it was impossible to get out, reducing the field to a "scientific embarrassment." LSD became illegal in 1966, and most psychedelic research programs closed shortly thereafter.

How to Change Your Mind is on a mission to unbend the psychedelic narrative, away from the patchouli, the batiks, the endless replaying of "White Rabbit," and toward its use as a respectable form of therapy. Pollan reminds us that Cary Grant claimed LSD turned him into a happy man. Steve Jobs counted it among his crucial life experiences. (Pollan makes a strong case for the foundational impact of LSD on Silicon Valley.) Robert Kennedy called it "very helpful to our society if used properly." (He probably never used it, but his wife reportedly did.) Along the way, there's an appropriately dizzying parade of trippy facts: that dogs, cows, and horses like to munch magic mushrooms, that early



man's psychedelic experiences may have led to language and higher consciousness (the "stoned ape" theory), that 1950s-era LSD experiments advanced the field of neurochemistry, leading to Prozac, Zoloft, and the rest.

There are plenty of colorful characters in *How to Change Your Mind* too: scientific visionaries, lab-coated psychonauts, mushroom hunters, "microdose" enthusiasts, and occasional New Age flakes. But perhaps the greatest character is Pollan himself, who, after consulting with his cardiologist, embarks on a series of successive trips, which he details with good-natured detachment, humor, and even beauty. Pollan recounts odysseys on LSD, psilocybin, and, most vividly, the crystallized venom of the Sonoran desert toad, smoked like crack: "Like one of those flimsy wooden houses erected on Bikini Atoll to be blown up in the nuclear tests, 'I' was no more, blasted to a confetti cloud by an explosive force I could no longer locate in my head, because it had exploded that, too." Some toad.

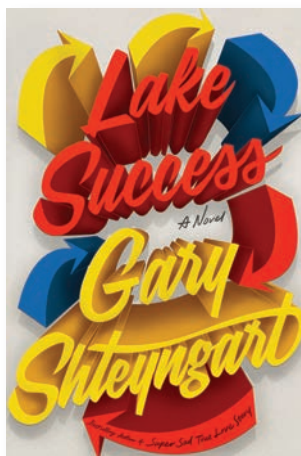
Henry James purportedly wrote, "Tell a dream, lose a reader." But these waking dreams of a middle-aged latecomer — who convincingly describes peeing into a toilet while on mushrooms as "the most beautiful thing I had ever seen" — hold a reader at full, mesmerized attention. I'm not sure I'm ready to re-dabble — or smoke a toad — and thankfully, Pollan, ever wary of Leary's ghost, does not proselytize. But he does make a compelling argument for psychedelics to be taken seriously, particularly as tools for treating severe mental illness, depression, and anxiety. The author's previous bestsellers *The Omnivore's Dilemma* and *In Defense of Food* recalibrated the conversation about how we feed ourselves. *How to Change Your Mind* will surely recalibrate the conversation about feeding our heads — and, possibly, our souls.

— Mark Rozzo

Mark Rozzo is an adjunct professor of writing at Columbia's School of the Arts and a contributing editor at Vanity Fair.

Lake Success

By Gary Shteyngart (Random House)



"Like your first ankle monitor or your fourth divorce, the occasional break with reality was an important part of any hedge-fund titan's biography."

— Gary Shteyngart, *Lake Success*

Lake Success, Gary Shteyngart's brilliant and bighearted new novel, showcases all the author's trademark gifts: sharp satire; complex characters, lovingly rendered; and prose so alive that it practically sparks off the page.

It's 2016, the first Summer of Trump, and a drunk Barry Cohen has stumbled into Port Authority and demanded a Greyhound ticket to Richmond, Virginia. He's in search of his long-lost college girlfriend, Layla Hayes; though he hasn't seen her in decades, memories of their years together at Princeton have filled him with blinding nostalgia. Barry is running at once toward the fantasy of Layla and away from his real life in New York City: his loveless marriage to an intimidatingly smart younger woman, Seema; his heartbreaking relationship with his son, Shiva, who, at age three, is severely autistic; and a looming SEC investigation into the hedge fund he manages.

