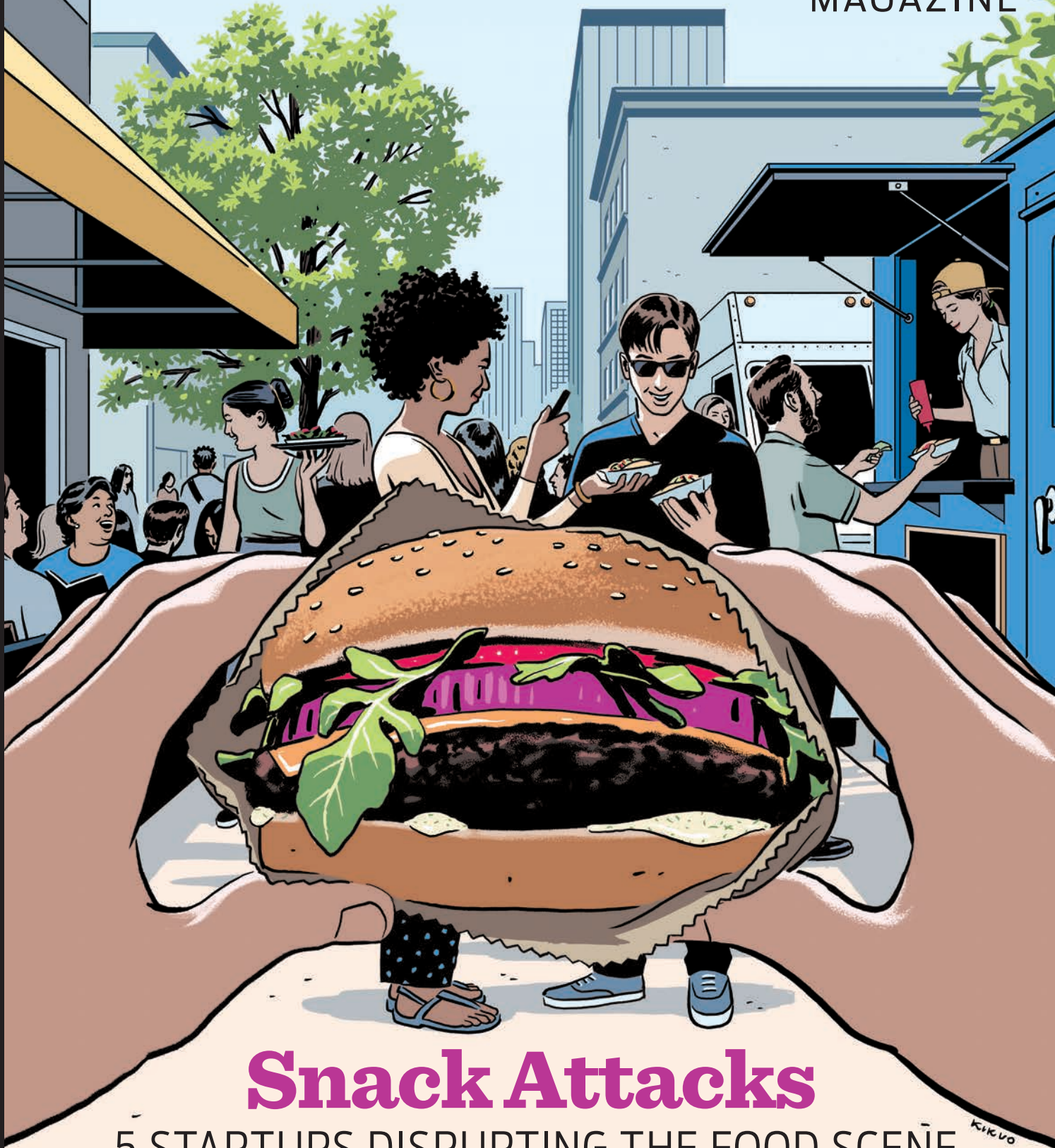


FALL 2016

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Entrepreneur  
Eddie Song '08CC

NATHAN PERKEL

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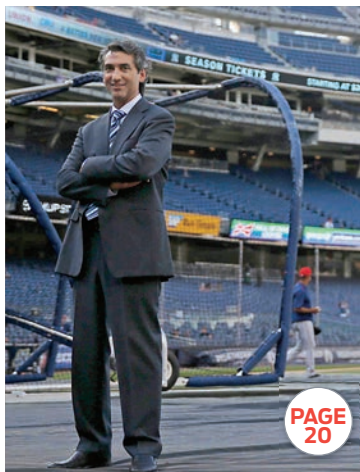
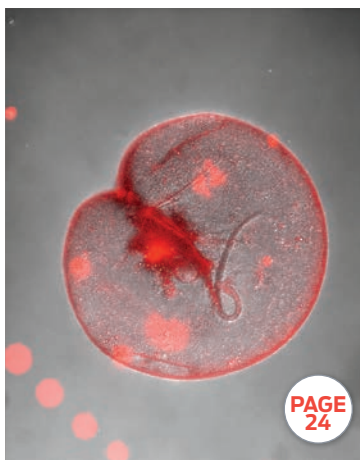
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## OUR NEW LOOK

The redesigned summer issue of *Columbia Magazine* is a home run! The articles were interesting, well-written, and illuminating. The new format and features kept me reading to the end — I think it's the first time I've read the magazine from cover to cover. I always complained that my husband's alma mater, Princeton, produced a far more interesting alumni magazine. But now I am proud to say that ours is as good or better. Roar, Lions, Roar for a job well done.

**Sandra Jerez '92CC**  
Seattle, WA

Summer's when I cart off a sack full of unread material and plow through it on getaways, and this year the standout was the wonderfully modern and refreshed *Columbia Magazine*.

It's a compelling and great-looking read — with alluring illustrations and terrific photos. Everything is interesting and easy to find. It's going to be one of my must-reads going forward.

You've turned this proud alumnus into an avid reader of *Columbia Magazine*.

**Mark Kaminsky '81GSAS**  
New York, NY

I got the most recent issue and was pleasantly surprised to see what looks like an entirely new magazine. First off, the new design is just great: clean, modern, and inviting. I usually find I read some of the magazine, but this time I literally read everything and it was all superb. I thought the writing throughout was first-rate, and each and every story was compelling and thought-provoking. Great job!

**Michael Bendit '91BUS**  
New York, NY

So now *Columbia Magazine* represents itself in hot-pink type, blows up a picture of the cutest market-researched youngster for knee-jerk sympathy, and prints a generic, elbow-in-the-ribs Shakespeare quiz?? You can change your name from *Columbia* to *Generic-but-Hip Intellectual*.

**Wade Dizdar '84CC**  
McAllen, TX

## MYRRAH'S STORY

I am a scientist and have worked actively in developing genetic-testing services in India akin to the one described in your cover story on Myrrah Shapoo ("Meet the Girl with Gene NUP214-ABL1," Summer 2016). I wanted to congratulate you on bringing out such a great story. It explains the scientific and technical challenges of exome sequencing very well for the lay reader, and retains the humane aspects of the story. Indeed, it is heartening to read about how PIPseq led to a positive outcome for Myrrah, as the field actively debates the costs and benefits of these as yet investigational tests with a lot of unknowns.

Kudos also to the medical and scientific teams at Columbia for making this happen!

**Nandita Mullapudi**  
Bangalore, India

## SWEET HARMONIES

Thank you for publishing that lovely story about Art Garfunkel and Sanford Greenberg ("Old Friends," College Walk, Summer 2016). I was about

# LETTERS

## COVER GIRL

I was just so moved when I read the cover story about Myrrah Shapoo. I am very proud of all the staff of the Columbia University Medical Center. Please convey my good wishes to them. May God bless them all.

**Afshan Imtiaz '11GSAS**  
Allama Iqbal Town,  
Pakistan

# LETTERS

seventeen and an upperclassman at Forest Hills High School, in Queens, New York, when my mother said to me: “Bobby, those two boys who come over and go downstairs with you to play music — I like the tall one, Artie. He has good manners and does well in school, and I can tell he will make something of himself, so he can keep on coming over here. But that other one, Pauly, with the leather jacket and the DA haircut, he’s just a bum! I don’t want you to hang around with him any more.”

This was how my mother saw Paul Simon and Art Garfunkel. I have told this story often (too often) and preceded the telling with the admonition that sometimes you should not listen to your mother. After reading about Art’s wonderful caring behavior toward his classmate who lost his sight, I realize my mother had more insight than I knew (at least about Art!).

**Robert D. Blank ’70DM**  
Southold, NY

Reading the article by Paul Hond about Sandy Greenberg and Art Garfunkel’s return to Columbia last March stung me with much gratitude and more than a little guilt.

In the spring of 1962, during my junior year, I, like Art, read assignments out loud to Sandy for several government courses in which we were both enrolled. I remember one evening asking Art, then Sandy’s roommate, what studying architecture was like, since he was enrolled in the program. Art suggested that the best way for me to get an answer was to come to the drafting studios in Avery

to see what students were doing there.

Not long after, I climbed to the top floor of Avery. Art kindly and quietly showed me around. I was fascinated by what I saw. The next fall, I enrolled in Columbia’s four-year architecture program while completing my major in government. This decision resulted in my career as an architect, one I have never regretted. Hence my considerable gratitude for the fortuitous connection I might otherwise have never made.

My guilt, however, arose because Sandy needed more reading than I could provide, as I struggled to complete assignments and take exams while holding down three part-time jobs. I have always felt bad, especially since I benefited so much from the discovery of my interest in architecture.

**George B. Terrien**  
**’63CC, ’66GSAPP**  
Rockland, ME

## RAINBOW POWER

Kudos for your Summer 2016 article “Under the Rainbow,” about the 1966 emergence at Columbia of the first college LGBT organization.

I casually knew

**QUESTIONS?  
COMMENTS?**

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Letters may be edited for brevity or clarity.

its founder Robert Martin (AKA Stephen Donaldson); he seemed weird to me at the time because I was sexually repressed and would not come out until after the Stonewall riots of 1969. Author Bill Retherford is to be commended on his research and encapsulation of the personal pain and triumph of a gay trailblazer as well as our society’s movement toward equality in the decades since.

**Russell Needham ’68CC**  
New York, NY

Thanks for such a fine article on Stephen Donaldson and LGBTQ history in the summer issue. Do more!

**Allen Young ’62CC,**  
**’64JRN, ’64SIPA**  
Orange, MA

I was the executive vice president of the University Student Council in 1966–67, when I was a senior at the School of General Studies. One day the president, David Langsam, said to me, “You probably don’t know this, but you are on the committee that recognizes student organizations. A group of students want to start something called the Student Homophile League. Usually such groups would be approved pro forma, but for this group, because of its nature, the vote is split two to two, and you will be the deciding vote.” He told me that the committee consisted of a faculty representative, the coach, the chaplain, and a University vice president. And of course, as I had just learned, there was a student representative — as it turned out, me.

We met. Two of the students organizing the group attended the meeting: a man from the College and a woman from Barnard. For the petition to be approved, there needed to be five bona fide student signatories. I asked the University vice president if the signatories were registered as students. He said yes. So I said we should approve it.

Why? I saw it as basic civil rights. All we were doing was affirming that a legitimate number of bona fide students wanted to start an organization. General Studies students are different; they have been out in the world. My world was then the East Village, mostly, and a little of the West Village, where there were many gay people living as happily as any of us might be living, definitely out of the closet. Friends and neighbors, even roommates had been gay; that year, living near Columbia on the west side, my landlords, who lived in the building, were a gay couple who had met in a foxhole during WWII — or so they said. Who cared? It was their life, and it had no negative impact on mine. And while I did not appreciate getting hit on by men, sometimes even in classes at Columbia, this seemed to me to be a separate issue entirely.

Soon the committee reconvened. One of the signatories was now missing from the list (the result, I imagined, of a heart-to-heart with a parent). Now there were only four. I sat there thinking. The charter of the Student Homophile League specifically stated that its purpose



## WISH FULFILLMENT

I was baffled by some of the college abbreviations in the summer issue, and after rummaging through the magazine twice for the key concluded you had ditched it. Please bring it back, even if it is in very small type, or I will have to clip out an old one and paste it on my fridge.

**Andrew Nemethy '73JRN**  
Adamant, VT

### KEY TO ABBREVIATIONS

CODE	SCHOOL	CODE	SCHOOL
BUS	Graduate School of Business	NRS	School of Nursing
CC	Columbia College	PH	Mailman School of Public Health
DM	College of Dental Medicine	PS	College of Physicians and Surgeons
GS	School of General Studies	SEAS	Fu Foundation School of Engineering and Applied Science
GSAPP	Graduate School of Architecture, Planning, and Preservation	SIPA	School of International and Public Affairs
GSAS	Graduate School of Arts and Sciences	SOA	School of the Arts
HON	(Honorary degree)	SPS	School of Professional Studies
JRN	Graduate School of Journalism	SW	School of Social Work
LAW	School of Law	TC	Teachers College

was to encourage openness and acceptance; there was no requirement that one be gay to be a member.

That meant I could be a member. If needed, I decided, I could be the fifth name. So once again, I voted for recognition. To their credit, the other members of the committee accepted this decision.

It was only later in my life, as I heard stories of attempted and successful suicides, as I learned how unaware I was of the many people who lived in closets, as I understood the story told to me by a fellow student about his incarceration by his parents in a mental hospital to straighten him, that I came to appreciate the good we had really done.

**Walter Jonas '67GS**  
Milton, MA

The time has come to abandon the ever-increasing array of letters used to account for a great range of human sexuality and individual practice. The “Acronym Acrobatics” sidebar to “Under the Rainbow” undertakes to explain five common classifications (L, G, B, T, and Q), and then adds another five. There is apparently no end to the complexity of the subject. We recognize human diversity in many aspects of our being, and in our best selves work to accept and honor diversity and the

rights of others whose appearance, habits, and outlooks do not match our own. We fuel our own divisions by accepting and endlessly attempting to justify and explain LGBTQ — and five more.

**Joseph Schaaf '48CC**  
Bennington, VT

### HEART OF A LION

Thank you for your eulogy for Bill Campbell (Bulletin, Summer 2016). Some of us remember Ballys best as one of the founding members of the Columbia University Rugby Football Club, still going strong fifty-five years later. Roar, Lion, Roar.

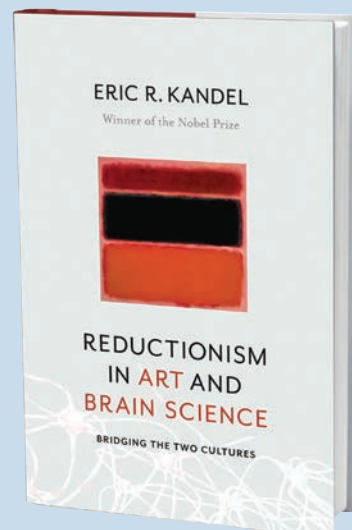
**George D. Carey '64CC**  
Boise, ID

Thanks for a very nice sendoff for and respectful tribute to “the Coach.” Bill was indeed a titan of Silicon Valley. He was known by many, even those outside the tech world.

My son, Walker, played flag football under Bill at Sacred Heart Prep, the school where his memorial services were held and where he coached for many years. Bill, purposefully or not, called our son Walter (rather than Walker) and it has stuck: “Walt” remains his nickname to this day.

**Scott Barnum '82BUS**  
Menlo Park, CA

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—Joseph LeDoux, author of *Anxious: Using the Brain to Understand and Treat Fear and Anxiety*

“Kandel’s book, with one foot in the humanities and one foot in the sciences, stands comfortably in both. . . .

Kandel lucidly states the biological case for how abstract art challenges us to look so that we can see.”

—Jim Coddington, chief conservator, Museum of Modern Art



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# COLLEGE WALK

NOTES  
FROM 116TH  
STREET AND  
BEYOND



## DR. DOODLE

A cartoonist draws from his experience

Last November, Benjamin Schwartz '03CC, '08PS, a cartoonist for the *New Yorker*, was placed on daily cartooning duty for the magazine's website. Schwartz had established himself in the weekly print magazine with his chuckle-raising panels that, for reasons that will become clear, often take place in a doctor's office. (Example: A middle-aged Wilford Brimley type in a sweater vest and round wireframes is seated on the examination table. The doctor: "*It's avunculitis.*")

But the daily gig was different: Schwartz had to come up with one topical cartoon a day, five days a week, for three months. "There were a lot of Donald Trump cartoons," Schwartz said recently over coffee on Columbia's medical campus, where he is a lectur-

er in the narrative-medicine program at the College of Physicians and Surgeons. Inevitably, Trump presented the quandary, Schwartz says, of a subject "so over-the-top in real life that you think, 'What can I add to this?'"

For Schwartz, cartoons are puzzles to be solved: each one starts with an idea — an observed behavior, an overheard phrase, an image — that must be tinkered with until it comes together. "Comics are a great way to train yourself to tell stories," says Schwartz. "One of the most efficient ways you can tell a story is by trying to communicate it in just a single panel."

In the narrative-medicine program, Schwartz says, students are taught to listen and to become storytellers themselves. "Patients experience their illness not as this set

of symptoms on a checklist. They experience it as story — and not as the story of illness but as this chapter of illness in the story of their lives. We need to listen attentively to those stories and know how to extract the parts we need, and the parts that are most important to the patient. Reassembling this information in a way that satisfies the medical perspective and the human perspective is a form of storytelling."

For his classes, Schwartz has students do exercises that build those skills. For instance, he'll ask them to draw, from memory, Mickey Mouse. "Everyone knows what Mickey Mouse looks like, but as you're drawing you realize you *don't* know what he looks like," says Schwartz. "You've seen him over and over but you don't remember if he's wearing a shirt. But the real takeaway is what happens afterward: the reflection on your attention to detail. As a student, you spend so much



time with textbooks memorizing facts and figures that it's very easy to not have time to think about this other stuff that you know is important. Narrative medicine gives you that time."

Schwartz grew up in Scarsdale, the son of Allan Schwartz '74PS, who is chief of cardiology at CUMC. As a child, Ben Schwartz wanted to be a doctor *and* a cartoonist. He loved comics, especially *The Amazing Spider-Man*; the margins of his schoolbooks were filled with sketches of superheroes. For humor he read *Mad* and *Cracked*, and also the single-panel cartoons in the *New Yorker*. But for one-panel punch, nothing topped the menagerie of guffaws that was Gary Larson's *The Far Side*, whose sharp, twisted silliness was unlike anything else in the funny pages. Schwartz had all the collections and calendars.

His doodling habit persisted through college. But once Schwartz started medical school, he had no time for cartoons. As he went through his internship and residency, he learned, among many interesting things, that his real passion lay with his pencils. "I'd always wanted to be a cartoonist, and needed to just go full blast on that," he says. (One imagines a single-panel cartoon, perhaps involving a window ledge, in which a young doctor tells his parents that he's quitting medicine to draw funnies. But in fact, says Schwartz, "People were more surprised when I became a doctor.")

In 2009, while getting by with freelance illustration jobs, Schwartz submitted

some cartoons to the *New Yorker* and got a face-to-face meeting with the cartoon editor, Bob Mankoff, which he calls "a tremendous opportunity for any aspiring cartoonist." Six months later, Schwartz sold his first cartoon to the magazine.

Occasionally, the magazine will reject a caption but buy the illustration, and those are the cartoons that end up on the magazine's back page for its popular caption contest. "It's fun to see the caption-contest results," Schwartz says. "Every once in a while a reader will hit the exact caption you'd thought of. Or else take it in a direction you didn't see coming."

For daily cartooning, there's the added pressure of heart-beat-quick deadlines. The news cycle waits for no one. "It's amazing how fast something goes from being topical to obsolete," Schwartz says.

Nor do all current events call for humor. Last January, Schwartz awoke to news that one of his heroes, David Bowie, had died. "Culturally, that was such an important moment, you want to say something," Schwartz recalls.

Schwartz's cartoon that day shows an astronaut standing on the surface of a planet, looking up at the night sky. In the blackness shines a constellation in the shape of a lightning bolt, Bowie's symbol. The caption is a line from Bowie's song "Space Oddity," about an astronaut floating into oblivion: "*The stars look very different today.*"

The cartoon went viral, and not in the medical sense.

— Paul Hond

Enter our caption contest on page 64.

## THE SHORT LIST

**SEE** The Wallach Gallery showcases four contemporary photographers who have set out to challenge the boundaries and assumptions of portraiture in ***The Expanded Subject: New Perspectives in Photographic Portraiture from Africa***. Through December 10. [columbia.edu/cu/wallach](http://columbia.edu/cu/wallach)

**LISTEN** Composer **John Zorn**, whom the *New York Times* once called an "all-purpose impresario of the avant-garde," will return to Miller Theatre on October 8 to premiere five new works and to demonstrate the breadth of his musical palette. [millertheatre.com](http://millertheatre.com)

**VISIT** An exhibit of promotional pamphlets from the last century, ***Viewbooks: Window into America***, unexpectedly reveals how urban and suburban development have transformed our national landscape. Through October 31, at Avery Library. [library.columbia.edu/locations/avery](http://library.columbia.edu/locations/avery)



**READ** Carol Becker, dean of the School of the Arts, delivers a short but powerful meditation on grief and loss in her new book, ***Losing Helen***. On September 20 she will discuss these themes with Phillip Lopate at the Maison Française in the first event of the new SOA series Complex Issues. [arts.columbia.edu/public-programs-calendar](http://arts.columbia.edu/public-programs-calendar)

**BOOKMARK** Learn more about the new Manhattanville buildings and get updates on events and public programming on a website dedicated to both the campus and its community. [manhattanville.columbia.edu](http://manhattanville.columbia.edu)



## THE LITTLE CLASS THAT COULD

How do you write a children's book?