Unlike Shteyngart's previous books (*The Russian Debutante's Handbook*, *Absurdistan*, *Super Sad True Love Story*, and the memoir *Little Failure*), *Lake Success* doesn't mine the Russian-American experience, which feels like a significant departure for Shteyngart, an assistant professor at Columbia's School of the Arts who immigrated to New York from St. Petersburg when he was seven. Even so, readers familiar with his work will quickly recognize the author's incisive explorations of ambition, class, and wealth.

Lake Success is populated with strivers — especially Barry, raised modestly in Queens, who now oversees \$2.4 billion in assets, casually drinks \$33,000 bottles of Japanese whisky, and can't meet a person without sneaking away to look up the value of their apartment on Zillow. (Parallels to Trump, who ascended from the outer boroughs to a literal golden tower in Manhattan, are clear and expertly drawn.) Eventually the mission to find Layla evolves, and the Greyhound trip, in Barry's romantic reveries, comes to represent the chance to break away from his troubled life and the moneyed way he views the world — the chance to learn about what Trump has claimed as his America, what's touted as the *real* America. "I came

on a Greyhound bus!” Barry likes to proclaim. “I felt like I needed to see the country as it really is.”

Along the way, he scores crack in Baltimore, suffers a breakdown in Phoenix, and has a cringingly awkward stay with Layla’s parents in Richmond. He finally finds Layla in El Paso, and as he falls into an effortless intimacy with his former love and her son, there’s enough space in the narrative for us to ask painful questions about what’s stopping him from having the same kind of relationship with his own wife and child back home. Barry is so divorced from reality that he spends his days tooling around El Paso, reveling in the subur-

ban Texas lifestyle: why, he wonders, did “people who were just upper-middle-class in New York [choose] to stay there, given that they could live like minor dictators in the rest of the country?”

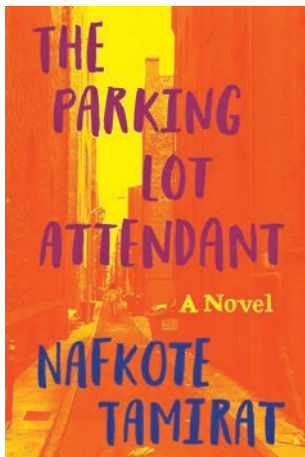
The novel seamlessly zips between the perspectives of Barry and his wife. Seema is still cooped up in the family’s swanky New York high-rise, with a menagerie of nannies and a calendar full of awkward playdates, but her story is as compelling as Barry’s impulsive exit. Whether she’s eavesdropping on a conversation between SoulCycle moms (“Poor Barbara, one of her kids is autistic, and the other goes to BU”) or musing on Barry’s Jewishness, Seema

manages to be sharply critical of the one-percenters around her while never forgetting that she’s become one of them. While Barry is off chasing his college sweetheart, Seema falls into her own romantic relationship with an upwardly mobile, pretentious novelist, and the scenes with him are particularly funny and insightful. Seema is such a complicated and nuanced character that we can understand both her annoyance with and her attraction to this man; and their conversations about immigration, class, and Trump manage to tackle complex contemporary issues without ever straying toward cliché.

Shteyngart’s novel is among the first crop of fiction to confront the Trump presidency and the ensuing cultural rift in our country — Salman Rushdie and Curtis Sittenfeld have also recently come out with such books. It’s a difficult topic, but Shteyngart succeeds in spades, with biting humor and deep empathy for his characters. *Lake Success* is an unapologetically political book without a didactic line in it. It’s also a ferociously funny and devastating look at a family — and a country — in crisis.

— Molly Antopol ’07SOA

Molly Antopol is the author of The UnAmericans, which was a finalist for the National Book Award.



The Parking Lot Attendant

By Nafkote Tamirat '13SOA (Henry Holt)

There’s not much that’s clear-cut about *The Parking Lot Attendant*, the inventive and often very funny debut from the young Ethiopian-American novelist Nafkote Tamirat '13SOA. The tone is difficult to parse, and the genre is elusive — it is at once an immigrant narrative,

pariahs on the island, waiting for a ruling from a mysterious council about whether they can stay. (Even in utopian communities, it seems, in this carefully drawn metaphor, the fates of desperate, displaced people are governed by arbitrary laws.)

We don’t yet know what has driven the girl and her father to the island; for that we travel back to Boston, where the girl was raised by her parents (both Ethiopian immigrants), though never at the same time. When her mother was eight months pregnant, her father abandoned the family. Six years later, he returned and her mother left. “I understood that I would never be allowed to have two parents; it would always be a relay race where the baton you had to deliver to the next person was me.”

When the narrator is fifteen, she is permitted to explore the city on her own, which leads her to Ayale, the novel’s titular parking-lot attendant and the only significant character with a name. In addition to his jurisdiction over the lot, Ayale (somewhere between thirty-five and fifty years old, with a “face this side of perfect”) unofficially presides over Boston’s Ethiopian community. The narrator stops at the lot when she overhears Ayale speaking Amharic, and he takes her under his wing, abruptly transforming her quiet life.

a coming-of-age story, a dystopian fantasy, and a political thriller. But pervasive throughout are thoughtful meditations on migration, family, friendship, nationality, and what it means to belong to anyone, anywhere.

When we first meet our narrator — an unnamed teenage girl — she is living in exile with her father, the “newest and least-liked” members of a utopian colony on a remote island. Details about life on the island are vague but redolent — the constant smell of ginger in the air, the nearest phone a full day’s walk away. Her father is a handyman who is vital to the community’s survival. And yet father and daughter are not just disliked but

Quickly, the narrator joins the group of disciples ever present at the parking lot. She does her homework there and frequently accompanies Ayale for late-night sandwiches at a diner. After a while, he asks her to deliver mysterious packages to other Ethiopians around the city. For everything that seems suspicious about Ayale (and there is plenty) he has an explanation, which the narrator accepts eagerly. “I recognize that some might meet Ayale and not get swept up in his spell, might find him unkempt and horrible, especially in light of what happened later, but he remains the greatest man I’ll ever know,” she says.

What happens later, as it turns out, is the key to the narrator’s banishment; it’s also where the novel ambitiously transforms from a contemplative look at an unconventional friendship to a wild account of international crime, border disputes, and even murder.

Tamirat has named Columbia professors Donald Antrim and Victor LaValle ’98SOA as influences on her writing, and her bold experimentation with genre, particularly in the second half of the book, reflects that influence. The shift is a bit dizzying, but the underlying idea behind Ayale’s mystery is fascinating, and worth the tumultuous narrative ride. Through Ayale, Tamirat manages to subvert the narrative of colonialism, daring to imagine what would happen if the Black diaspora came together to form a new empire.

— Rebecca Shapiro

READING LIST

New and noteworthy releases

IF YOU LEAVE ME

by Crystal Hana Kim

’09CC, ’14SOA It’s 1951, the middle of the Korean War, and sixteen-year-old Haemi is living with her mother and brother in a refugee camp in the seaside city of Busan. Every night, Haemi sneaks out to meet a childhood friend, a boy named Kyunghwan. Though she clearly cares for Kyunghwan, Haemi ends up marrying his richer cousin. But Haemi is stricken with dark moods and irrational thoughts that eclipse any chance of happiness for her. Kim’s astute portrayal of Haemi’s mental illness elevates this compelling debut novel beyond a standard wartime story of star-crossed love.

NOTES FROM THE FOG

by Ben Marcus Ben Marcus, the director of Columbia’s graduate fiction-writing program, is known for poetic and inventive prose and also ominous, often dystopian themes. All of that is again on display in his latest story collection, which pairs dark but realistic stories (a Jewish boy who grows up to be an anti-Semitic conspiracy theorist, for example) with unsettling questions about the growing influence of technology (in one story, the narrator falls victim to a dangerous, mood-altering spray). This is Marcus’s most accessible book and a great starter for readers unfamiliar with his oeuvre.