Once upon a time, there was a children's-book author named Peter Catalanotto who taught adults how to write picture books for kids. He had soft, wavy hair, seventeen published children's books to his name, and a habit of calling adults "grown-ups." He also had a firm belief that to be a successful children's-book writer, you had to leave all your notions about the genre at the gingerbread door.

At the first meeting of his 2016 summer class — a six-week, twelve-session course that he's taught at Columbia's School of the Arts for three

years — Catalanotto urged the aspiring authors in the room to push back against some of their instincts. Worried about using big words in a book for children? Don't be. Kids *love* learning new terms, and since they can deduce meaning from illustrations, they'd much

rather read about the story's hero going "incognito" than wearing a boring old "disguise." Have an important life lesson you want to pass along to your young readers?

Squeeze the brakes a little. A kid's daily life is nothing *but* lessons and rules and advice, so any moralistic takeaway should be subtly embedded in the fabric of the story.

Think that dinosaurs are too scary, that "Show, don't tell" is the golden axiom of creative writing, and that

**ANY MORALISTIC TAKEAWAY SHOULD BE SUBTLY EMBEDDED IN THE FABRIC OF THE STORY.**

the universally cherished *Love You Forever* by Robert Munsch and Sheila McGraw is among the greatest children's books of all time? Wrong, wrong, and wrong

again. Dinosaurs fall into the "safe" kind of scary because they don't exist anymore; "showing" may sometimes not register, so embrace "telling" in straightforward exposition; and *Love You Forever* isn't the best children's book because, well, it isn't really a children's book.

"*Love You Forever* is a story written for parents," Catalanotto explained to his class. "Trust me: young kids aren't lying in bed pondering deep questions of mortality and legacy and how they'll feel when their parents are old and dying. It's a story of sentimentality, and sentiment comes from time and experience, which kids haven't had yet." And while Catalanotto conceded that it's adults, not children, who typically buy and review children's books, he nevertheless advised against writing with parents, editors, and reviewers in mind. "Don't try to connect with adults. Try to connect with their inner children."

Those inner children come in grown-ups of all ages, as Catalanotto's class shows. "One of the elements of the class I enjoy the most is the various age groups each year," he says. "It's mostly twentysomethings, but there's always a sprinkling of

older folk. Everyone benefits from the different perspectives and life experiences." Most of the class is made up of SOA students, and the rest are Columbia alumni



or undergrads from other colleges — this year’s class had students from Barnard, Princeton, and Vanderbilt.

One thing people tend to have in common, no matter their ages, is a fixed idea of how a children’s book should look and feel, based on the massive success of titles like *Love You Forever*, *Goodnight Moon*, and *The Cat in the Hat*. It’s not that one shouldn’t aspire to follow in these footsteps (“I’m not here to stop you from making a million bucks,” Catalanotto quipped). But being influenced by childhood favorites is an all-too-common trap for new children’s-book writers.

“Write something honest that comes to you authentically,” says Catalanotto. “The best stories don’t come from an idea — they come from an emotion. And that emotion should come from your personal childhood.”

Catalanotto credits his success as a children’s-book author to being an outsider. The Long Island native received his BFA from the Pratt Institute, and in 1987 he was asked to illustrate the cover of Judy Blume’s *Just as Long as We’re Together*.

Writing soon followed the art gigs. And because Catalanotto didn’t start out as an author, it was easier for him to buck tradition and formulas, and to come up with fresh stories like *Ivan the Terrier* and *Monkey & Robot*. Most importantly, though, he was unaware of stale conventions, which in turn made him unafraid of risk — and incognito dinosaurs.

— Eric Kester ’15SOA

# RIGHTS OF PASSAGE

A scholar of immigration looks at some borderline claims

**T**he appearance on history’s stage of a presidential candidate of a major political party who says, at his campaign kickoff rally, “When Mexico sends its people, they’re not sending their best. They’re not sending *you* . . . They’re bringing drugs. They’re bringing crime. They’re rapists”; and who, a year later, at his nomination speech, speaks of “illegal immigrant families” being “released by the tens of thousands into our communities,” and makes unsubtle rhetorical connections between said immigrants and the killing of young white women — the rise of such a figure, one imag-

**“When people say of undocumented immigrants, ‘They should go to the back of the line,’ they don’t realize that for some, the wait is as long as forty years — while for other countries there is no line.”**

ines, would set off the same professional sirens for an immigration historian that a 9.0-magnitude earthquake would for a seismologist.

For Mae Ngai ’98GSAS, a historian of US politics and the Lung Family Professor of Asian American Studies at Columbia, the specter of such a presidency means a busy phone and an opportunity to correct some popular misconceptions. “Immigration is an issue about which many people have fixed opinions and very strong feelings,” she says. “But they’re often based on a poor understanding of history and even contemporary facts.”

Ngai zooms out with her historian’s lens to reveal a familiar pattern.

Between the 1880s and 1924, some

twenty-three million people from eastern and southern Europe (mostly Italians, Greeks, Poles, and Jews) immigrated to America. Different from the Anglo-Protestant majority in religion, language, customs, and physiognomy, the new immigrants were not always greeted warmly. “There are apt comparisons between immigration today and a hundred years ago,” says Ngai, who is the author of *Impossible Subjects: Illegal Aliens and the Making of Modern America*. “In both periods you had a growing economy but also a change in the economic structure. With industrialization and urbanization, there was enormous demand for unskilled labor as mass production became more dominant. Skilled craftspeople lost power in the job market, and they blamed the new immigrants for taking their jobs. But the immigrants didn’t take their jobs; there was a structural shift in the economy.

“Similarly, from the 1990s until 2008 we had a huge economic expansion and a shift from manufacturing to finance and service. This created a demand for mostly low-skilled, low-wage immigrant labor. The casualties of this change got very upset, and one reaction was to blame immigrants for taking their jobs, when in fact immigrants took *new* jobs.”

In the earlier period, xenophobia was also blatant in high places: by 1924, nativist anxieties over the changing complexion of the country led Congress to pass the Johnson-Reed Act, which placed strict quotas on immigration from eastern and southern Europe. The law also doubled down on the 1882 Chinese Exclusion Act — the first law to deny immigration of an entire ethnic group — by banning *all* East Asian peoples. The new draconian restrictions resulted in what Ngai calls a “mass phenomenon” of illegal immigration.

## COLLEGE WALK

As for Mexicans, immigration policy in the 1920s and 1930s treated them “as an inexpensive, disposable labor force, desired for work in the fields but undesirable for inclusion in the polity,” Ngai says.

By the 1950s and 1960s, however, the assimilated children and grandchildren of ethnic European immigrants became a powerful voting bloc in the urban industrial north. “For them,” says Ngai, “the immigration quotas established in 1924 still carried a stigma of inferiority. So they organized to repeal those quotas. Immigration reform was their civil-rights movement.”

On Capitol Hill, the fight was led by Brooklyn congressman Emanuel Celler 1910CC, 1912LAW, the grandson of Jewish-German immigrants. The Hart-Celler Act of 1965 abolished national-origin quotas (allocated to ensure that the future US population would maintain the ethnic proportions of 1890) and replaced them with evenhanded quotas that gave each country the same limit. “That’s a civil-rights era logic,” says Ngai. “Treat every country the same. But it’s a formal rather than substantive kind of equality, because it meant, for example, that Mexico or China had the same limits as New Zealand. This is the system we live under today.”

With a per-country limit of 26,500 people per year, says Ngai, countries like Mexico, India, China, the Philippines, and the Dominican Republic always max out. “When people say of undocumented immigrants, ‘They should go to the back of the line,’ they don’t realize that for some, the wait is as long as forty years — while for other countries there is no line.”

Some people have chosen not to wait. There are an estimated 11.3 million undocumented people residing in the US, but most of the immigrants crossing the Mexican border today aren’t Mexicans: they come from Central America, fleeing drug-gang violence in Honduras, El Salvador, and Guatemala. (Honduras and El Salvador have the two highest murder rates in the world.)

But no matter who is elected president in November, Ngai says, no border walls can be built, no mass deportations can proceed, without funding from Congress — “and I don’t think Congress is going to foot that bill.” For Ngai, it’s our national ethos that’s at stake. “Depending on who’s elected, the climate toward immigrants could be one of restriction and hate or one of inclusion and reform,” she says. “We’ll soon find out.”

— Paul Hond

## Corridors of Power

Neiman Center artists hijack a high-rise

For all its gleaming glass and steel, 66 Rockwell Place, the new high-rise soaring 457 feet above the site formerly known as 29 Flatbush Avenue, is but one tall shoot in the bamboo thicket of apartment towers growing in Downtown Brooklyn. Thus the marketing challenge for its developer, the Dermot Company: how to distinguish this particular building and attract those \$2,500-to-\$6,000-a-month renters?

But how to *really* set it apart?

Art.

That’s what the developer decided. “We wanted to create an opportunity for our residents to live surrounded by art,” says Andrew Levison, director of acquisitions and asset management at Dermot. “By giving young artists the opportunity to create works on the site, we hoped to establish an immersive and community-building experience.”



If these walls could talk: Neiman Center artists leave their mark on a luxury tower.

One could tout the “taupe linen tile” floors, “absolute black granite” countertops, and dinner-plate-sized showerheads. And of course there are the state-of-the-art health club, attended coffee bar, library, Zen garden with fire pit and waterfalls; lounge with chef’s kitchen, game room with pool tables, air hockey, and foosball; and the forty-second-floor Sky Lounge and rooftop sundeck, with drop-dead views.

To run the project, Dermot turned to Phong Bui, publisher and editor of the *Brooklyn Rail*, a hip art-and-culture journal. Bui then enlisted his old friend and collaborator Tomas Vu-Daniel, artistic director of Columbia’s LeRoy Neiman Center for Print Studies, which promotes printmaking through education, production, and exhibitions. Vu-Daniel, whose own works have been displayed

PHOTOS COURTESY OF MIGUEL DE GUZMAN



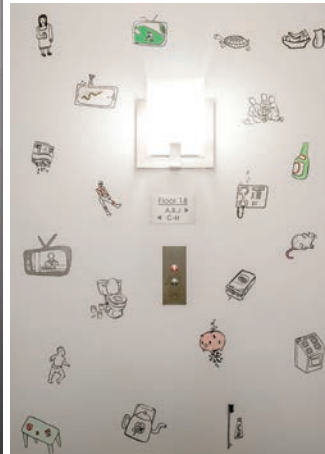


es, melting pigs. Nothing is anything you'd ever expect to see in an apartment building.

Jesse Weiss's undulating Pepto-Bismol-pink forms on floor 31: are those hillsides or intestines? "I just kind of wanted it to be a desolate, stratified desert cross section," says Weiss '10SOA. "I was thinking about stratification of class, and the idea of

people being stacked on top of each other."

On floor 33, Xu Wang '13SOA made a couple hundred line drawings of every kind of taxi, from moped to van to camel, then hung a carton of crayons on the wall. Residents (or visitors) have carefully colored in some, but have also added scribbles, snide comments, a stick figure of a person being struck by a car — all of it fine with Xu. "He's one of these conceptual artists who really wants to interact with whoever is going to be interacting with his work," explains Vu-Daniel. "The people who live here are allowed to do their own art interventions on top of ours. Relational aesthetics is where we're at."



from Songzhuang, China, to Ludwigshafen, Germany, recruited seventeen present and former fellows of the Neiman Center and handed one floor's hallway to each, to decorate as he or she saw fit. (He and Bui teamed up to do two floors themselves.)

"I said to the Dermot people, 'You can't tell us what to do, and we will not take suggestions from you, either,'" Vu-Daniel recalls. "And they were fine with it."

Unleashed on the dull green, seventy-foot corridors in January, the artists had made them their own by June. The results, collectively entitled Hallway Hijack, vary so widely as to defy general description: drawings, paintings, photos, and prints depicting toilets and teacups, dinosaurs with egg sandwich-



Some residents even put the art to practical use. "When you get off the elevators, it's sometimes confusing, because the elevators are on two sides of the hallway, so — which way's my apartment?" says Amanda Daquila, thirty-three, a nonprofit program director. Fortunately, a bold tableau by Nathan Catlin '12SOA on floor 21 portrays men on horseback chasing a fox from one end of the hall to the other. "The animals run toward my apartment, regardless of the side I get out on," Daquila observes happily. "So I use that."

Problem solved. But for how long? "I don't think there's a timeline," says Vu-Daniel of Hallway Hijack. "What I'm hearing is they're going to leave the art up — until it gets vandalized, or until the next project comes along, right?"

— James S. Kunen '70CC

THE

BITE

5 ALUMNI STARTUPS THAT ARE DISRUPTING THE FOOD INDUSTRY

STUFF

Net

Gen  
Z

Car  
B

Fren  
Jo

Gr

CREDIT: PLOH-RE





Lamb Neck — braised lamb neck, walnut nettle  
gruyere cheese, baby onions, charred

General — Chicken tinga, queso fresco, pickled onions  
Papa — pickled jalapeños, cilantro, radishes

La — braised vegetables,  
Bruni — olive spread, basil

R — grassfed beef bris  
Acque — cheese, onions

CREDIT: GOURMET

BY REBECCA SHAPIRO \ PHOTOGRAPHS BY NATHAN PERKEL



# THE WAY WE EAT IS CHANGING.

Twenty years ago we counted fat grams and calories. Now, we scrutinize food labels, calibrate carbs, protein, and healthy fats, and demand ingredients that are vegan or paleo or gluten-free.

We want to know if our food is organic, seasonal, and sustainable.

We try to eat local, and yet our palates have never been more global.

As our tastes have evolved, so has the food business, says Vince Ponzo '03BUS, a professor at Columbia Business School and the senior director of the Eugene Lang Entrepreneurship Center. Thousands of small startups are entering the market to address these new consumer demands.

And the money is following. According to Dow Jones VentureSource, venture capitalists are investing in these businesses in record numbers. In 2015, food and beverage deals totaled \$603 million, compared with just \$377 million the year before.

Alumni entrepreneurs have attracted some of that capital. Indeed, Columbia-affiliated startups were among the first to break into the food industry, with niche brands like Siggi's Icelandic yogurt (founded in 2004 by Sigurður Hilmarsson '04BUS) and Happy Family organic baby food (founded in 2006 by Shazi Visram '99CC, '04BUS).

"The food industry was built with mass production in mind," says Ponzo. "But that's not what people want anymore." And Ponzo thinks the trend is just beginning. "Pardon the pun," he says, "but this is an industry that's ripe for disruption."



# UNTAMED SANDWICHES



Andy Jacobi opened his restaurant in 2014.



**A**ndy Jacobi '12BUS is a carnivore, enthusiastically and unapologetically. “I’ve eaten thousands of burgers and steaks over the course of my life,” he says. “But that doesn’t mean I’m not thoughtful about what I put in my body.”

Jacobi, the owner of Untamed Sandwiches, a New York shop that specializes in environmentally friendly slow-braised meats, started thinking seriously about his diet when he was an undergrad at Middlebury College. In addition to playing varsity tennis, he had a part-time job as a short-order cook in a local restaurant and another at an on-campus dining hall, where he helped with some of the purchasing.

“In rural Vermont, farm-to-table isn’t a novelty; it’s the default,” he says. “Even in the early 2000s, people were getting all of their ingredients from local farm vendors. The rest of the country didn’t catch up for a while.”

After graduating, Jacobi moved to New York and started a career in finance, but the food industry was never far from his mind. He switched gears five years later and simultaneously started both a full-time MBA program at Columbia and a job as director of sales and

marketing for Wild Idea, a South Dakota-based grass-fed buffalo-meat company.

“It’s an amazing family-run company with a loyal customer base willing to pay premium prices for excellent free-range products,” he says.

While working there, Jacobi became friendly with one of his clients — a New York chef named Ricky King, who had bought meat from Wild Idea for his restaurants. Over sandwiches and beers, they started brainstorming ways to make organic meats more accessible to customers.

“High-end restaurants can serve grass-fed steaks and pork chops, because they’re charging thirty or forty dollars an entrée,” he says. “But we figured out that we could use cheaper cuts, like brisket and pork shoulder, and slow-braise them to make affordable sandwiches.”

The result was Untamed Sandwiches, which opened in Midtown in 2014. The meats go through a five-day braising process — brisket cooks in port wine, pork shoulder in cider, chicken in habanero barbecue sauce — and can be assembled into sandwiches in minutes. Combined with interesting toppings like walnut-nettle pesto, fried-almond butter, pepper jelly, and crispy tobacco onions, the sandwiches are quickly becoming a lunchtime favorite for office workers and food critics alike (last year, they edged their way onto best-of lists from Thrillist, *Time Out New York*, and *Food and Wine*).

In addition to the grass-fed meats, Untamed Sandwiches uses only organic produce and donates a portion of its profits from daily specials to charities like Heifer International, a nonprofit that provides livestock to developing communities around the world. Jacobi says that he’s glad he’s helping people feel good about their lunch.

“It really is food with a conscience,” he says.



# KORILLA BBQ

**W**hen **Eddie Song '08CC** graduated from Columbia with a degree in economics, he probably didn't envision himself making Korean-inspired burritos in a neon-orange tiger-striped food truck on a cross-country road trip for a reality-TV show.

"Seriously, I was just going to work in finance like everyone else," Song says.

But when he graduated, in 2008, those jobs were few and far between. Instead of Wall Street, Song headed back to Queens, with a diploma and \$100,000 of debt.

Song had grown up in an enclave of Korean immigrants, and settling back into his childhood home meant returning to a steady diet of his favorite dishes — rice bowls topped with marinated thinly sliced rib-eye called *bulgogi*, grilled meats marinated in *gochujang* (a spicy-sweet chili paste) and plenty of kimchi, the traditional cabbage pickle served at every meal.

"As an undergrad, I would take my friends out to Korean restaurants and bring things back from Queens," Song says. "I was kind of an ambassador for Korean food."

Song figured that if his college friends liked Korean flavors, plenty of others would, too, especially when packaged as the quintessential street food: the burrito. Despite having enthusiastic taste buds, though, Song had no culinary experience. But after taking a community-college crash course chiefly geared toward immigrant line cooks, and then forming a partnership with a chef, he developed a menu modeled on popular fast-casual restaurants like Chipotle. Diners would pick a format (burrito, rice bowl, noodle bowl, taco, or salad), a protein (bulgogi marinated in soy sauce, pork shoulder



Eddie Song stands in front of his Korilla BBQ food truck.



or chicken marinated in gochujang, or tofu and shiitake mushrooms marinated in a bean paste and gochujang blend), and toppings (cheese, salsa, fermented black beans, and a variety of vegetables and kimchis).

Even in the depths of the recession, New York rents were too high for Song to open a restaurant. Instead, he teamed up with a high-school buddy (both were graduates of Manhattan's prestigious Stuyvesant High School), who, like Song, was having trouble finding a white-collar job. With a little help from family and friends, they were able to pool their resources and buy a used food truck, which was then a novel idea.

"Now it seems like there's a new food truck on every corner," Song says. "But when we first started, six years ago, it was just hot-dog carts and street meat. We were really in the first wave."

Song and his partners also figured that a mobile business would help them attract more customers.



# MISHA DAIRY

“At the time, if you wanted Korean food in Manhattan, you had to go to Koreatown, on 32nd Street,” he says. “That’s great if you happen to live or work near there. But we wanted to be able to make several stops in a day and catch people in different neighborhoods.”

Korilla BBQ officially launched in 2010 from a parking spot on 55th Street and Lexington Avenue, in Midtown. Song was shocked when he opened the window to see a line stretching down a full city block, to Third Avenue.

Song soon racked up several wins at New York’s Vendy awards for street vendors, did a short-lived stint on the Food Network’s *The Great Food Truck Race*, and even had a cameo on *Sesame Street*. All that recognition brought a loyal following and enough capital to take the business to the next level.



Today, Song can still be found roaming the city in the company’s truck (he posts the route daily on Twitter and Instagram). But now he’s more focused on the wheels-free locations: several are in the works, and so far one is open, in the East Village. With two full stories of fluorescent-orange façade slashed with Korilla’s signature black tiger stripes, the building is bold, fun, and a little unconventional — just like its founder.

**K**amiliya Abilova '13GS grew up in Almaty, Kazakhstan, a city of apple-tree-lined streets and snowcapped mountains. Her house was busy — Abilova is an only child, but her father was one of eight, and there was a steady stream of visiting aunts and uncles who needed to be fed. “We had two refrigerators,” Abilova says, “and one of them was just for quark.” Most Americans have never heard of the oddly named quark. But across Central and Eastern Europe, quark is a beloved staple — a cultured dairy product similar to yogurt, but without the tart taste. Abilova’s family would mix it with sour cream and homemade jam and eat it as snack.