YOUNG BENJAMIN FRANKLIN

by Nick Bunker

’82GSAS, ’83JRN We think of Benjamin Franklin — printer, journalist, inventor, diplomat, and Founding Father — as a master of ingenuity. But how did he get that way? In a new biography, Pulitzer Prize finalist Nick Bunker examines Franklin’s life from birth through the age of forty-one. It’s a fascinating portrait not only of a complicated man but also of the challenges of life in early Colonial America.

THE MILK LADY OF BANGALORE

by Shoba Narayan

’95JRN After two decades in Manhattan, journalist Shoba Narayan moves back to her native Bangalore and is surprised in her first week to find a cow in the elevator of her modern apartment building. The cow belongs to Sarala, who sells milk across the street. Narayan befriends Sarala, and the two women eventually embark on an

adventure to buy a new cow for Sarala’s stand. The book is charming and funny, but also a perfect window into the many contrasts of modern Indian society.

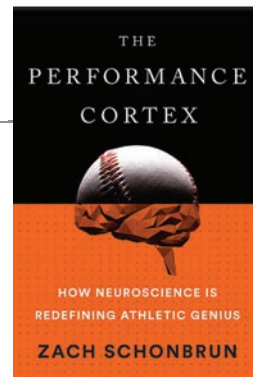
SILENCING THE BOMB

by Lynn R. Sykes

’18HON In December 2016, the *Bulletin of the Atomic Scientists* — the academic journal that covers the impending nuclear threat — moved its Doomsday Clock forward, indicating that we are closer to nuclear annihilation than at any other time since 1952. Seismologist Lynn Sykes, a professor emeritus of earth and environmental sciences at Columbia’s Lamont-Doherty Earth Observatory, has spent his career trying to push the clock in the opposite direction. Sykes is part of a movement of scientists advocating for a halt to nuclear testing. Here he tells that movement’s story, explaining how he has used his discoveries in plate tectonics to fight for peace.

More than Half Mental

A Major League Baseball player has, on average, just four hundred milliseconds to figure out whether to swing at a pitch. In his new book, *The Performance Cortex*, Zach Schonbrun '11JRN breaks down the science behind these decisions and introduces the researchers and entrepreneurs working to understand the athlete's mind.



Columbia Magazine: We'd be remiss if we didn't mention that *Columbia Magazine* is credited on the first page as the book's inspiration.

Zach Schonbrun: That's where it all began! Four or five years ago, my wife noticed a blurb in the magazine about two neuroscientists, Jason Sherwin and Jordan Muraskin '15SEAS, who were starting a company that would work with Major League Baseball teams to assess hitting from a decision-making standpoint — analyzing how hitters identify pitches and decide whether to swing or not swing. I'd been looking for a story I could sink my teeth into, and this one really jumped out at me.

CM: Why did the story grab you?

ZS: Well, I was interested in the idea that neuroscientists were beginning to work their way into sports. I knew about sports psychology and mindfulness training, but the idea of looking at neural activity to study how players think and make decisions seemed like a new wave in the evolution of sports

science. I was also interested in what their company, deCervo, was offering the teams. It wasn't promising to make their players better or enhance their training, which tends to be the approach of most sports-science companies. It had an evaluative technique. So, essentially, it was promising to give teams data about these hitters — new data that they'd never had access to before. And the teams would then have to decide what to do with it.

CM: Most sports involve some kind of split-second decision-making. Why do you think this kind of research has been focused on baseball in particular?

ZS: Hitting a baseball is one of the most difficult things to do in sports, and proficiency doesn't seem to correlate much with physical characteristics. If you look at the two front-runners for Most Valuable Player in the American League in 2017, for example, one was five feet, six inches and 165 pounds; the other was six feet, seven inches and 282 pounds. So it's not about muscle mass — it's not even about vision. It's a skill that's much more determined by the neural signals that control movement, which makes it perfect for this kind of investigation.

CM: You toggle back and forth between profiling deCervo and profiling research scientists working to further the study of motion. What's the relationship between business and academia in this field?