When Abilova came to New York to study at Columbia, she was surprised to find that quark was not readily available. “I would wander the yogurt aisle at Westside Market after class,” Abilova says. “There were plenty of options, but nothing tasted quite as good.”

Nothing was as satisfying, either. Quark, which is actually a cheese (like farmer’s cheese, or a smoother cottage cheese), has nearly twice the protein of most yogurt.

“In Kazakhstan, no one thinks about things like protein and fat. But when I started learning a little more about the nutritional benefits of quark, it seemed like something Americans would respond to,” she says.

Abilova found a compatriot in classmate **Daniyar Chukin '11CC**, who had grown up in Kyrgyzstan, just across the mountains from Abilova. Together, they began taking steps to establish Misha Dairy, which makes what they call “new American quark.”

“We were lucky that our primary investors were family and friends, because we were definitely in a state of blissful ignorance,” Chukin says. “We thought we’d be able to launch the company in six months. But just developing the product took a year and a half.”

Abilova and Chukin started by consulting with an Illinois dairy producer who had spent time in Europe and was familiar with quark. He helped them tweak the recipe for the American consumer, making the texture less grainy and reducing the fat content.

The team then met with farmers in upstate New York to begin the production process. Using milk from grass-fed cows and steering clear of artificial sweeteners, colors, and preservatives, they developed quark in plain, strawberry-rhubarb, Key-lime, blueberry, and vanilla bean-coconut flavors and packaged it in snack-sized containers, which makes it more competitive in the American yogurt market (in Kazakhstan, quark only comes plain and is sold in family-sized tubs).

“We love introducing quark to new customers,” Abilova says. “But we also get a special pride when Europeans tell us that it tastes exactly like the stuff they’d get at home.”

Misha Dairy’s products are now in nearly 150 stores in the New York region, as well as Wegmans supermarkets across the East Coast. A deal with Whole Foods is pending. Abilova is particularly happy that quark has found its way onto the shelves of an old favorite: Morningside Heights’ own Westside Market.

“I hope other Columbia students find it and love it as much as I do,” she says.



Misha Dairy founders Daniyar Chukin (left) and Kamiliya Abilova grew up eating quark.



# MR BING



Brian Goldberg's Mr Bing carts sell Chinese savory crepes at street fairs and functions.



stuffed with scrambled egg, sesame seeds, scallions, hoisin sauce, chili paste, cilantro, and crunchy wontons.

"It's like the bacon, egg, and cheese of China. But a thousand times better."

When Goldberg came home, his heart wasn't in medicine anymore. He finished his BA, then enrolled in a master's program in East Asian languages and cultures at Columbia. Though he mostly focused on film, he took one class at the business school, where he wrote a very early draft of a business plan to bring jianbing to New York.

"I was ready to start Mr Bing fifteen years ago," Goldberg says. "But a few other things got in the way."

Those other things involved the luge, the 2002 Winter Olympics, and Israel.

Goldberg had gotten a late start at the luge. By the time the sport caught his interest, when he was seventeen, he

was too old to join the American training program. But as a Jew he was eligible for dual citizenship with Israel, where competition wasn't exactly stiff (think *Cool Runnings* in the Negev). Goldberg spent his undergraduate and graduate years training with the Israeli team and ultimately qualified for the Salt Lake City Olympics in 2002. But Israel ended up sending a smaller delegation post-9/11, so Goldberg wasn't able to compete. Still, working with NBC on a documentary about his Olympic dreams inspired his next step: TV production.

Goldberg worked for a year as an NBC page in New York; his fluency in Mandarin then helped him land a gig as a television producer and financial-news reporter in Singapore. Seven years later, he jumped from reporting on the markets to trading in them, becoming an investment banker.

How do you say Renaissance man in Mandarin?

Ask **Brian Goldberg '02GSAS**, a man of seemingly limitless energy, who

just might have the most improbable LinkedIn profile in New York. A Chinese-film scholar turned Olympic-level luger turned TV producer turned investment banker, Goldberg is now the founder of Mr Bing, a food cart and catering company that sells Beijing-style savory crepes. Naturally.

But before any of that, Goldberg planned to be a doctor. As a sophomore at

Brandeis, he was accepted into an early-decision medical program, where participants are guaranteed acceptance at Tufts University's medical school upon graduation, and encouraged to pursue non-medical interests during their undergraduate years. Goldberg took advantage by spending his junior year in a language-immersion program in China.

"It was basically language jail. If they catch you speaking English three times, they send you home," he says.

Goldberg thrived in China. He loved its cinema, art, and especially its food. Every morning before class, Goldberg would visit the bicycle-drawn carts selling *jianbing*: savory crepes



# BEYOND MEAT

But Goldberg never stopped thinking about those savory crepes, which were ubiquitous in northern China but hadn't yet migrated south to Singapore and Hong Kong, where his banking career had taken him. He partnered with a local restaurateur and started courting investors and developing a recipe.

"Every time I went back to Beijing, I would talk to my favorite vendors. I convinced one of them to teach me her recipes, and even to come to Hong Kong with me to train my staff," he says.

He opened the first Mr Bing, a brick-and-mortar fast food restaurant in Hong Kong, while still working at the bank. The schedule was untenable — Goldberg was managing the restaurant during his lunch break and after work — but he realized that the food and the concept were resonating with customers. That gave him the confidence to leave banking and bring jianbing to New York.

"I've always known that New Yorkers would love them," he says.

Goldberg was right — in July, *New York* magazine named the jianbing the city's "Cheap Eat of the Year" — and business is thriving. At present, Mr Bing is a mobile cart and caterer, appearing at street fairs and corporate functions. In the long term, Goldberg envisions a semi-permanent home at a food hall. But he hopes that the bulk of the business will be in Central Park and on city corners. He anticipates a fleet of carts on bicycles — just like the ones that grabbed his attention outside a Beijing dorm room nearly twenty years ago.

**E**than Brown '08BUS doesn't think there's anything wrong with eating meat every day.

There's just one caveat.

"It has to be plant-based meat," he says.

Brown is aware that to most people, this sounds like the ultimate oxymoron. His company,

Beyond Meat, is seeking to change that. Its goal is to make vegan meat substitutes that mimic the taste and texture of animal protein so well that they are indistinguishable from the real thing.

"There are two ways to think about meat," says Brown. "One is that it has to come from an animal. The other is that meat is just a composition of amino acids, lipids, carbohydrates, and water. That kind of demystifies it."

While there is a personal component to Beyond Meat's origin story — Brown has been a vegetarian for



decades — his motivations go beyond his dinner plate. Brown spent the first part of his career working for a clean-energy company, which is where he became interested in our diet's role in climate change.

"It became increasingly clear to me how much the meat industry is contributing to greenhouse-gas emissions. And that's not to mention its role in other societal problems, like heart disease, diabetes, and cancer," Brown says.

Brown knew that there was going to be no way to make sweeping change without providing a viable alternative that appealed to meat lovers.

"Black beans and quinoa aren't going to cut it when what they really want is a juicy burger," he says.



**Ethan Brown's plant-based burger is sold in the meat aisle.**

Brown started the research and development process shortly after business school, teaming up with a group of chemists who began to analyze the molecular structure of animal protein and to replicate it with plants. At the same time, Brown was busy raising capital.

"We had to go through several rounds of funding to even get through the product-development process. It was incredibly risky, financially, because we were raising a lot of initial capital without knowing if it was going to sell. But I wasn't afraid to spend a lot of money to get the product right," he says.

In 2013, Beyond Meat came out with their first offerings — a beef-like veggie crumble, a veggie-burger patty, and a chicken substitute. Since then, the company has grown to two hundred employees, including twenty PhDs. But as much as Brown owes his company's success to science, he also knows that there's something about the experience of eating that can't be replicated any other way.

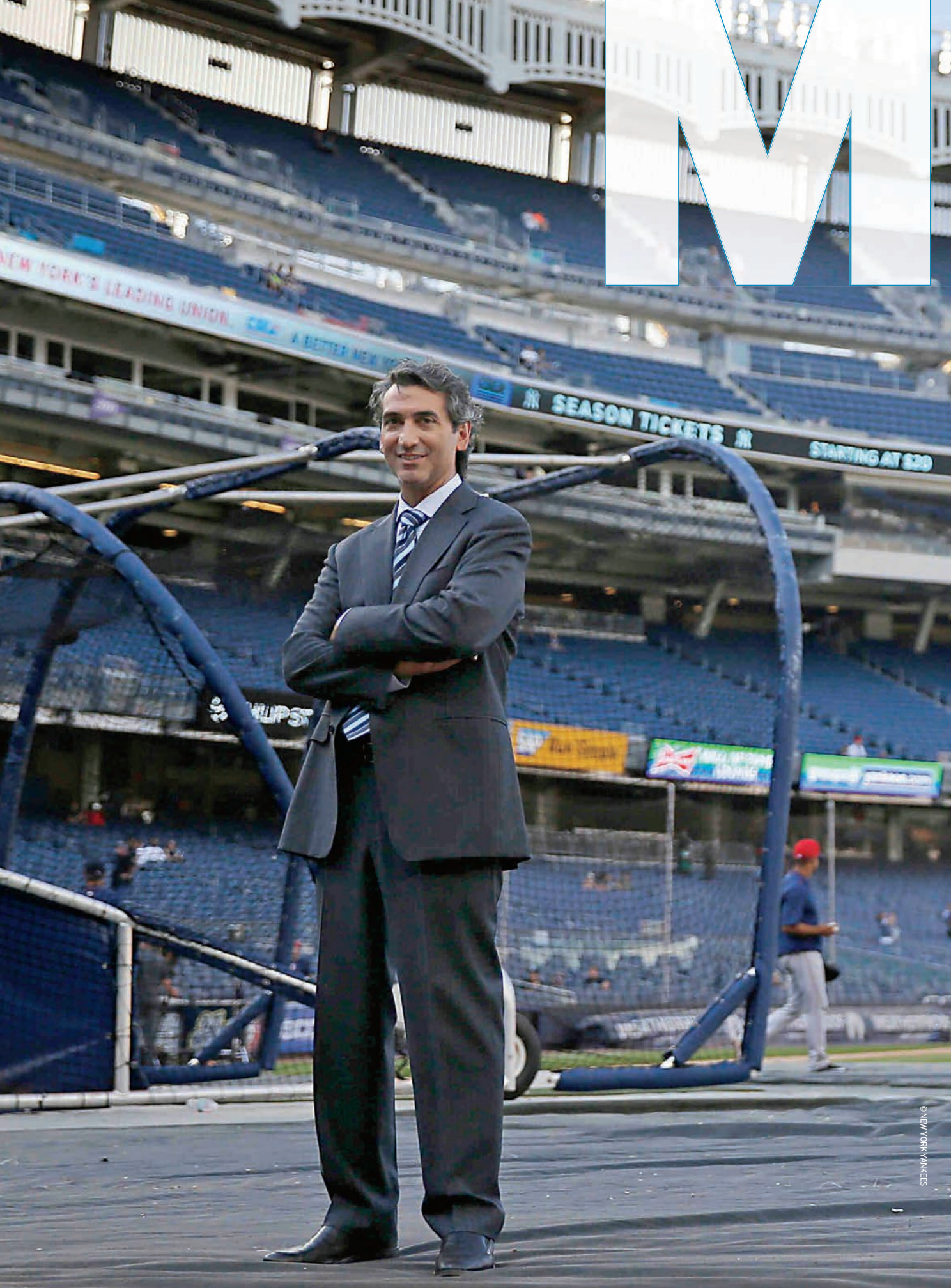
"I'm a vegan who eats animal meat every single day," Brown says. "I spit it out, but if our mission is to replicate the experience of eating meat, I want to make sure firsthand that that's what we're doing."

This past spring, Brown's team created what he considers the Holy Grail of meat substitutes — a fresh plant-based burger that browns on the outside and stays pink on the inside when it cooks. And, in a feat of pure magic (and pulverized beets), it actually bleeds when you cut into it. The Beyond Burger debuted in a Colorado Whole Foods supermarket in May. It sold out in less than an hour and earned praise from Eater, Tasting Table, the *New York Times*, and dozens of other media outlets. It will roll out to stores nationwide this fall — but customers should be mindful not to look for it with the frozen veggie burgers.

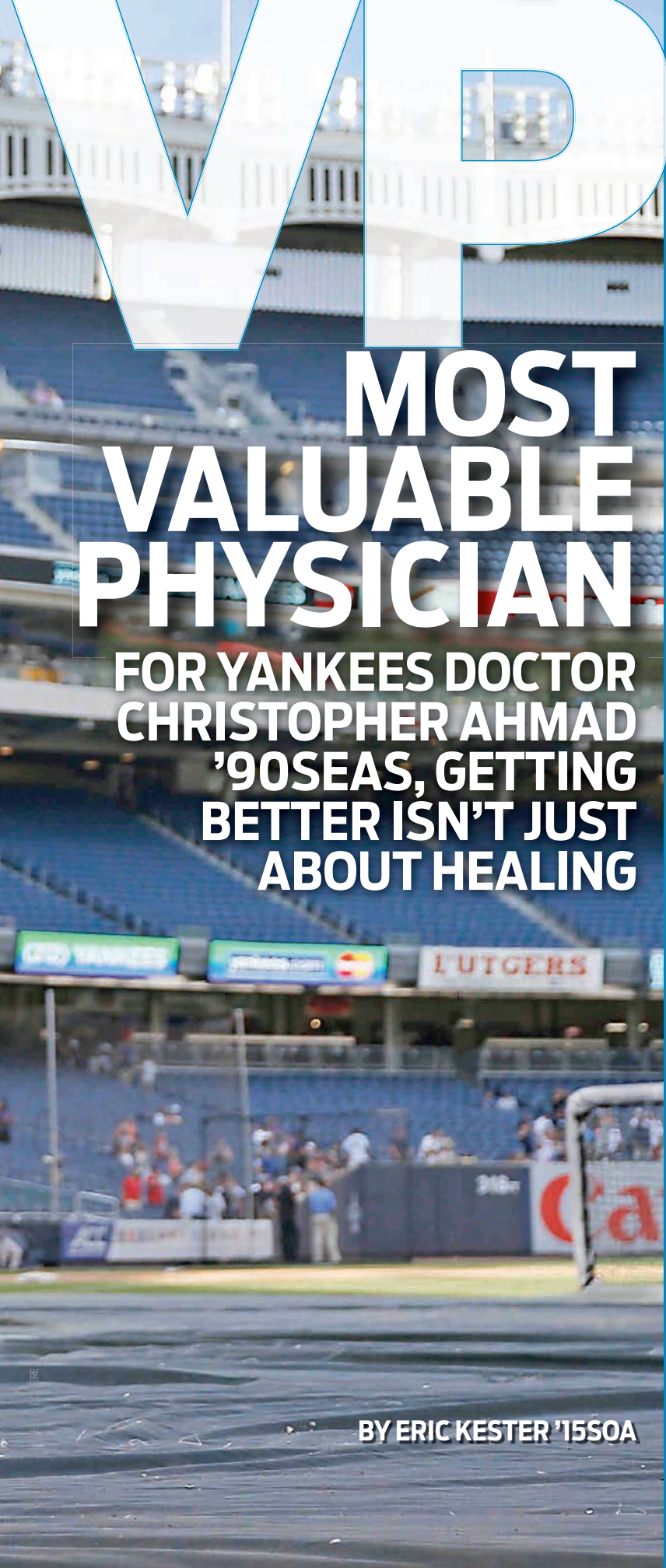
"We're proud to say that we've made a product so close to animal protein that we're being sold right next to it in the meat aisle," says Brown. 🍔



# M







# MVP

## MOST VALUABLE PHYSICIAN

FOR YANKEES DOCTOR CHRISTOPHER AHMAD '90SEAS, GETTING BETTER ISN'T JUST ABOUT HEALING

BY ERIC KESTER '15SOA

The refrain had been chanted thousands of times before, but it had never sounded like this. Its discordance echoed in a familiar setting: a chilly October night in the Bronx, playoff baseball, Game 1 of the 2012 American League Championship Series. The New York Yankees were battling the Detroit Tigers, and the crowd at Yankee Stadium was standing as one. Their claps were muffled by mittens, so they stomped their feet to the cadence of their chant: “*Der-ek Je-ter, Der-ek Je-ter.*”

The din rattled around the bleachers, swept through the grandstands, and reverberated down the concrete stanchions into the depths of the stadium, into the training room, where the Yankee captain lay writhing on a training table. The chant from above was infused with an unfamiliar restlessness, because at that moment the crowd’s hopes didn’t depend on a pitch but on a picture: an X-ray of Jeter’s left ankle, which he had just twisted diving for a ground ball at shortstop. Baseball gods willing, the X-ray would come back clean, and the fifty thousand stomping fans, along with millions more worldwide, could exhale.

Underneath the grandstands, the Yankees’ team physician, Christopher Ahmad ’90SEAS, held the news that the sports world waited upon. But he wasn’t thinking about the fans or the media. He wasn’t thinking about the Yankees brain trust that now surrounded Jeter in the training room, a group that included Yankee legends Joe Torre, Tino Martinez, and Reggie Jackson, as well as Yankees senior vice president and general manager Brian Cashman. Ahmad wasn’t even thinking of Jeter’s ankle. He was thinking only of his patient’s emotional state. He was focused solely on one of the most difficult moments a doctor of sports medicine can face: telling a player who can play through anything that he can’t play through this.

“You always have to remember that a professional athlete puts every ounce of himself into his sport — into his body,” says Ahmad. “And if you take that away from him, in a way you’re taking away who he is as a person.”

Ahmad, a professor of orthopedic surgery at Columbia University Medical Center, understands that for an athlete, a split



tendon or a torn ligament is more than an injury. It's a rip in the fabric of his identity, an unraveling of a self that's been meticulously woven in practices and games since childhood. Major injuries often leave a scar, but in an athlete's case they also leave an abstract hole, a vague emptiness. When asked in the post-game press conference about Jeter's reaction to the diagnosis — a season-ending fractured ankle — Cashman answered quietly, "He didn't have one."

That night, as Ahmad drove home from Yankee Stadium to Lower Manhattan, where he lives with his wife, orthopedic surgeon Beth E. Shubin Stein '91CC, '96PS, and their three children, he

**"I ALWAYS HAD A SENSE I COULD PUT THINGS BACK TOGETHER," AHMAD SAYS.**

immediately got to work. Not on Jeter, but on himself. Like a professional athlete reviewing his game film, Ahmad analyzed his performance in the training room, using a voice recorder to document any observations or areas where he felt he should have been better. Did he deliver the news as well as he could have? How might he have done it differently? For Ahmad, honest self-critique is a cornerstone of genuine self-improvement.

"Many professionals don't like to face the reality that maybe they're not as good as they can be," he explains. "And when it comes to medicine it's especially difficult to think, 'I didn't perform well, and that affected my patient.'"

That's why he dissects all aspects of his role as the Yankees' team physician, including his bedside manner. By analyzing his interactions with injured athletes,

he's refined a communication skill set that helps athletes through the lowest points of their careers.

"First, you have to be humble — don't use technical language they can't understand," Ahmad advises. "Sit down next to them and talk to them eye-to-eye. Don't stare down at them as they sit on the training table. And when giving bad news, don't be ambiguous. Explain that they can't play through the injury, no matter how hard they try. Then explain that there is a solution and that you'll do everything you can to fix the problem."

Ahmad's guiding principle in these interactions is to put himself in the athlete's shoes — an easy fit for a man who

Ahmad collected his insights into self-betterment in his recent book *Skill: 40 Principles that Surgeons, Athletes, and Other Elite Performers Use to Achieve Mastery*. In this guide, Ahmad emphasizes the difference between "soft skills" and "hard skills," and stresses the importance of distinguishing and cultivating both types of abilities. Soft skills, Ahmad says, are more abstract, rooted in creative improvisation, foresight, and adaptive problem solving, "like a quarterback looking across the field and reading a defense." He argues that soft skills separate elite surgeons from good ones: a good surgeon, for example, can work around the spate of blood that comes from operating in a



spent much of his childhood wearing soccer cleats. He grew up on Long Island with a nurse mother and a psychiatrist father. But despite family roots in medicine, Ahmad first set his aspirations on professional soccer.

As a young player he was gifted, but it was his deficiencies — or more accurately, his response to them — that propelled him to elite levels. If a teammate had better foot skills, for instance, Ahmad would design and execute drills that would isolate the skill for improvement. The payoff was substantial: he was selected to play in the Olympic Development Program and was recruited for Columbia's nationally ranked soccer program. This success validated Ahmad's approach to personal improvement and would later translate to all aspects of his life as a surgeon.

region with an unusually high number of blood vessels; elite surgeons notice these vessels before they even begin, clamping them down preemptively.

That's not to say that "hard skills" — the technical abilities that one develops through meticulous repetition — are unimportant. They are, after all, the foundation upon which soft skills are built. Ahmad began developing his hard skills in orthopedic surgery before he was aware of it. His first summer job was for an engineering firm that made helicopter components, and this internship illuminated his mechanical gifts. "I always had a sense I could put things back together," Ahmad says. When it was time to declare his major at Columbia, Ahmad chose mechanical engineering.

Still, soccer was Ahmad's passion. In 1988 he earned an All-Ivy honorable

mention, and following graduation he strongly considered trying to go pro. However, after discussing it with his family, Ahmad made the hard decision to retire from the game he loved. “It’s very difficult,” he says. “You play this game your whole life, train almost every day to get to this level, then one day your college career is over.”

It wasn’t goodbye, though — not to soccer or to Columbia. While playing soccer, Ahmad was fascinated by the effect injuries had on his body, and determined to reduce their impact on his abilities. If he twisted his ankle, he didn’t just have a trainer tape it — he studied the trainer’s technique, then experimented on himself to devise a better taping procedure that gave his ankle the care it needed while minimizing its encumbrance. His devotion to athletics, coupled with his studies in mechanical engineering, led Ahmad naturally to sports medicine, with a specific interest in two fulcrums of the human body, the knees and elbows. “Derek Jeter dreamed of being a shortstop for the Yankees; I dreamed of leading sports medicine at Columbia,” Ahmad says. “And choosing this field allowed me to stay connected to soccer.”

Ahmad earned his medical degree at New York University and completed his residency at Columbia Orthopaedics. One of Ahmad’s biggest career breaks came in 2000, when he was selected for the sports-medicine fellowship at the Kerlan-Jobe Orthopedic Clinic in Los Angeles. There, Ahmad provided treatment for the Los Angeles Dodgers and worked with the orthopedic pioneer

Frank Jobe, who in 1974 changed baseball forever by developing a way to surgically reconstruct a torn ulnar collateral ligament, or UCL, the absolutely vital — and all too fragile — part of a pitcher’s elbow. The operation, known today as “Tommy John Surgery” after the first baseball player to undergo it, captivated the rookie surgeon. “The idea of taking a pitcher’s ligament that’s torn — that’s stopping him from throwing — and then getting him to throw ninety-five miles per hour again, all through a very precise surgery that relies on your technical skill: it’s like playing World Cup soccer. That was the stage I wanted to be on.”

Since his one-on-one training with Jobe, Ahmad has established himself as one of the world’s preeminent Tommy John surgeons, winning multiple research awards and publishing over two hundred articles and fifty book chapters on elbow, shoulder, and sports medicine.

Ahmad became Yankee team physician in 2009, a post in which he regularly deals with players’ sprains, pulls, fractures, ruptures, bruises, soreness, and muscle tears.

“One of the things that initially drew us to Dr. Ahmad was his vast experience in diagnosing and treating athletes who perform at the highest level of sports,” says Cashman. “As our head team physician, he has been thorough, thoughtful, and dedicated to improving his craft.”

He has also seen some curveballs. In 2013, Yankees star Alex Rodriguez filed a malpractice lawsuit against Ahmad, claiming the physician didn’t inform him about a joint tear in his hip (part of what

the *New York Daily News* called Rodriguez’s “scorched-earth battle to dodge his historic Biogenesis steroid ban”). The suit was later dropped.

Ahmad has never let a distraction disrupt his game. “I’m always looking to contribute to orthopedics,” he says, “always looking to develop a better surgical technique.”

And baseball needs it. Between 2012 and 2015, Major League Baseball players underwent Tommy John surgery 114 times, compared to 69 operations from 2008 to 2011. Even more concerning is the growing number of youth baseball players who suffer elbow injuries. In a recent CUMC study, Ahmad discovered that the number of UCL reconstructions per hundred thousand people has tripled from 2002 to 2011. Almost all of that growth occurred in males seventeen to twenty years old.

Major League Baseball has asked Ahmad to join the advisory board of its Pitch Smart program, an initiative to better educate players and coaches on how to keep elbows healthy. Ahmad is also meeting with orthopedic and sports-medicine specialists as he builds a database of UCL reconstructions in the US, a trove of information that will provide invaluable insight into the scope and root causes of the injury.

Evidence of Ahmad’s achievements can be found on his office walls, which are filled with pictures of sports stars. The inscriptions go beyond mere pleasantries. A signed photo from a track-and-field athlete says it all: “Dr. Ahmad — Thank you for putting me back together.” 🏆

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## GET BETTER Skill-Sharpening Tips from Dr. Ahmad

### DON'T FALL FOR THE PRODIGY MYTH.

Too often it’s believed that naturally gifted people can effortlessly do things that others will never be able to do. But talent in any field is honed through specific regimens, like persistent training and study. Remember that talent is not bestowed — it’s acquired.

### ALWAYS CARRY A NOTEBOOK.

High-level performers keep a performance journal. They write and reflect. Get a journal and write your results from today, your ideas for tomorrow, and your goals for next week.

### REVERSE ENGINEER YOUR MENTOR.

Identify the heroes or mentors who have inspired you, and watch them closely: study their preparation, their work ethic, their leadership skills, and how they respond to pressure. Do not passively observe them. Take command and immerse yourself in their excellence.

### LET GO OF EGO.

Self-critique is difficult but essential. People who pay deeper attention to an error learn significantly more than those who don’t. Address mistakes immediately, and take them seriously but never personally.

### ISOLATE THE SWEET SPOT.

You reach the sweet spot when you put yourself at the edge of your ability, which is where you learn the best and the quickest. The sweet spot is difficult, elicits frustration, creates alertness to errors, forces a struggle, and requires full engagement. Push to find your personal sweet spot.

Adapted from *Skill: 40 Principles that Surgeons, Athletes, and Other Elite Performers Use to Achieve Mastery*



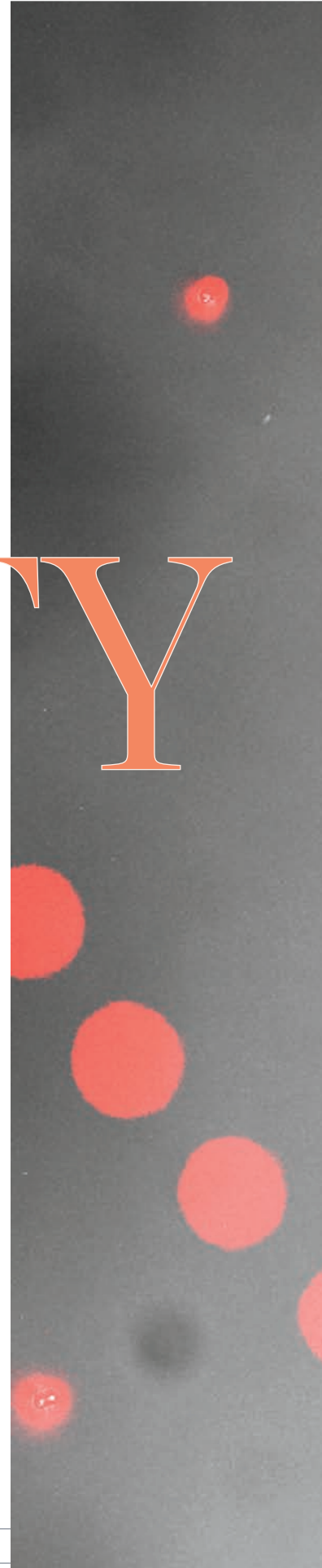
# truth + BEAUTY

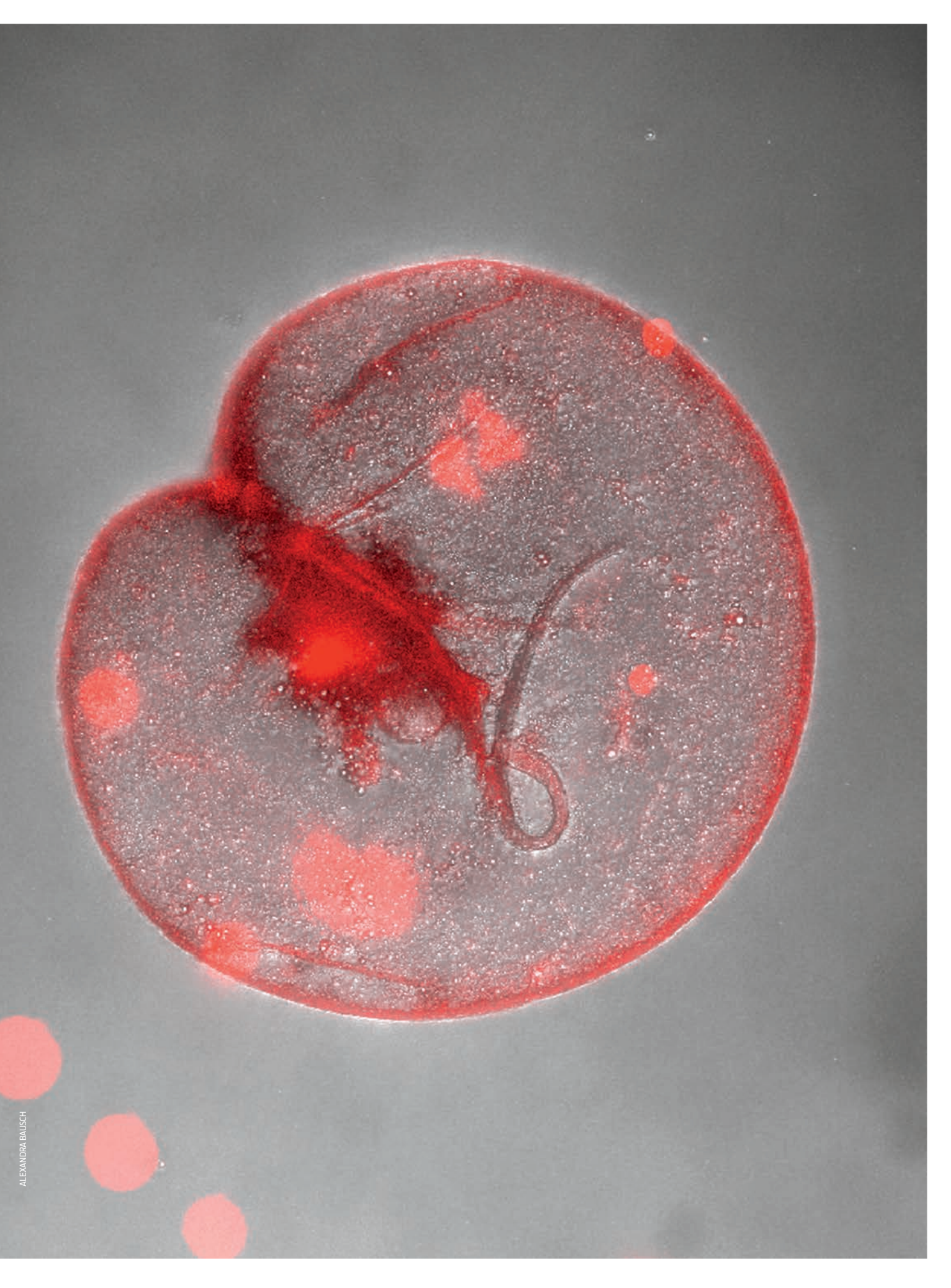
Colors, patterns, symmetries, textures. Just look at the photographs produced in recent years by Columbia scientists and you can begin to appreciate why so many artists take their cues from nature.

For the Lamont-Doherty geochemist or the Zuckerman Institute brain researcher, such images are portals to information, filled with clues and questions and evidence. But for the rest of us, there are still rewards. After all, one person's microscopic portrait of a single-celled organism may be another person's Miró.

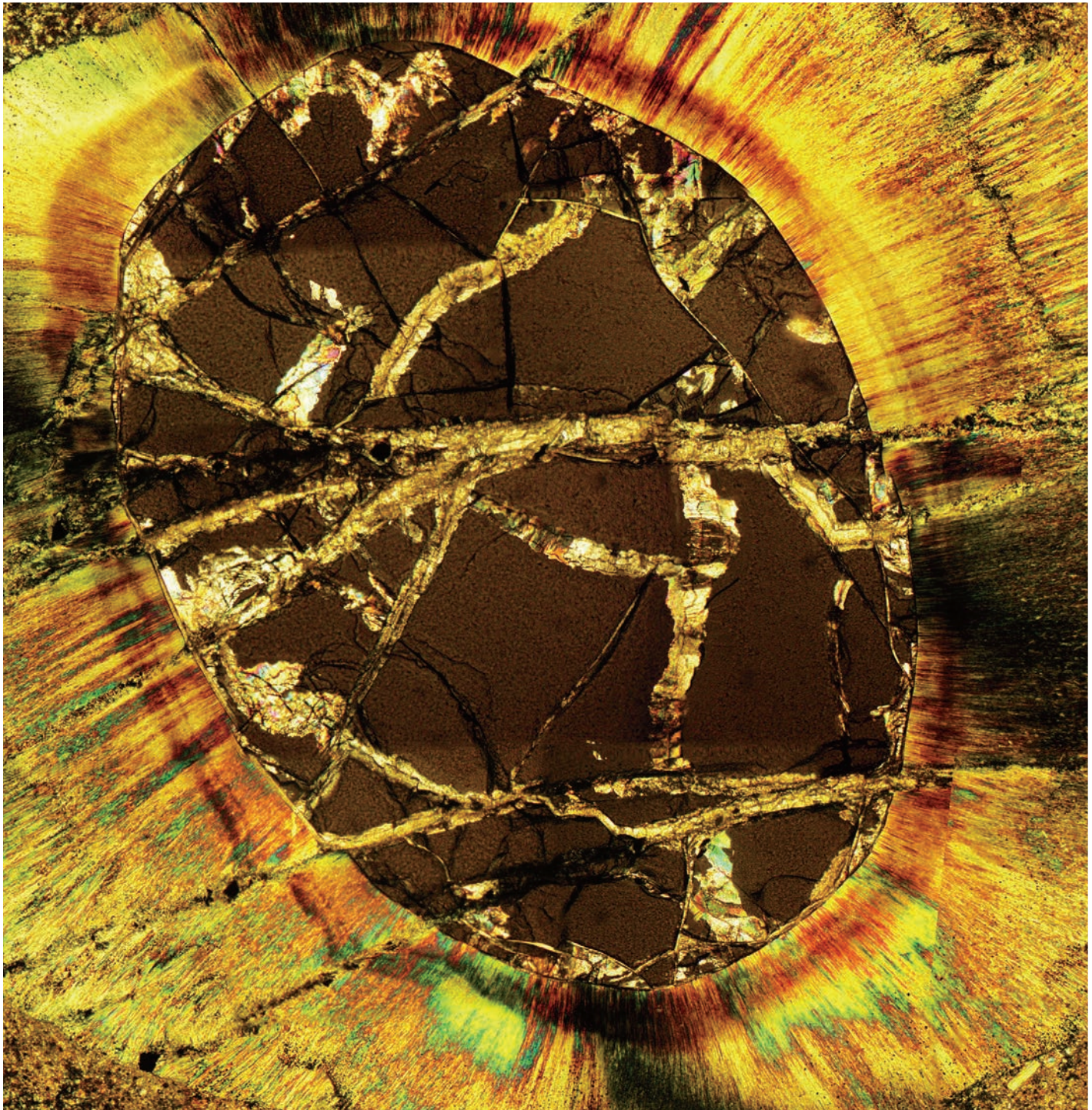
→ **RHAPSODY  
IN RED**

This image of a red *Noctiluca* alga was produced by Alexandra Bausch, a PhD student in earth and environmental sciences who is studying how the single-celled organism can proliferate to form massive blooms in oxygen-depleted waters. The pink orbs are caused by reflected light from smaller, bio-fluorescent algae passing in front of the *Noctiluca*.









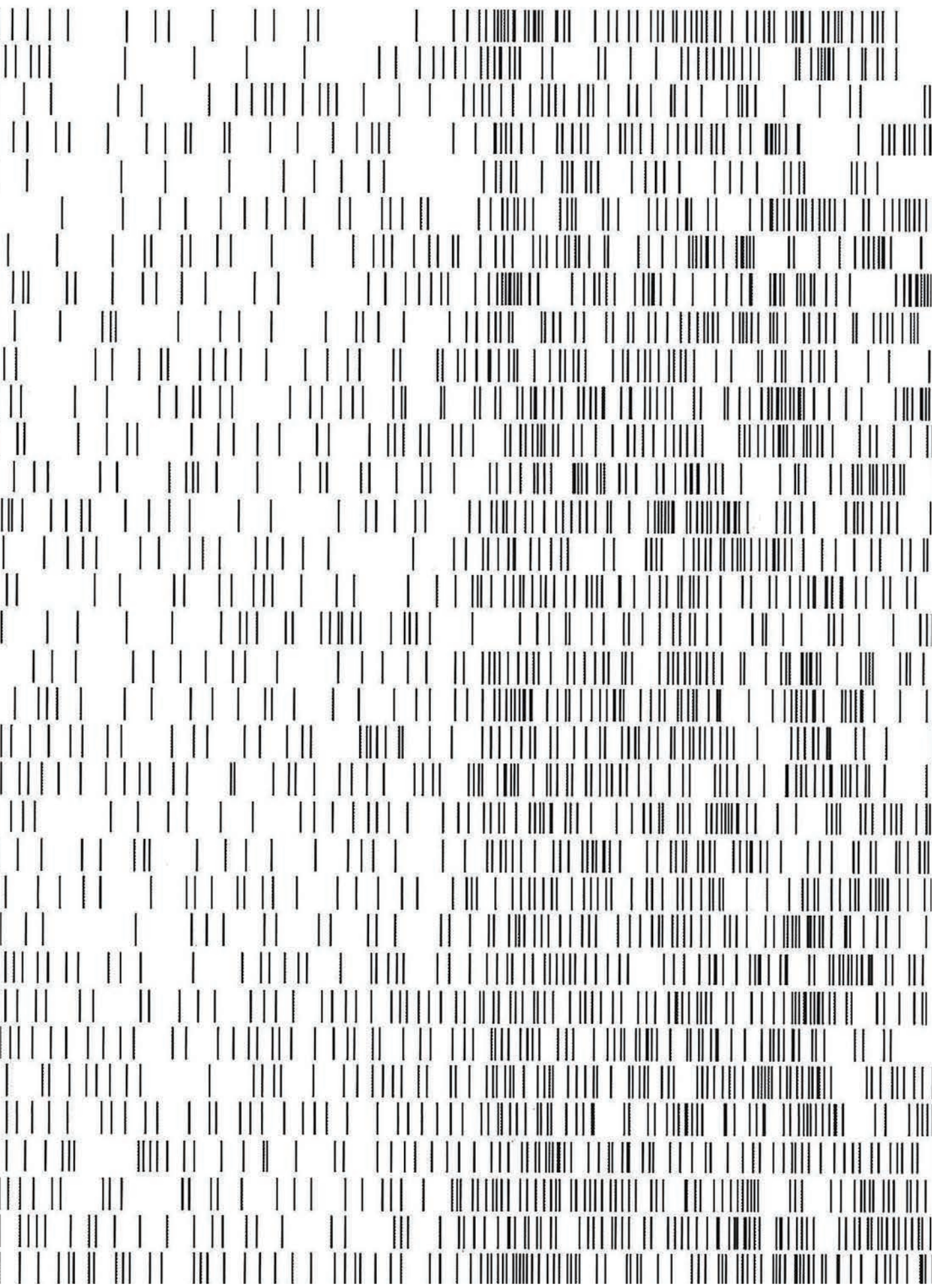
↑ **THE METAMORPHOSIS**

Anna Claire Barth, a PhD student in earth and environmental sciences, photographed a cluster of minerals that underwent a transformation on their way to the earth's surface. The garnet crystal in the center formed under intense heat and pressure, while the mica around the edges took shape under less severe conditions.

→ **PORTRAIT OF A MEMORY**

Each stroke in this chart represents the firing of a single neuron in the brain of a test subject. The study, conducted in the laboratory of Zuckerman Institute neuroscientist C. Daniel Salzman, explored how neural responses change as subjects form memories about a picture on a computer screen.