ZS: I think there's a big divide between what takes place in the laboratory and what is actually useful for teams, franchises, and players on the field.

CM: What do you mean?

ZS: One of the researchers that I profile in the book, John Krakauer '92PS — a neuroscientist at Johns Hopkins — told me that motor researchers have mostly been limited to data from people who volunteer for studies. That generally means eighteen-to-twenty-year-old white college students. In order for us to come out with research that can actually help us get to the next level, it would behoove researchers to look at the kinds of great athletes that Sherwin and Muraskin were able to get access to through their company. I write early in the book about the fact that Babe Ruth went to Columbia in 1921 for a series of psychological experiments, which is probably the last case of a world-class, name-brand athlete going to a laboratory to be a guinea pig in anything related to the mental side of athletics. The fact that something like that hasn't happened in nearly a century is pretty alarming.

CM: You've spent most of your career writing about sports and business, but this book is also obviously a deep dive into neuroscience. Do you have any background in that field?

ZS: Definitely not. The last science class I took was AP biology in high school. So most of this was new for me, and it was hard work. But it also changed my perspective on sports in a fascinating way. Even as a sportswriter and lifelong sports fan, I hadn't understood that the movements we make on an everyday basis are so complex and intricate. Learning the science behind them made me appreciate what these great performers are doing on the court or on the field.

— Jesse Spector

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A Matter of Degrees

Take a quiz on some of Columbia's famous dropouts



1. Before he left school to play professional baseball, Lou Gehrig was Columbia's most celebrated athlete, excelling in baseball and what other sport?

- a. basketball
- b. wrestling
- c. football

2. Lauryn Hill entered Columbia in 1993 and spent about a year in college before becoming a superstar with the rap group the Fugees. Her 1998 solo album *The Miseducation of Lauryn Hill* made Hill the first woman to do what?

- a. be sole writer, producer, and recording artist on a best-selling album
- b. win five Grammy Awards in one night
- c. win a Grammy for best album of the year

3. When future US president Theodore Roosevelt '1899HON attended Columbia's law school in the early 1880s, before leaving for the New York State Assembly, he was writing what would become a major historical work. What was the subject?

- a. corporate monopolies
- b. naval battles
- c. the Federalist Party

4. This singer-songwriter signed with Columbia Records at fifteen and was accepted to Columbia University at sixteen. She spent four weeks at Columbia before leaving to pursue a career that resulted in fifteen Grammys. Who is she?

- a. Alicia Keys
- b. Alanis Morissette
- c. Alison Krauss

5. The poet Langston Hughes spent two semesters at Columbia before becoming one of the leading lights of the Harlem Renaissance. What did he study?

- a. English literature
- b. engineering
- c. sociology

6. In 1932, Franklin D. Roosevelt '08HON, who studied law at Columbia from 1905 to 1907, became the first sitting US president to do what?

- a. visit survivors of a mine explosion
- b. fly in an airplane
- c. introduce frozen foods to the White House

7. Actor Ben Platt had to leave Columbia in 2012 to fulfill his contractual obligation to what Broadway musical?

- a. *Jersey Boys*
- b. *Billy Elliot: The Musical*
- c. *The Book of Mormon*

8. In 1928, Columbia premed dropout Amelia Earhart became the first woman to complete a transatlantic flight. What was the name of her plane?

- a. *Columbia*
- b. *Friendship*
- c. *Kitty Hawk*

9. Actor and dancer James Cagney left Columbia as a freshman in 1918 due to what event?

- a. the death of his father in the Spanish-flu pandemic
- b. fracturing his hip during a tap-dance rehearsal
- c. a fire at his family's home on New York's Lower East Side

10. Prominent Columbia non-graduates Jack Kerouac and Alexander Hamilton both had a lot to say. Which of them said which?

- a. "A national debt, if it is not excessive, will be to us a national blessing."
- b. "I had nothing to offer anybody except my own confusion."
- c. "A nation which can prefer disgrace to danger is prepared for a master, and deserves one."
- d. "My witness is the empty sky."



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