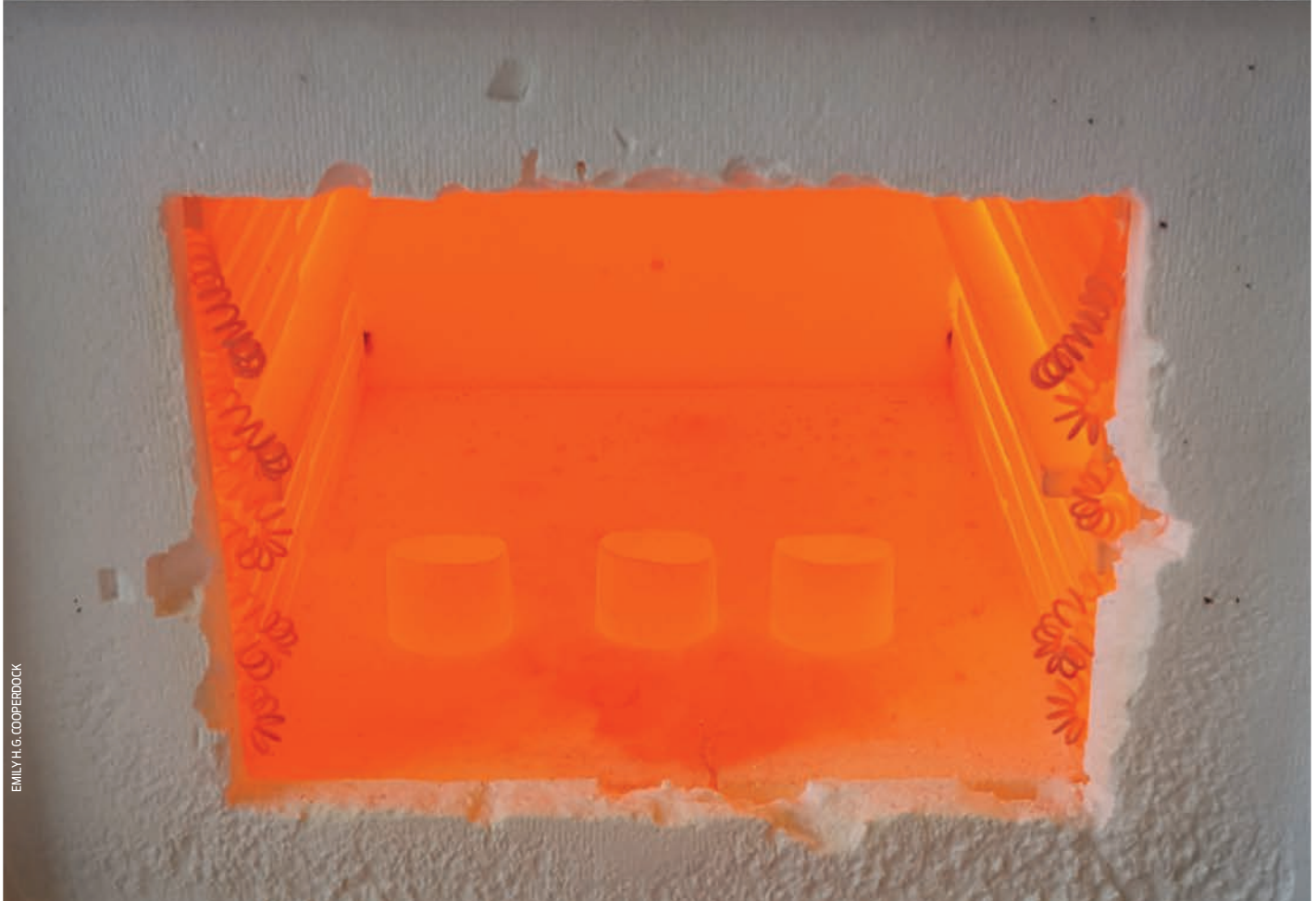
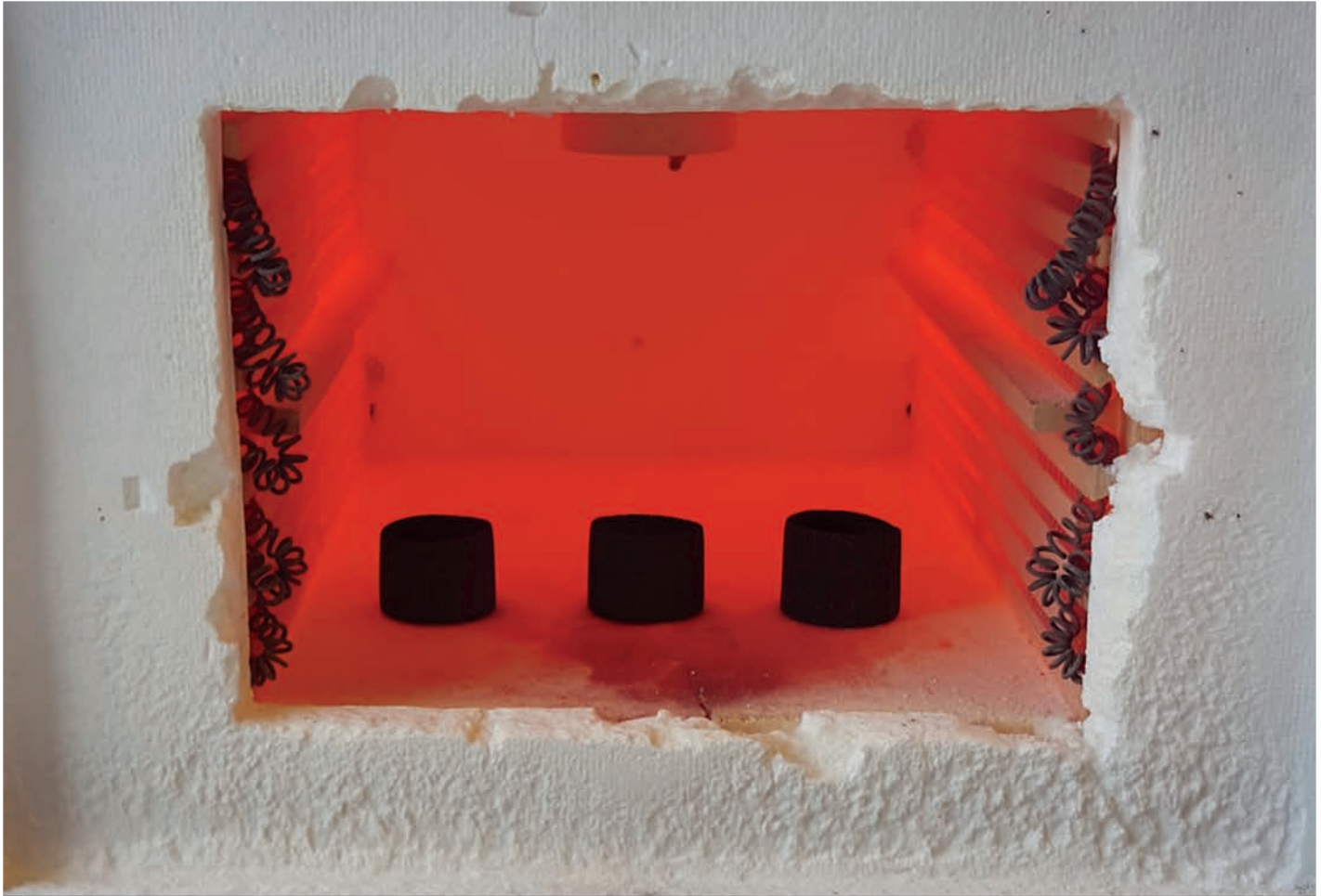
← **STILL LIFE**

This lava from Hawaii's Kilauea volcano hardened just a few weeks before Columbia seismologist Einat Lev photographed it, in February 2015. Its texture is the result of a crust forming while the molten lava was still moving. This is characteristic of a type of lava flow that scientists call *pahoehoe*, from the Hawaiian verb *hoe*, meaning "to paddle," since the surface resembles ripples of water.

→ **ORANGE DIPTYCH**

Emily H. G. Cooperdock '11CC took these two photographs of minerals being heated in a furnace at Lamont-Doherty Earth Observatory. The top photo shows three graphite crucibles filled with powdered rock just moments after being placed in the furnace. The bottom photo shows the crucibles heated to 1,050 degrees Celsius, their contents now liquefied and ready for chemical analysis.









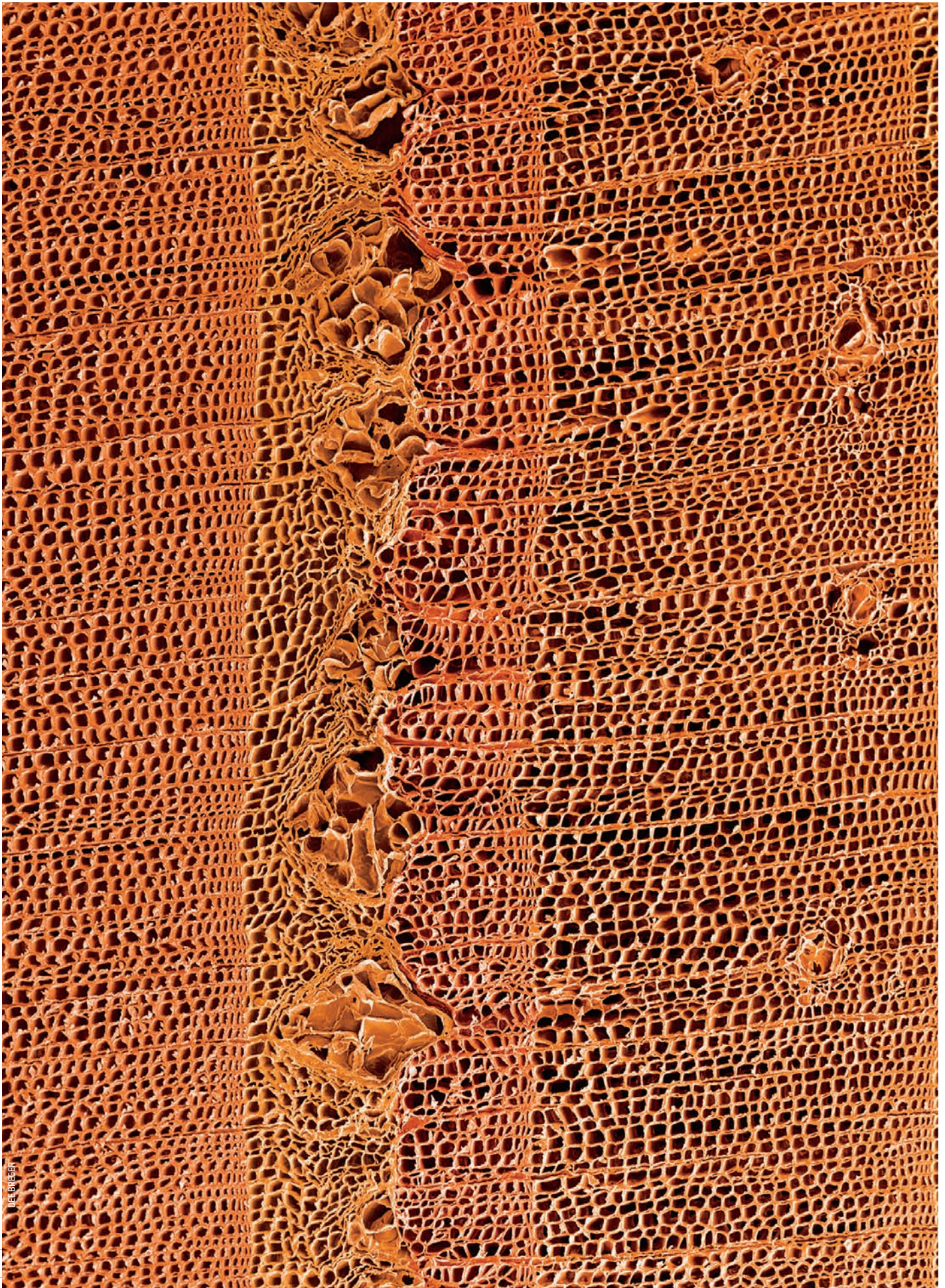
#### ↑ NEURON DANCE

Zuckerman Institute neuroscientist Nate Sawtell is studying the brain of the elephant-nose fish to understand how neurons assimilate sensory information. Pictured here are a half-dozen neurons. Their main bodies are the dark ovals at the bottom of the image. They have sent branches, called dendrites, upward to receive signals from the thread-like axons of other neurons streaming in from the left.

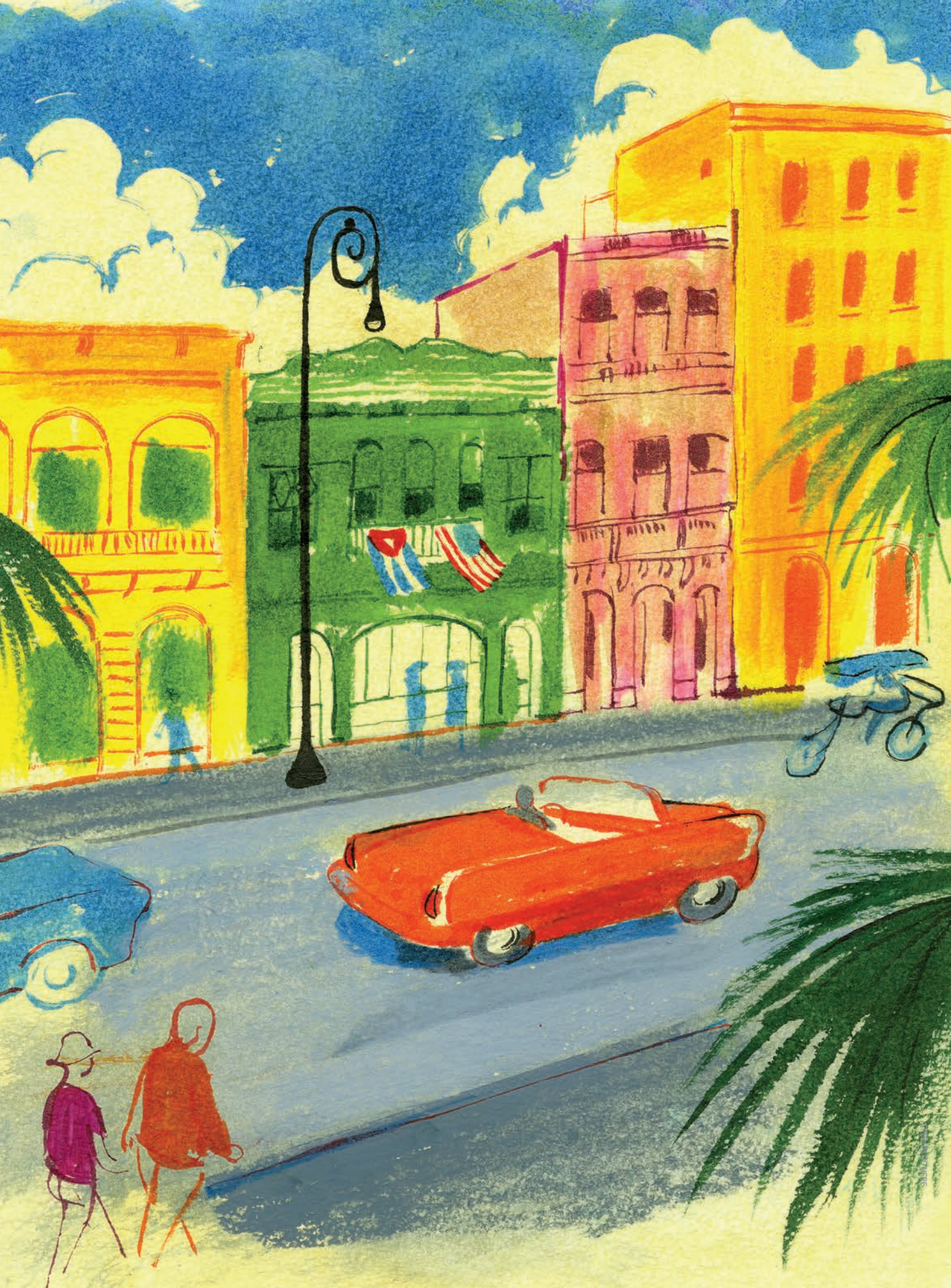
#### → THE RING CYCLE

This sample of tree rings was taken from an ancient Siberian pine in Mongolia by the late Columbia dendrochronologist Gordon Jacoby '71GSAS. The two distorted rings in the center, which represent the years 536 and 537, indicate a drastic cooling that occurred in the northern hemisphere, possibly the result of volcanic activity or an asteroid impact.











# *Bridges to*

# CUBA

*Will the quiet power of cultural diplomacy change a nation?*

*By Paul Hond \ Illustrations by Edel Rodriguez*



As a light rain fell on José Martí International Airport in Havana, the Boeing VC-25 aircraft appeared against a battleship-gray sky. The plane got closer, and the words on the fuselage became visible: UNITED STATES OF AMERICA.


Air Force One touched down on the runway, taxied, and stopped. The door opened, and the president of the United States, Barack Obama '83CC, emerged at the top of the stairs. He snapped open a black umbrella and disembarked with his wife, Michelle; their two daughters, Sasha and Malia; and Michelle's mother, Marian.

It was March 20, 2016. Not since 1928, when the USS *Texas* carried Calvin Coolidge a hundred miles from Key West to Havana, had a sitting US president come to Cuba.

Obama stepped onto the tarmac, and a line of Cuban and American officials welcomed him. "Hi, Jeff. Good to see you. How are you?" Obama said, shaking hands with Jeffrey DeLaurentis '78SIPA, the chargé d'affaires at the US embassy in Havana and the top US diplomat in Cuba.

An hour later, DeLaurentis stood on a podium beside the president in the Meliá Habana hotel. DeLaurentis had first been sent to Cuba twenty-five years earlier, during the worst economic





disaster to ever hit the Communist-led country. Now, in a scene he could not have imagined then, he was in Havana introducing three hundred US embassy employees and their families to the president of the United States.

“Mr. President,” he said, “this is your embassy team, Americans and Cubans, and they want to say thank you for giving them the opportunity to live history.”

**A**ngela Mestre, a Columbia College junior, was living two histories that rainy day in Havana. As President Obama’s motorcade crept along the highway beside the Malecón, the seawall esplanade that skirts the Straits of Florida, Mestre watched it go by. The whole city was watching: people lined the streets or leaned out over their flaking balconies to glimpse a leader who, Mestre says, “of all US presidents is the most relatable to Latin American and Caribbean people. There’s real affection for Obama. People love him.”

Mestre was one of four Columbia students who were spending the spring semester in Cuba through the Consortium for Advanced Studies Abroad (CASA), an eight-university collaboration that gives college juniors access to the University of Havana and Casa de Las Américas, Cuba’s leading center for Latin American studies. As another Columbia student, Caleb Murray-Bozeman, puts it, “The classes are great” — he studied Cuban cinema and Latin American thought and took *Tendencies of Contemporary Capitalism* (“not as propagandistic as I’d expected”) — “but the focus of the program really isn’t on the coursework. It’s to get us out into Havana to experience Cuban culture.”

For Mestre, the decision to go to Cuba was fraught. Both her parents are Cuban-American. Her mother was born in Bogotá, Colombia, to Cuban parents, and her father was born in Cuba but left in the early 1970s. Mestre was the first in her family to return to the island, and the older generations were torn. “The emotional component, the identity issues, are very complicated,” says Mestre. “It’s difficult to consider that somebody you love would go back to a country that you feel ousted you.”

Mestre was raised on stories of the lost paradise of the 1950s: the one-movie-theater town where her father grew up; the houses and mansions; the vibrant Havana life. “To see the remnants, the ghosts of these stories, is really cool, but of course there have been monumental changes in the past sixty years,” Mestre says.

Obama’s visit was one of them. In the days before his arrival, some buildings, their pink and blue arcades long sunk into a peeling grandeur, had been slapped with fresh coats of paint, and stores (most are state-run) were closed (Murray-Bozeman heard that this was because the Cuban government, sensitive to Soviet-era imagery, didn’t want the Americans to see any lines). There was a buzz, a flutter, a high anticipation mixed with uncertainty.

“People are excited that things are opening up,” says Mestre, “but also apprehensive. The challenge for society is that once

the country opens up, it becomes exposed and vulnerable to being overrun. There’s rarely been a country where every remedy is such a double-edged sword.”

**T**hree weeks after Obama’s visit, Jeffrey DeLaurentis, wearing a light-blue seersucker suit, sits in a cushioned chair in his office at the US embassy in Havana, a concrete and glass box built in 1953 in the International Style. The building sits in modest atmospheric isolation on the edge of the Vedado neighborhood, overlooking the Malecón and the sea.

DeLaurentis had joined the Foreign Service with visions of Prague and Budapest dancing in his head. But the world had other plans. In 1991, Cuba, crippled by the collapse of the Soviet Union, suffered food shortages and blackouts, and DeLaurentis was dispatched to the US Interests Section in Havana, a consular niche set up in the 1970s in lieu of formal relations and based in the erstwhile US embassy building. There, he served as vice consul, processing visas and managing the refugee program. He left in 1993 and returned in 1999 for three years as the political-economic section chief. He never did get to the Danube. His latest Cuba tour began in August 2014.

Now, as head of the US embassy in Havana (the title “chargé d’affaires” is an interim designation until an ambassador is nominated and confirmed), DeLaurentis recounts one of the more sensitive diplomatic forays of the post-Cold War era.

“When President Obama came into office, in 2009, the administration made some initial changes to facilitate more travel to Cuba, more remittances, more people-to-people contact,” he says. “But efforts to develop a different approach with Cuba really came to a halt in December 2009 after the unfair — and unjustifiable — incarceration of Alan Gross, the development worker.” Gross, a contractor with USAID, was imprisoned for smuggling illegal Internet equipment to Cuban civilians.

In 2013, the US and Cuba began secret negotiations in Canada, with the backing of Pope Francis, resulting in an exchange of intelligence officers. “The Cubans also agreed to release Alan Gross as a humanitarian gesture, free fifty-three political prisoners, look at increased Internet access, and engage with the Red Cross and other international organizations,” DeLaurentis says. “And President Obama announced our decision to do a full and scrupulous review of Cuba’s place on the State Department’s terrorist list.” (That review, which was completed in April 2015, found that Cuba should be taken off.)

Finally, on December 17, 2014, Obama and Cuban president Raúl Castro addressed their nations. “We are taking steps to increase travel, commerce, and the flow of information to and from Cuba,” Obama said. “This is fundamentally about freedom and openness, and also expresses my belief in the power of people-to-people engagement.”

DeLaurentis was in Havana that day. He could feel, in the streets, a palpable excitement. People stopped whatever they were doing to hear Castro. “Today, despite the difficulties,” the Cuban president said, “we have embarked on the task of up-

dating our economic model in order to build a prosperous and sustainable socialism.” Cuban and American flags were draped over balconies, and church bells rang in Old Havana.

Eight months later, on August 14, 2015, DeLaurentis stood with Secretary of State John Kerry outside the US embassy building. A crowd of Cubans and Americans watched as Marine guards unfolded a US flag and hooked it to a flagpole’s halyard; as the colors scurried up, cheers broke out, and an Army band played “The Star-Spangled Banner.” The US Interests Section was now the US embassy.

Then, this past March, inside the Grand Theater of Havana, DeLaurentis listened as Obama spoke to a select audience of Cubans and Americans. “I have come here,” Obama said, “to bury the last remnant of the Cold War in the Americas.”

But on matters of democratization and freedom of expression — central disputes between the two governments — DeLaurentis counsels patience. “We’re not going to see progress overnight,” he says.

**M**argaret Crahan ’67GSAS first went to Cuba in 1973 for academic research. “People from the US in Cuba were scarce as hen’s teeth,” she says. “It was very unusual for Americans to get a visa to do research in Cuba.” Crahan’s subject was pre-1959 cultural penetration in Cuba by US Protestant religions — a topic deemed sufficiently benign that Crahan got her visa extended by a month. Her fascination with the country only grew: she has been back more than sixty times.

In 2009, Crahan, a senior research scholar at the Institute of Latin American Studies (ILAS) at Columbia’s Graduate School of Arts and Sciences, started a program to foster the academic exchange of Cuban and US-based scholars. She

tion, doing service to the government and the community; it’s very difficult for them to get research time. We offer them a semester to work on their own research in the US.”

Much of that research focuses on current socioeconomic issues in Cuba, especially in the non-state sector (tens of thousands of small businesses, such as restaurants, are now semi-private). “This is where the problems are going to be,” says Crahan. “The majority of Cuba’s workforce works for the state, so managing a semi-private enterprise is a challenge.” The Cuba Program has brought in Cuban economists, Cuban management experts, Cuban political scientists, Cuban entrepreneurs, even a Cuban blogger. In return, Crahan makes one request: that scholars give a talk at ILAS, open to the public.

Says Coatsworth, “There have been two groups in American society that have systematically sought to undermine the embargo and the ban on travel. One group is tourists. The other is academics. What Meg Crahan is doing is part of a tradition of keeping ideas flowing and people moving in ways that have prevented Cuba and the US from being entirely isolated from each other for the past sixty years.”

**T**he big driver of that isolation, of course, has been the fifty-six-year-old US economic embargo, which forbids tourism and trade. “The US embargo against Cuba is a real anomaly in US foreign policy,” says Christopher Sabatini, who teaches Latin American political economy and US foreign policy at SIPA. “There’s never been a democratic transition in a country under an embargo as tight as the one we have on Cuba.”

In October 1960, President Dwight D. Eisenhower, responding to Cuba’s seizure and nationalization of American-owned properties and businesses, cut off US exports to Cuba; and

*“There’s rarely been a country where every remedy is such a double-edged sword.”*

called it, in her no-nonsense way, the Cuba Program. At the time, she and John Coatsworth, the former dean of SIPA and now Columbia’s provost, could joke that they were the only Cuba specialists at Columbia (Coatsworth first went to Cuba in 1963, in violation of a US travel ban that was later found to be unconstitutional). Now the Cuba field was exploding.

While CASA caters to undergraduates, the Cuba Program assists working academics, advising scholars in the US who are traveling to Cuba for educational purposes, and — its main thrust — covering the research and living expenses for Cuban scholars pursuing projects in the US, with Columbia as their home base. “The demands on Cuban academics in Cuba are enormous,” Crahan says. “They’re teaching, doing administra-

tion, doing service to the government and the community; it’s very difficult for them to get research time. We offer them a semester to work on their own research in the US.”

in January 1961, with Havana turning to Moscow for aid, he severed diplomatic ties and closed the US embassy. A year later, President John F. Kennedy expanded the trade embargo “to include all imports from Cuba, effectively cutting off the Cuban economy from the US market,” Sabatini says.

The sanctions remained in place and have since been strengthened by legislation. The Obama White House, unable to lift the embargo unilaterally, has sought advice from a number of experts, including Sabatini and younger, more moderate Cuban-Americans, on how best to legally chip away at the embargo without having to go to a divided Congress.

“The president cannot allow for unfettered tourism to the island, or for unfettered investment and commerce with the



Cuban state,” Sabatini says. “But there are things that can be legally justified if you can argue they’re helping the Cuban people: travel to the island under the twelve approved categories announced in 2014, cell-phone service, direct mail, academic and cultural exchanges, professional delegations — Obama has argued that all this is benefiting the Cuban people.”

DeLaurentis, too, advocates engagement over isolation: from his vantage at the embassy in Havana, as 1950s tail-finned automobiles of turquoise and lipstick red cruise the coastal highway, the chargé d'affaires leaves no doubt as to the political temperature. “The president has made it clear,” he says, “that the embargo should be lifted. But that is up to Congress.”



On April 21, 1959, a bearded man of thirty-two, dressed in olive-drab fatigues and a field cap, stepped onto Columbia’s College Walk. Surrounding him were police, city officials, and a few men similarly bearded and dressed for guerrilla activity. A rapturous crowd lined his path. As the world’s most famous revolutionary and the new leader of Cuba, Fidel Castro was a socialist-flavored political Elvis.

Castro was on his way to the Graduate School of Journalism to give a press conference. As he passed Low Library, he might have seen, on the steps, the bronze statue of Alma Mater and done a double take — for the steps and the sculpture were almost identical to those at the University of Havana, where he had studied law. Maybe he knew (history buff that he was) that the Havana statue’s sculptor, Mario Korbel, had been inspired by Columbia’s campus while living in New York. Maybe he knew, too, that Columbia’s journalism school was founded by the newspaper publisher Joseph Pulitzer, whose *New York World*, with its lurid accounts of Spanish cruelty in rebellious Cuba, whipped up support for US intervention on the island and the Spanish-American War.

Once inside the journalism building, Castro met Grayson Kirk, Columbia’s president. According to the *Spectator*, Kirk “greeted the Cuban leader with warm comments about the many Cubans who have studied at Columbia.” Such a list would have to begin with Gonzalo de Quesada 1890CC, who, with Cuban national hero José Martí — both men were exiles living in New York — drew up instructions for the start of Cuba’s war of independence. (Martí, weeks before his battlefield death in 1895, named Quesada his literary executor; Quesada later became Cuba’s first minister to Washington.) Kirk could have also mentioned former student Jorge Zayas, who was editor, at that moment, of the Havana newspaper *Avance*.

There were, of course, other Columbians with Cuban ties, though it was the better part of discretion to elide mention of Nicholas Murray Butler, Columbia’s president from 1901 to 1945, who strongly supported the 1901 Platt Amendment, a proviso in the first Cuban constitution that gave the US a naval base at Guantánamo Bay and the right to intervene at will in Cuban affairs; or John L. O’Sullivan 1831CC, a journalist who

coined the term “manifest destiny,” and who, in 1848, talked President James K. Polk into offering to buy Cuba from Spain for \$100 million. (Spain declined.)

But this was 1959, and if one alumnus flickered in Castro’s mind, it was Herbert Matthews ’22CC, the *New York Times* reporter. In 1957, Matthews, amid rumors fanned by Cuban dictator Fulgencio Batista that the rebel leader Castro was dead, made his way to a remote encampment in the Sierra Maestra mountains in southeastern Cuba and found journalistic gold. “This is the first sure news that Castro is still alive and still in Cuba,” Matthews famously wrote. “No one connected with the outside world, let alone with the press, has seen Señor Castro except this writer.” Castro credited Matthews’s flattering articles with helping to bring him to power.

Perhaps Kirk had read the Matthews pieces. In his remarks, as reported by the *Spectator*, Kirk “expressed the opinion that Cuba ‘will become one of the great democracies of the Western hemisphere.’”

Castro spoke to the press and met with students. Eight months later, in Havana, Jorge Zayas, his newspaper censored and attacked as “counterrevolutionary,” walked into the Ecuadorian embassy and asked for diplomatic asylum.

The Obamas weren’t the only American family on holiday in Cuba in March. Olivia Nutter, a Columbia urban-studies major in the CASA program, was heading back from the beach with her parents when Obama landed. Her father, Michael Nutter, had recently finished his second term as mayor of Philadelphia and was now teaching urban policy at SIPA.

Nutter had chosen Havana because she wanted total Spanish immersion, and also because, from an American perspective, the city held the allure of the unknown. In the end, her social experience in Cuba could be summed up in a single word: *complicado*.

“There is a lot of dogma and propaganda in the education system, and I think a lot of people struggle to think beyond that in the classroom,” Nutter says. To her surprise, conversations about race (Nutter is Black) and colorism were extremely limited. “To even talk about racism was deemed divisive after Fidel Castro declared it abolished in 1961,” Nutter explains. “An entire generation grew up never talking about race. There are problems with race in Cuba, but if you ask questions, it doesn’t go over well. People are not taught to question societal norms. It’s a social thing: you just don’t go there. In my class on Afro-Caribbean studies, I learned more from the silence.”

Most of her contact was with Cuban university students, whom she found to be politically self-aware, resigned to the everyday inefficiencies (“That’s Cuba” was a familiar refrain), and guarded about the future. “They understand that their opportunities are limited, and that not everything the government says is true,” Nutter says. “They don’t see things changing politically with any immediacy, but they always have hope.”







Nutter keeps in touch with her Cuban friends through Facebook (Cubans can buy Internet time from the government, but it's costly). One recent exchange in particular struck her. She was chatting with an Afro-Cuban friend about racial problems in the US and in Cuba. "Yes," the friend wrote, "but you have a lot more power to change your country than we do ours."

**C**ultivo una rosa blanca," President Obama began, and the audience applauded the reference. "In his most famous poem," said Obama, "José Martí made this offering of friendship and peace to both his friend and his enemy. Today, as the president of the United States of America, I offer the Cuban people *el saludo de paz*."

It was the morning of March 22, 2016, and Ana Maria Dopico '00GSAS, a professor of comparative literature at NYU, was seated in a studio at public-radio station WNYC, listening live to Obama's speech at the Grand Theater of Havana. Across from her was host Brian Lehrer '96PH.

Obama spoke of Hemingway and Martí, of baseball and boxing. He stated that the US "has neither the capacity nor the intention to impose change on Cuba." Then he said, "This is about family: the memory of a home that was lost; the desire to rebuild a broken bond; the hope for a better future; the hope for return and reconciliation. For all of the politics, people are people, and Cubans are Cubans. And I've come here — I've traveled this distance — on a bridge that was built by Cubans on both sides of the Florida Straits. It is time, now, for us to leave the past behind."

When the speech ended, Lehrer asked the Havana-born Dopico for her reaction.

The emotion of the moment was audible in Dopico's voice. "That was a beautiful speech," she said. "It was an important speech. It was eloquent. I was immensely moved." Dopico and Lehrer took calls from Cuban-American listeners who, with Dopico, articulated the complexities of Cuban consciousness. Not everyone was ready to leave the past behind. "The project of political memory that we're confronting is a heavy one," Dopico told a man whose father had been executed by the Castro regime. "It involves confronting these huge wounds and trying to figure out how to mend."

Dopico left Cuba in 1967, at age four. She and her family took a plane to Miami under the Freedom Flights program, a joint US-Cuba operation that ran from 1965 to 1973. Her parents, both doctors, had initially embraced the revolution. "For them, Batista represented all that was terrible," she says. "Revolution meant salvation. But my father was kind of an iconoclast, and he found life difficult under Castro: you had to be politicized, take loyalty oaths. He couldn't do it."

Dopico grew up in a progressive household in Miami at a time when anti-Castro groups regularly set off bombs against supporters of dialogue with Havana. "There were Cuban-American progressives, but their voices were drowned out," Dopico says. "The Cold War stereotype of a hard-line

exile community in Miami persists, though now it's largely obsolete. Newer generations and remittances from Miami have long helped to sustain Cuba's economy."

As Dopico listened from New York to Obama's speech, Mirta Ojito '01JRN, author of *Finding Mañana: A Memoir of a Cuban Exodus*, followed it from her home in Miami. Ojito left Cuba in 1980 as part of the Mariel boatlift, in which some 125,000 Cubans fled their homeland. She was sixteen.

"I was very scared but excited," Ojito recalls. "The moment I arrived at my uncle's house in Miami I asked for a writing pad because I knew I had witnessed something extraordinary."

Ojito became a journalist and was part of a *New York Times* team that won the 2001 Pulitzer Prize for national reporting. She says the Cuban community in Miami is conflicted about Obama's trip. Some people wanted more in return — changes in the very structure of the Cuban political system — while others think the visit stripped the Cuban government of a classic excuse for its problems: that it has to fight the enemy. "The government can still point to the embargo," says Ojito, "but it's harder for Cubans to see the US as the enemy when you have this man come to the island with his family."

**S**hortly after Obama's star turn in Havana, Margaret Crahan sat in a packed room on the eighth floor of the International Affairs Building and introduced Soraya Castro (no relation), a professor at the Instituto Superior de Relaciones Internacionales in Havana and the evening's Cuba Program speaker. The topic: US-Cuba relations. It was one of the Cuba Program's virtues that the audience, which included John Coatsworth, would hear not from an American expert on Cuba, but rather, a Cuban expert on the US.

"There are some things," Castro began, "we have to take into consideration."

The speaker called the process toward normalization that began on December 17, 2014, "the biggest change in US-Cuba relations since 1959," and cited two major underlying factors not to be ignored: asymmetry ("Not only population or size; I mean the capacities of the two countries to influence each other") and distrust ("We must understand the historical context in which Cuba was born — under US occupation — and how, in our first constitution, the Platt Amendment was imposed").

"At the same time," she said, "we need to understand *why* December 17, 2014, happened. For many years, there were universities, people, professors, and think tanks that advocated for improved relations between our countries. The new actors are important, but we cannot deny what had been building up between our two societies during those long years when there was very little communication."

The speaker then described a perception among some Cuban scholars and state officials that the US, with its rhetoric of economic empowerment, was trying to "seduce" the Cuban people, hoping "to drive a wedge between the Cuban people and the Cuban government, to wean the Cuban people off

their dependence on the state by subsidizing the market economy, with the expectation that the Cuban people, thus empowered, would be motivated to act in defense of private economic interests and therefore act as agents of political change.

“In this view, the US is embarking on normalization to *change* Cuba: to restructure its economy, to remake its political system, to reorganize the character of Cuban society,” she said. “But the reality is that there are too many diverse interests in Cuba. You can’t talk about one path or one idea prevailing. It is too early.”

**F**or some, this is the heart of the matter: what effect will limited private enterprise and increased exposure to Americans have on the values that most Cubans want to preserve: universal health care, universal education, egalitarianism, anti-imperialism?

“Economically, no one knows what’s going to happen,” says Murray-Bozeman, who majors in economics and comp lit. “But things are opening up. Cubans have access to more ideas. There is censorship, but freedom of the press is growing with blogs. Americans are coming, and Cubans can travel more. People I met see these as positive changes, and they want them to continue, even if they don’t know where they’ll end up.”

One place they aren’t likely to end up, according to SIPA’s Sabatini, is shareholder heaven. “The intention of the Obama administration was always to get businesses engaged and see

in 1941 in an outlying section of Havana once known as Country Club Park. The Obamas stayed there during their visit.

But DeLaurentis’s real home is the embassy building, to which he first came twenty-five years ago. It’s from this base that he conducts his diplomatic duties: e-mails, meetings with the foreign ministry and other Cuban officials, talks with Cuban and American groups and members of civil society, contact with diplomatic counterparts and businesspeople, and a lot of phone calls to Washington.

“We’re trying to build an embassy here,” he says.

In some ways, DeLaurentis began building things — bridges, call them — when he was twelve. He could remember the morning he walked into his kitchen and told his parents that he wanted to be a diplomat. His father, an electrical engineer, had been reading the newspaper, and the paper slowly came down. “He was a science guy,” DeLaurentis says, “and he didn’t really understand where that came from.”

DeLaurentis ended up going to the Georgetown School of Foreign Service, and then to Columbia, never suspecting that his bridge would cross a strait and not an ocean.

Outside the embassy windows, the sun passes over the five-hundred-year-old city and resolves into a flat disk of orange in the blue-opal sky; Havana’s mottled colors, the walls and archways of yellow and pink and Key-lime green, ripen in the golden hour.

“The bottom line,” DeLaurentis says, “is that the best way to promote US interests and values is by engaging, develop-

*“Economically, no one knows what’s going to happen. But things are opening up.”*

what’s possible, and we’re seeing that,” Sabatini says. “But Cuba is not going to be a paradise for US investors. That’s because it’s a country of eleven million poor people, with very stringent requirements on investment.”

Coatsworth says that what the Cuban authorities have in mind is a process “similar to the Chinese or Vietnamese models, where you liberalize the economy without changing the political structure. I think the Cuban government has some time to demonstrate that it can organize the economy in a way that not only provides basic services, but also grows rapidly and offers a future to its citizens.

“If they can do that,” says Coatsworth, “it would be great for the Cuban people, and in the long run it would probably lead to greater liberalization in politics.”

**J**effrey DeLaurentis lives in the US chief of mission residence, a sixty-five-room neoclassical limestone mansion built

ing contacts, communicating, in some cases arguing. Having wider and deeper contact with the Cuban government and the Cuban people obviously puts us in a better place to advocate for the universal values that we believe in, and believe all societies should protect.”

**L**ater that evening, on the Malecón, people stroll, talk, laugh, drink rum, play music, catch a breeze, and talk about everything but politics.

Beyond the seawall, the dark water stretches out, black, wide, fusing with the night sky, a gulf of darkness, a hundred miles of it between here and Key West. And though you can’t see them, there are crossings here, their towers planted long ago, their cables slung over the deepest political chasms by the lonely ambassadors and explorers who came to see, to learn, to teach, to help, to connect. Now, more Americans are coming, over bridges quietly built. 🍷



# Robots On The Road

Hod Lipson, a professor of mechanical engineering and the director of the Creative Machines Lab at Columbia, is a roboticist who researches artificial intelligence and digital manufacturing. In a new book, *Driverless: Intelligent Cars and the Road Ahead* (MIT Press), Lipson and his coauthor Melba Kurman assert that recent advances in software and robotics will accelerate the development of autonomous vehicles. We asked Lipson to explain the technology and where it will take us next.

By Eric Jaffe '06JRN



**Columbia Magazine:** People have been talking about driverless cars for decades. Why is this a critical moment?

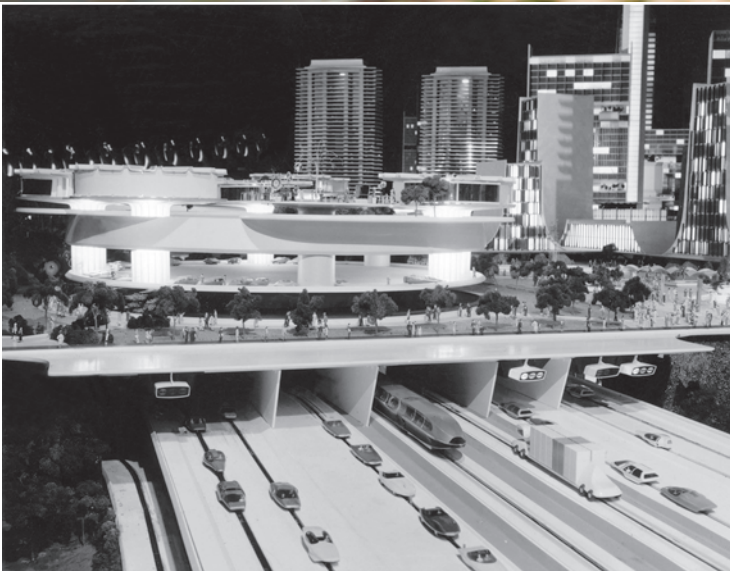
**Hod Lipson:** Even back in the 1930s, the automotive companies — General Motors in particular — thought driverless cars were the future. They talked about building smart highways, which are roads that can communicate with vehicles. But the technology was in the infrastructure, which made it impossible to implement. It was just too expensive per mile.

The more recent approach is focused on autonomous robotics. It puts the smarts and technology in the car. An intelligent machine has to deal with the same infrastructure and driving challenges as humans — lane markings, traffic lights, poor weather. It needs to see as humans see.

In the past few years there's been an explosion in artificial intelligence (AI), and in particular "deep learning." For driverless cars, deep learning trains the vehicle to drive by feeding it huge amounts of visual data gathered by camera during trips. That's provided that last piece of the puzzle, which is artificial percep-



The latest version of Google's self-driving car is tested in Mountain View, California. Below, the GM exhibit at the 1939 World's Fair, Futurama, featured an automated highway system.



in a straight line, and it's not about calculating the optimal route. It's about going around obstacles, stopping at a stoplight, negotiating an intersection, merging into traffic, hitting the brakes because a child is running after a ball, not hitting the brakes because there's a shadow on the street. Everything else was solved decades ago. This was the part nobody knew how to do.

**How has your own research contributed to deep learning?**

Our work focuses mostly on the question of how an AI network learns and how we can transfer learning from one network to another.

That's one of the great advantages of driverless cars. No human driver can have more than one lifetime of driving experience. A car that is part of an AI network can, within a year, have a thousand lifetimes of experience, because it can get information

from all the scenes and situations that every other car has experienced. It's another reason why these cars will drive better than any human has ever driven. They will have experienced every possible situation.

**So when will we start to see these autonomous vehicles on our roads?**

It's impossible to pinpoint a year, but we can pinpoint a range. About ten years from now it will begin, and forty years from now it will end, meaning that by 2065 all cars will be autonomous. That's kind of the range.

It also won't be uniform, in the sense that it will start in certain places but not others. New York might determine that all cars in Manhattan should be autonomous. The technology could be adopted in vacation resorts or in some brave city like Detroit that is willing to pioneer the technology. It could start in trucks but not private cars. That's why you can't pinpoint beyond a range. We know it will start in spots and gradually spread.

**Tech companies and car companies are taking very different approaches to this driverless world. You describe the divide as "software versus automotive."**

Tech companies are looking at this as a software or AI play. The platform is a commodity, like a cell-phone body. You can get the car body from anywhere. The motors, the engine — they're off-the-shelf. But the real smarts is in the software. This is how the software companies are approaching the driverless car. They see it as software on wheels.

The automotive companies, on the other hand, think of it as a car with extra software. The technical term is "driver assist." Cruise control was a very primitive driver assist; then we developed automatic brake systems and automatic lane keeping.

tion, or basically the ability for the car to see. There's been this magical pivot. Even though people have been hyping driverless cars for decades, this is different. This time it's real.

**Why is deep learning so pivotal?**

The challenge in making a fully autonomous driverless car is that we have to think about three levels of control.

On one level, the car has to stay in a straight line and take a turn at exactly the right angle. That's hard, but it's been solved by mechanical engineers. On another level, it has to get from New York to DC. That's also been solved. We use navigation systems on our phones all the time.

What hasn't been solved, and what has always been a challenge, is what we call "midlevel" controls. It's not just about going

TOP: BROOKS KRAFFT / GETTY IMAGES; BOTTOM: COURTESY OF GM



Car companies see this as an evolution of driver assist, where the driver remains behind the wheel, ready to take over in an emergency. Only in the final stage of the technology's evolution will the car become fully autonomous.

The software camp imagines having no human driver right from the get-go. They're coming at the problem with a completely different attitude.

**You argue that the driver-assist approach is not just worse but actually dangerous. Why is that?**

This idea that an intelligent machine should hand off to a human driver in an emergency is very problematic. There are examples of recent plane crashes where the machine handed the controls to the pilots, but the pilots weren't ready. There's another case where pilots tried to land a plane themselves, but they were out of practice and they crashed.

The recent fatal Tesla crash demonstrates the risk of the driver-assist approach. A system that is "almost fully autonomous" is dangerously deceptive. And the more you're automated, the more severe the problem is. If you drive for an hour, it's hard enough to remain focused. If you're not driving, how can you stay focused enough to take over? It's dangerous and unreliable.

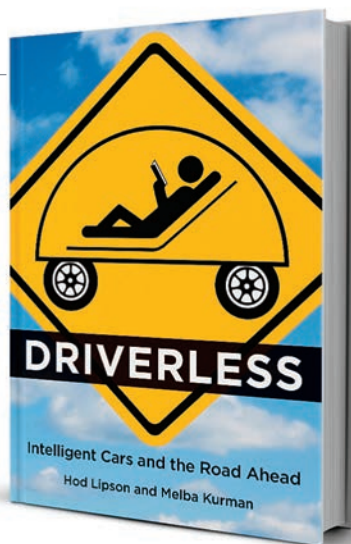
**You say the technology for driverless cars is here, but elements like regulation and insurance liability are not even on the radar.**

These things need to be sorted out. But they're not technological problems. These are quantifiable safety and liability issues.

The government needs to determine the minimum level of safety that an autonomous car needs to exhibit before it can drive freely. We think that level is four hundred thousand miles between collisions. That's twice as good as a human, on average. But I really don't understand why this is taking so long. I think this is a fairly simple proposition, and meanwhile people are dying.

**Just how big are the safety benefits of driverless cars?**

Do you know how many people in the world die every week because of cars? Twenty-eight thousand. That's a Hiroshima-scale disaster every month. For people between the ages of fifteen and twenty-nine, automobile accidents are the number-one killer. And yet we don't talk about it. We accept it. We can have silly debates about the ethical dilemmas of driverless cars, which discuss who the car should save in the event that it can't avoid a fatal crash. But for every week we delay, another twenty-eight thousand people die.



**“A system that is ‘almost fully autonomous’ is dangerously deceptive.”**

**Can we assume that driverless cars will improve the environment?**

When Melba and I began researching the book, we naively thought that autonomous vehicles would be a win for the environment. But it's not clear. Driverless cars are more convenient, so miles driven will go up. That's not a good thing.

But then you have to look at other factors, like the fact that driving will be more efficient. There will be more consistent speeds, less start and stop, less parking and idling and traffic jams. These things will amount to substantial improvements in performance. Also, the vehicles can be smaller and lighter, so even though we may see that increase in miles, the vehicles will be more efficient.

**The economic impact of driverless cars is going to be huge, for better and for worse.**

Yes, a lot of people will lose their jobs, and not just truck drivers and taxi drivers. Dozens more professions will be transformed. The body shop, where people fix

cars after collisions — that's going away. And how many health-care hours are devoted to car accidents? A huge number. How much income do parking tickets generate for cities? It's not negligible. There's this cascade effect.

But then we'll see some opportunities. There will be a huge ripple effect on new e-commerce models and business models, creating new jobs. More miles driven means more cars sold, regardless of the ownership model, and more cars mean more car maintenance.

**You end the book by comparing the rise of driverless technology to a new stage of human evolution. Will it really be that significant?**

Some evolutionary biologists believe that vision was an accelerating force of evolution and natural selection. The "light-switch theory" suggests that once changes in the atmosphere allowed more light to reach the earth, and we developed light-sensitive eyes in response, the ability to see enabled a lot of other new technologies, including camouflage, running quickly, and predation. Once you can see, you have to create a model of your world, and you need a bigger brain. It all unfolds from there.

That's exactly the case with deep learning. The ability to see and perceive is not just another item on the laundry list of things you need to make a robot. It is the pivotal piece that sparks everything. This is why it was an inflection point in biology, and I believe it's going to be the inflection point in autonomous vehicles and robotics.

We've been dreaming about this moment for decades, centuries, millennia perhaps. Finally it has arrived. 🚗



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—MILAGRO RUIZ '84GS

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# EXPLORATIONS

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## A shark in the dark



**F**or the past two years, a team of marine biologists co-led by Columbia adjunct professor John Sparks has been searching the world's oceans for creatures that glow in the dark.

Their work has revealed that biofluorescence is much more common than previously recognized. To date, Sparks and his colleagues have identified nearly two hundred species of eels, sharks, stingrays, scorpionfish, and other deep-sea organisms whose skin can absorb faint amounts of light, transform it, and then emit it in brighter colors — typically neon reds, yellows, oranges, greens, or pinks.

Now Sparks and his team members, several of whom are affiliated with the American Museum of Natural History, have found the strongest evidence yet in support of a popular theory among marine biologists: that fish use biofluorescence to communicate with members of their own species. In a series of experiments using a special camera modeled on the eye of a catshark — a small shark whose optical anatomy they investigated in painstaking detail — the scientists have shown that the fish are uniquely adept at seeing the neon-green light that other catsharks radiate.

“The catsharks can see other colors, too, but not as vividly,” says Sparks, who is a curator of ichthyology at the museum and who is affiliated with Columbia’s Department of Ecology, Evolution, and Environmental Biology. Conversely, he suspects that other fish can see the catsharks’ neon-green glow, but not as well as fellow catsharks can see it.

Over the years, biologists have offered many hypotheses to explain why some fish may have evolved an ability to see their own colors; they say it could help them identify mates, follow each other when traveling in schools, or avoid accidentally attacking one another. Sparks and his colleagues, by observing the social behaviors of catsharks through the lens of their special camera, are now exploring these and other possibilities.

“A major challenge in studying biofluorescent fish is that they tend to live in deep waters that are quite dark, and to glow in colors that are outside the spectrum of light that is visible to the human eye,” says Sparks. “That’s made it very difficult to observe them in the wild. But now, for the first time, we can go down there and experience the world through their eyes.”

COURTESY OF JOHN SPARKS

# Education: the great unifier?

Americans today are more ideologically divided than at any point in the past sixty years. Indeed, numerous studies have shown that the attitudes of Democrats and Republicans toward environmental protection, gun control, abortion, gay rights, capital punishment, immigration, the treatment of minorities, and many other issues are only growing further apart.

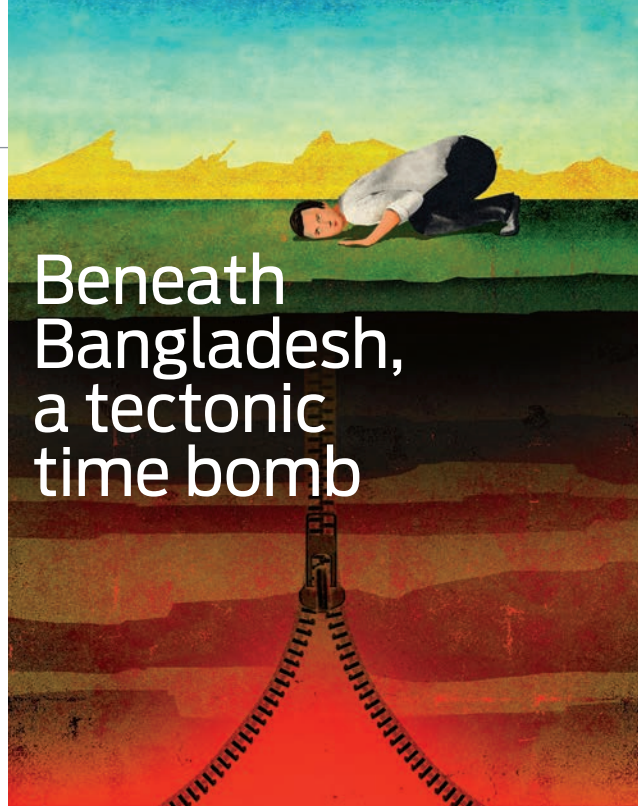
A forthcoming paper by Columbia political scientist Robert Y. Shapiro, however, suggests that there is at least one significant exception to this trend: Americans' views on primary and secondary education. Over the past decade or so, Shapiro finds, Democrats' and Republicans' opinions on a wide range of education-policy issues have actually been converging. In surveys, large majorities of Americans in both parties now consistently say that public schools deserve more money, that standardized testing should determine student promotion and graduation, and that teachers should be easier to fire if they don't perform. Furthermore, debates on contentious aspects of education policy do not necessarily break down along party lines. Roughly equal numbers of Democrats and Republicans, for example, support government voucher programs that let families send their children to private schools.

"Our public dialogue about education policy stands out as perhaps the most glaring exception to the stunning ideological divisiveness that Americans display on almost all other major policy issues," says Shapiro, who examined several decades' worth of public-opinion surveys with the help of PhD students Anja Kilibarda and Oliver McClellan and undergraduate researcher Sofi Sinozich '16CC.

There are some aspects of education policy that still divide Americans in predictable ways. Most Republicans say that public schools ought to teach creationism — a position that few Democrats hold. Democrats, meanwhile, are more likely to support education initiatives that are designed explicitly to benefit poor or minority children. Still, survey after survey indicates that Americans from across the political spectrum believe that improving schools should be a national priority.



BRIAN STAUFFER/CO THEISPOT.COM



## Beneath Bangladesh, a tectonic time bomb

The earthquake will come. No one can say when. But scientists warn that it could be huge.

And in Bangladesh, a country so densely populated and ill-prepared, the death toll could be unprecedented.

The scientists, led by Columbia geophysicist Michael Steckler '81GSAS, have been monitoring the ground in Bangladesh for more than a decade. Their work began in 2003, when they set up several GPS instruments around the country. By analyzing tiny changes in the distances between these fixed instruments and others installed in neighboring countries, Steckler and his colleagues have determined that the ground upon which Bangladesh rests is moving north-eastward at a rate of about two inches per year, ramming into another section of the earth's crust beneath Myanmar. This is causing a

buildup of pressure, and if that pressure is released all at once, the scientists warn, it will cause an earthquake of incredible intensity.

"It's hard to say exactly how bad it could be, because we don't know how long the tension has been building," says Steckler, a research professor at Columbia's Lamont-Doherty Earth Observatory. "But we know there hasn't been a significant earthquake in Bangladesh for at least four hundred years, which is as far back as historical records go in this area. So it's been building up for at least that long."

In a recent issue of *Nature Geoscience*, Steckler and his colleagues predict that if the tectonic plates that are colliding beneath Bangladesh were to dislodge and slip past each other in one momentous disturbance, the resulting earthquake would likely register between 8.2 and 9.0 on the Richter scale. If the earthquake were on the



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higher end of this range, it would be among the largest ever measured.

Steckler and his coauthors are not predicting that an event of such magnitude is imminent in Bangladesh; they say it could be hundreds of years before a large earthquake occurs. Nor can they predict what point along the approximately 150-mile tectonic boundary is likely to be the epicenter. But the potential for calamity is immense, they say, as the fault appears to extend beneath an area that is home to some 140 million people. The danger zone includes the country's fast-growing capital of Dhaka, where no building codes existed before 1993 and where shoddy new construction projects continue to flout regulations. To make matters worse, some of the ground surface in and around Dhaka is unstable, consisting of several centuries' worth of soil deposited by the Ganges and Brahmaputra Rivers. During an earthquake, Steckler warns, the loose sediment could exacerbate the shaking.

"Dhaka is basically a city built on a bowl of Jell-O," he says.

In hopes of mitigating that danger, Steckler and his colleagues, who include Lamont-Doherty's Leonardo Seeber '64SEAS, Jonathan Gale '14GSAS, and Michael Howe '16GSAS, as well as researchers from Singapore's Nanyang Technological University and the City University of New York, are working with Bangladeshi colleagues to educate policymakers and members of the public about the need for more stringent enforcement of building codes and other preparedness measures.

"If the big one comes, there's going to be massive death and destruction," says Steckler. "But if buildings are designed to withstand earthquakes and emergency-response plans are developed for this type of disaster, many lives could be saved."

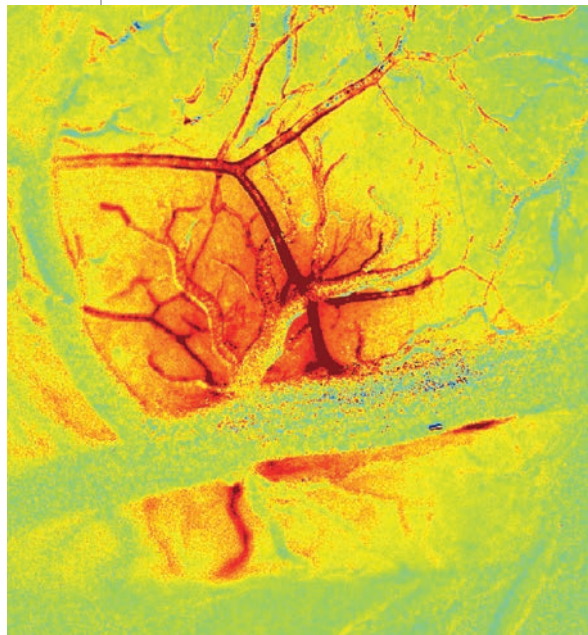
## A mystery of the infant brain, revealed

A team of researchers led by Columbia biomedical engineer Elizabeth Hillman has discovered that the infant brain has a surprising ability to endure fluctuations in its oxygen supply — a finding that could enable physicians to more fully interpret fMRI brain scans of children as young as one or two and gain insights into autism and ADHD.

Since the 1990s, fMRI scans, which identify spikes in brain activity by revealing patterns of blood flow, have been used routinely by clinicians to assess the effects of strokes and traumatic brain injuries. In recent years, the technology has even shown promise in diagnosing conditions such as depression and Alzheimer's. Researchers who

have performed fMRI scans on very young children, however, have tended to get odd results. Often, the tests will indicate that only small amounts of blood are flowing to sections of a child's brain that, based on his or her mental activity at the time, should require lots of oxygen-rich blood to fuel their operation.

Hillman's latest research provides an explanation for that phenomenon. In a recent study, her team demonstrated that neurons in the brains of infant mice do not trigger an increase in the flow of blood when firing. Hillman, who is also a principal investigator in the Zuckerman Mind Brain



Blood vessels in the brain, captured by Elizabeth Hillman.

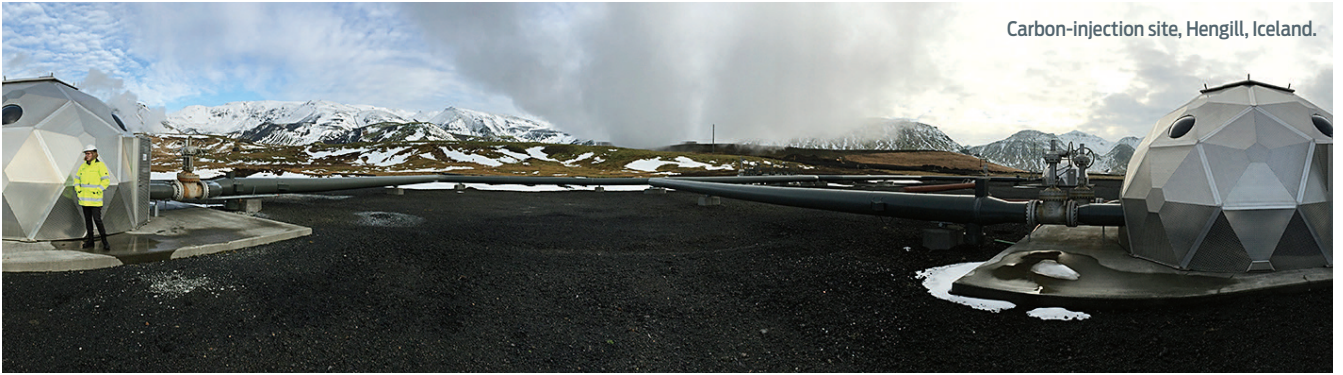
Behavior Institute, hypothesizes that this may be an adaptive trait that helps babies survive the extraordinary transition they make out of the womb.

"All sorts of things can interrupt a baby's oxygen flow during birth, including the violent squeezing of its body as it comes through the birth canal," she says. "It makes sense that the brain would be prepared to go without oxygen for a little while."

Researchers in Hillman's lab are now preparing to investigate whether the human infant brain behaves similarly to the mouse brain. They are also studying how the brain's blood vessels grow in response to the oxygen demands of various parts of the organ. The results of this work, they hope, will enable scientists to develop reliable guidelines for interpreting fMRI scans of young children.

"To date, most research on the developing brain has focused on how neuronal circuits take shape," says Hillman, whose latest paper, written with former PhD student Mariel Kozberg '15GSAS, '16PS, appeared in the *Journal of Neuroscience*. "But we believe that it's crucial to understand how the brain's vascular system assembles in tandem with neuronal networks. Recognizing when the brain's vascular system isn't developing properly could give us insights into conditions which today truly mystify us."

Carbon-injection site, Hengill, Iceland.



## New method for storing CO<sub>2</sub> is rock-solid

**M**any scientists believe that in order to limit global warming, we must find a way to capture the carbon dioxide generated by power plants before it enters the atmosphere. To date, however, any attempts to store waste CO<sub>2</sub> have met with limited success. Proposals that call for pumping it into abandoned wells or deep underground caverns, for example, have stalled, since no one is sure that the gas won't eventually leak back into the air.

To address this concern, a team of scientists from Columbia's Lamont-Doherty Earth Observatory and several other institutions have developed what they say is the safest, most reliable method for storing large quantities of CO<sub>2</sub>: turning it into stone. In a paper in the June 10 issue of *Science*, they describe how engineers at a major power plant in Iceland recently employed their technique to convert large quantities of CO<sub>2</sub> into a mineral that resembles limestone. All that was required was mixing the CO<sub>2</sub> with water and then injecting

the fizzy solution deep underground, into holes bored in a common rock called basalt.

"When the CO<sub>2</sub> solution came in contact with the rock, a chemical reaction took place that turned the carbon in the CO<sub>2</sub> into a white, crumbly substance," says Martin Stute, a Columbia hydrologist who is among the leaders of the



research team. "It's got a consistency like salt. And it's chemically stable — the only way it would convert back into a gas is if you poured acid on it."

Scientists have long known that CO<sub>2</sub> will turn into a solid mineral called carbonate when it touches

certain rocks that are rich in metals like iron, calcium, and magnesium. Evidence of this natural process can be seen in some parts of the world where freshwater springs containing trace amounts of CO<sub>2</sub> flow over metal-rich rocks such as basalt or peridotite: the rocks, after years of chemically reacting with

a visible layer of carbonate to form. But Stute and his colleagues hypothesized that they could accelerate the process by mixing the CO<sub>2</sub> with just the right amount of water and then exposing it to exceptionally metallic rock. The ideal rock to use, they decided, was basalt, which begins as magma deep within the earth's mantle and is periodically pushed up to the surface by earthquakes or volcanic eruptions. Iceland, which rests almost entirely on volcanic rock, is 90 percent basalt.

In 2012, after fine-tuning their technique in a laboratory, the scientists joined forces with engineers at Iceland's Hellisheiði geothermal power plant to begin pumping the facility's CO<sub>2</sub> emissions into the basalt beneath its property on the outskirts of Reykjavik. (Geothermal facilities, while relatively clean sources of electricity, do emit some carbon dioxide, because in the process of capturing steam from underground volcanic chambers, they also suck up CO<sub>2</sub> and other gases.) The speed with which the chemical reaction occurred

the CO<sub>2</sub>, will accumulate seashell-smooth, creamy-white carbonate crusts.

Until recently, however, geologists assumed that this process occurred too slowly to be of any use in sequestering waste CO<sub>2</sub>. They thought it would take hundreds or even thousands of years for



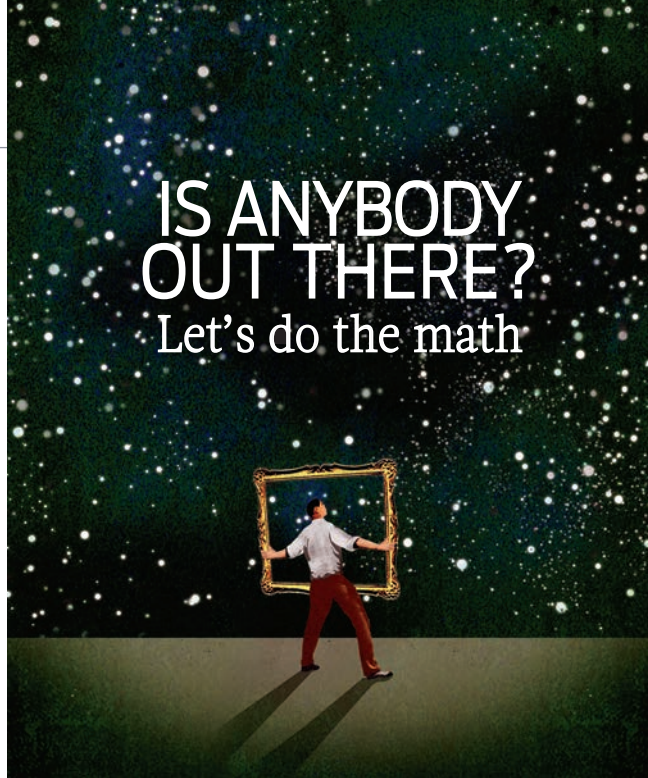
## EXPLORATIONS

surprised everybody involved. “We’d originally anticipated that turning a sizeable amount of CO<sub>2</sub> into carbonate might take ten or twelve years,” says Stute, who is a professor of earth and environmental sciences. “But we converted 250 tons in just two years.”

Based on this initial success, in 2014 the Hellisheiði facility started injecting CO<sub>2</sub> at the rate of five thousand tons per year. The mineralization has since kept pace, prompting the plant’s operators to announce that they will soon double the injection rate.

While converting CO<sub>2</sub> into stone appears to be a safe way of sequestering carbon emissions, it is not cheap. It currently costs the plant about thirty dollars to solidify a single ton of CO<sub>2</sub>, and fossil fuel-burning plants would likely face a much higher cost, since separating out the CO<sub>2</sub> from their sooty exhaust is more difficult than drawing it out of the steam that propels the turbines at geothermal plants. Nevertheless, Stute and his colleagues say that if cap-and-trade agreements and other policies that aim to attach a cost to CO<sub>2</sub> emissions become more common in the future, turning CO<sub>2</sub> into stone could become financially attractive to increasing numbers of power plants.

“We believe that our approach could be used at any plant located near a large amount of basalt,” says Stute. “It opens up a world of possibilities for a CO<sub>2</sub> sequestration strategy that until now wasn’t taken seriously.”



## IS ANYBODY OUT THERE? Let’s do the math

**W**hat are the chances of life existing on another planet? Complete the equation below and you may have your answer. Created by Columbia astronomer Caleb Scharf and University of Glasgow chemist Lee Cronin, the equation basically states that the odds of life emerging (abiogenesis) on any given planet are directly tied to the variety of its chemical elements ( $N_b$ ) and the total quantity of its atoms and molecules at any given time ( $f_c$ ). In other words, the richer a planet’s chemical soup and the larger the pot, the better the chances of living organisms.

$$\Rightarrow N_{\text{abiogenesis}}(t) = N_b \cdot \frac{1}{t} \cdot f_c \cdot P_a$$

The idea that a chemically diverse environment is most likely to spawn life is not a new one, but Scharf and Cronin hope that by expressing this premise in an elegant equation, they will inspire debate among scientists and perhaps new research into the potential fertility of distant planets.

“Within a few years, we should have telescopes powerful enough to help us infer the chemical compositions of planets orbiting distant stars,” says Scharf, who describes the equation in more detail in the July 19 issue of the *Proceedings of the National Academy of Sciences*. “If we put our minds to it, we may even be able to detect the presence of large amounts of oxygen or carbon dioxide in their atmospheres, which could be signs of metabolic processes occurring on their surfaces. We want to encourage these types of investigations.”

## Cambodia’s orphanages are packed – but not with orphans

**T**he developing world has no shortage of orphanages. Many of the children who live in them, however, have been placed there by parents who cannot afford to feed, clothe, or educate them. Child-welfare experts say that this trend has been exacerbated by some governments and international aid agencies, which have built more orphanages rather than implementing social-welfare programs that could enable poor people to provide for their own children.

One country that has declared its intention to break this cycle, Cambodia, recently invited researchers from Columbia’s Mailman School of Public Health to investigate the scope of the problem within its borders. The researchers, led by Lindsay Stark ’10PH, an associate professor of population and family health, spent several weeks in Cambodia last year overseeing dozens of local social scientists who fanned out across the country to conduct the first-ever comprehensive census of children in its orphanages. They discovered that nearly 1 percent of the nation’s youths, or approximately 49,000 Cambodians

aged seventeen or younger, currently live in orphanages — although just one in five of these children appears to be parentless.

“This confirmed a lot of anecdotal evidence that we’ve gathered in the past,” says Stark. “The sheer scope of the problem, though, stunned us.”

The Cambodian ministry of planning, in a report it released with Stark and Mailman doctoral student Beth Rubenstein this spring, announced that it is committed to reducing the numbers of children living in orphanages over the next three years by expanding social-welfare services for its poorest families. The ministry expects that the Columbia research, which was funded by the US Agency for International Development (USAID), will help generate the political will to tackle the problem, while also providing a benchmark to measure future progress.

According to Stark, previous research has shown that desperately poor parents in developing countries are less likely to place their children in orphanages if they have access to emergency benefits such as food assistance or cash stipends. Parents who lack access to such benefits, she says, may be forced to put their children to work at a young age — a predicament that makes placing them in an orphanage, with its promise of regular meals and a full education, a tempting, if painful, option.

However, Stark says that no orphanage can give children the emotional security that a loving family does. And therein, she says,

lies the hidden cost of this trend: even teenagers who emerge from orphanages appearing healthy and well-educated are likely to suffer emotional and economic consequences their entire lives.

“Children in orphanages aren’t assigned individual caregivers, and they see a lot of turnover among the staff and volunteers, so they grow up without the secure and stable relationships that most kids enjoy,” says Stark. She points out that adults who did not have secure



A researcher interviews a child who lives in an orphanage outside Phnom Penh, Cambodia.

attachments in childhood tend to have higher rates of mental-health problems such as depression and anxiety.

Over the next few years, Stark and her colleagues will help monitor the effectiveness of new government initiatives in Cambodia that aim to keep families intact. Meanwhile, the Columbia researchers are planning to conduct similar studies in nations throughout Asia and Africa.

“For too long, building orphanages in developing countries has been seen as an alternative to providing citizens an adequate social safety net,” she says. “The first step in reversing this trend is measuring it statistically, so we know the magnitude of the problem in each country.”

## STUDY HALL RESEARCH BRIEFS

### Beyond the headlines

Viral news stories may be widely shared, but they’re not necessarily widely read. When researchers from Columbia’s Data Science Institute and the French computer-science institute Inria monitored news headlines shared on Twitter, crosschecking them with click data from link-management service Bitly, they found that 59 percent of the time, users who shared news links never actually clicked on the link to read the story.

**Bail backlash** Columbia economics doctoral student Christopher Hansman, Columbia alumnus Arpit Gupta ’16BUS, and Maryland public defender Ethan Frenchman have published a study on the effects of cash bail and pretrial detention. They found that when a court imposes bail, it increases a defendant’s likelihood of conviction by 12 percent and raises the likelihood that he or she will commit another crime by 6 to 9 percent. Among the probable contributing factors, say the study’s authors, is that defendants who cannot afford bail may feel additional pressure to take a plea deal.

**Note to Beijing** A study on the health effects of London’s Great Smog of 1952, a toxic fog that choked the city for five days, sheds new light on the long-term impact of severe air pollution. Researchers from Columbia’s Mailman School of Public Health, UC San Diego, and UMass Amherst found that babies who were exposed to the smog in their first year of life were 20 percent more likely to develop childhood asthma and 9.5 percent more likely to suffer asthma as an adult.

**More classes, less debt** According to an analysis of Tennessee data by the Community College Research Center at Columbia’s Teachers College, college students who are encouraged to take a fuller course load in their first semester are not only more likely to graduate, but they complete their degrees faster and pay 9 to 19 percent less for their college education.

**The conscious commute** Hate your morning commute? Use that time wisely, and it could be good for your career. According to research led by Columbia Business School doctoral student Jon Jachimowicz, people who focus on their long- and short-term professional goals while commuting feel less emotionally exhausted and more satisfied at work.

**Epilepsy, suicide link** Using data from the US National Violent Death Reporting System, researchers at Columbia’s Mailman School of Public Health and the Centers for Disease Control and Prevention discovered that suicide rates are 22 percent higher for people with epilepsy.

— Lauren Savage



# NETWORK

YOUR ALUMNI  
CONNECTION



## Leave Them Laughing

**“I’m not interested in preaching to the choir. I’m interested in changing minds.”**

“**T**hey say a spoonful of sugar makes the medicine go down,” says comedian Negin Farsad ’02GSAS, ’04SIPA. “For me, the medicine is challenging stereotypes. And the sugar is a really sophisticated poop joke.”

Farsad admits that scatological humor is the last thing that people expect from her — a relentlessly cheerful, Iranian-American, Muslim comedian with two master’s degrees. But she thinks that means she’s doing something right.

“There’s always an assumption that I’m going to be clean or safe, because I’m an ethnic woman,” she says. “So there’s a particular moment

in every show when people realize that I’m different. That’s what I’m after.”

Farsad is what she likes to call a “social-justice comedian,” which means that she wants to start a larger conversation about social issues, but in a way that “doesn’t feel like an afterschool special.” This dialogue takes many forms: in addition to performing stand-up, she is a filmmaker, a TED fellow, and, most recently, the author of a memoir, *How to Make White People Laugh*.

“If you’re trying to take on the dominant culture about how they treat outsiders, you have to speak to that culture directly,” Farsad says. “I’m not interested in preaching to the choir. I’m interested in changing minds.”

Farsad is intimately familiar with being treated differently. Growing up, she felt like the only Muslim kid in Palm Springs, California (“one of the top five gay cities and one of the top five retirement communities — so it’s basically people listening to Lady Gaga while adjusting their catheters”). After studying theater at Cornell, she wanted to explore the sense of otherness that she experienced as an ethnic minority, so she enrolled at Columbia for a master’s in African-American studies. “I knew that the Black struggle wasn’t my struggle, but I wanted to fight it anyway. It felt Iranian-adjacent,” she says.

But in the post-9/11 world, the rhetoric around Muslims

in America was changing, dangerously. “I thought, how could people associate this kind of violence with a whole religion and an entire region — that’s just crazy. That’s like stereotyping 1.6 billion people. Who does that? Americans.”

Farsad was particularly frustrated with the lack of Muslims in pop culture. The less visible Muslims were, she felt, the more feared and misunderstood they became. After leaving a public-policy job in 2008, she organized a group of fellow Muslim comics to tour the country. (Film from the tour became Farsad’s 2013 documentary *The Muslims Are Coming!*)

Now, Farsad also hosts a podcast called *Fake the Nation*, a political roundtable with a rotating cast of comedians. And she stars in the new movie *3rd Street Blackout*, a romantic comedy that takes place in the aftermath of Hurricane Sandy. “That one isn’t so political,” Farsad says. “Though when you’re Iranian, people seem to think everything is political.”

Some of the reactions to Farsad’s work have been heartbreaking: “I’ve heard every racist, sexist, hate-filled slur you can imagine.” She’s also had pushback from some fellow Muslims, who have objected to her unorthodox methods. But she says that there are certainly enough positive reactions to keep propelling her forward.

“I always think about the ex-Marine who had been stationed in Afghanistan,” she says. “He came in angry and left laughing.”

## 5 Alumni TED Talks You Might Have Missed

### MARY BASSETT '79PS

“Why your doctor should care about social justice” February 2016, TEDMED

New York City health commissioner, Columbia epidemiology professor, and health activist Mary Bassett thinks there’s one thing to blame for the lack of equitable health care in the US: institutional racism. Here she explains why health-care professionals have a moral obligation to change the system.



### JOEL PUTNAM '15SIPA

“How to crowdsource your laws”

July 2014, TEDx

As this election season shows, the Internet has changed politics. But what if it could change policies? With the help of the Internet, communication consultant Joel Putnam suggests that it’s possible to bypass elected officials altogether and allow citizens to vote on specific policy proposals.



### CANDY CHANG '07GSAPP

“Before I die I want to . . .”

July 2012, TEDGlobal

Artist and urban planner Candy Chang turned an abandoned house in her New Orleans neighborhood into a giant chalkboard and asked her neighbors to answer a fill-in-the-blank question: “Before I die, I want to . . .” The answers became a beautiful testament to the vitality of the community.



### CAMERON RUSSELL '12GS

“Looks aren’t everything. Believe me, I’m a model” October 2012, TEDx

“I’m on this stage because I’m a pretty, white woman,” model Cameron Russell admits in this candid talk about privilege and the complicated ways that society rewards beauty.



### MIKE MASSIMINO '84SEAS

“Spaceflight” November 2012, TEDx

All kids want to go to space when they grow up. Mike Massimino actually did it. Here the former NASA astronaut, Columbia engineering professor, and author of the forthcoming memoir *Spaceman* explains how “rethinking normal” made it happen.



## STARTUP SPOTLIGHT

# Signs of Life

**W**hen Sona Shah '16SEAS and Teresa Cauvel

'16SEAS entered Columbia’s master’s program in biomedical engineering, in 2014, the infant mortality rate in Uganda was approximately thirty-nine per one thousand births. (The US rate, by contrast, is about six per thousand.) It was not surprising, then, that of the pressing global-health challenges identified in their biodesign class, newborn mortality was near the top.

Within two years, Shah and Cauvel would respond to that particular challenge with Neopenda, a startup that has created a wearable monitor that can measure a newborn’s vital signs and help more of those at-risk babies survive.

“What we found is that hospitals in developing countries are so understaffed and ill-equipped that a single nurse can take care of twenty, thirty, even fifty babies at the same time,” says Shah.

The low-powered device, which is integrated into a hat, sends vital signs wirelessly to a tablet computer in a newborn unit, allowing nurses and doctors to monitor up to twenty-four babies at once and to quickly figure out which ones need help.



## NETWORK

Teresa Cauvel  
and Sona  
Shah



“What excites me the most is that it’s a pretty simple solution to a huge problem,” says Cauvel. “The basic technology has been around for a long time, but we reengineered it for this application.”

Neopenda took off when Shah and Cauvel won third place in the global technology category at the Columbia Venture Competition, a university-wide entrepreneurship contest. They spent their \$10,000 prize on a fact-finding trip to Uganda, where they are focusing their pilot studies. Then, in the fall of 2015, Shah and Cauvel participated in a five-month startup accelerator program, which helps entrepreneurs

write a business plan and develop their technology (it also comes with \$50,000 in seed money).


Earlier this year, Shah and Cauvel launched a Kickstarter campaign for Neopenda, raising an additional \$41,000. They also won \$100,000 and first place in the Cisco Inter-

net of Everything Innovation Challenge and the \$300,000 top prize in the Vodafone Wireless Innovation Project. They will use some of that money to fund their first

studies on newborns: one at Columbia University Medical Center’s Morgan Stanley Children’s Hospital in New York, and one at a private hospital in Uganda.

Next on the to-do list: perfecting the industrial design by making the monitor smaller, and finding a manufacturing partner. Shah and Cauvel hope to start selling the devices to hospitals in Uganda, at a projected cost of fifty dollars each, by early 2018. And the tech entrepreneurs are determined to expand Neopenda’s reach to other countries where infants are at risk. “We feel like babies’ lives are in our hands,” says Shah.

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## Televisionaries

Several Columbians in the television industry received Emmy nominations this year.

The Netflix series *Making a Murderer*, which was created, written, and directed by **Laura Ricciardi '07SOA** and **Moira Demos '96CC, '08SOA**, was nominated in six categories, including outstanding documentary or nonfiction program. Ricciardi and Demos have just announced that they will release a second season of the popular show.

The Netflix political drama *House of Cards*, created by **Beau Willimon '99CC, '03SOA** was nominated for outstanding drama series, as well as several acting and technical awards.

*Roots*, the History Channel re-make of the 1977 miniseries based on Alex Haley’s novel, was nominated for outstanding limited series. It was codirected by **Mario van Peebles '78CC.**

**Kate McKinnon '06CC** is up for outstanding supporting actress in a comedy for her work on NBC’s *Saturday Night Live*. McKinnon, who is known for her impressions of Hillary Clinton, also starred in this summer’s all-female remake of the 1984 film *Ghostbusters*.



## NEWSMAKERS

● The Carnegie Corporation honored **Deogratias Niyizonkiza '01GS** as a part of an initiative called Great Immigrants: The Pride of America. Niyizonkiza came to the United States as refugee from war-torn Burundi and later founded a medical clinic and public-health center in his native village. (For more on Niyizonkiza's work, see *Columbia Magazine's* Summer 2014 cover story, "The Road to Kigutu.")

● Two Columbia baseball players signed with teams in the 2016 MLB draft. Pitcher **George Thanopoulos '16CC**, who turned down an offer from the New York Mets a year ago to finish his Columbia degree, joined the Colorado Rockies organization. Second baseman **Will Savage**, who just finished his junior year at Columbia College, was selected by the Detroit Tigers in the sixteenth round.

● **Brandon Victor Dixon '07CC** has been cast in the Broadway musical *Hamilton*, taking over the role of Aaron Burr from Leslie Odom Jr. Dixon has been nominated for two Tony Awards in acting. He also produced the 2014 Broadway debut of *Hedwig and the Angry Inch*, which won the Tony for best musical revival.

● The short-term apartment-rental site Airbnb hired former US attorney general **Eric Holder '73CC, '76LAW** to create its new anti-discrimination policy. The company has recently been under fire after a Harvard University study and other reports found bias against Black and LGBTQ guests.

● **Clara Roquet '16SOA** won the 2016 BAFTA US Student Film Award for her short film *El Adiós*. Roquet wrote and directed the film as a part of her Columbia coursework; it beat out 244 other submissions for the award.

● New York City Mayor **Bill de Blasio '87SIPA** named **Sree Sreenivasan '93JRN** as the city's chief digital officer. In his new role, Sreenivasan will focus on reaching out to the city's tech community and promoting civic engagement through technology. He previously held the same title at the Metropolitan Museum of Art and, before that, at Columbia University.

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**“The First Amendment is not self-executing; only people can make it what it has become, through our attitudes, actions, and the courts.”**



Jameel Jaffer

## FIRST AMENDMENT INSTITUTE ESTABLISHED AT COLUMBIA

This spring, the John S. and James L. Knight Foundation and Columbia University announced a \$60 million initiative to promote freedom of speech and of the press in the digital age. The Knight First Amendment Institute at Columbia University, an independent nonprofit funded equally by the foundation and Columbia, seeks to preserve and advance First Amendment rights through research and education and by supporting litigation that news organizations may find too costly to pursue alone.

“The First Amendment is not self-executing; only people can make it what it has become, through our attitudes, actions, and, more pointedly, through the courts,” said President Lee C. Bollinger in announcing the

creation of the Knight Institute. “In the past, news organizations pursued and won key court cases defining free expression. But such cases can be enormously expensive, and many media — both established and new — are increasingly hard-pressed in the current economic environment to support First Amendment legal action.”

The Knight Institute will be directed by Jameel Jaffer, previously the deputy legal director of the American Civil Liberties Union. Jaffer, who was at the ACLU for fifteen years, has litigated some of the most significant post-9/11 cases relating to national security and civil liberties. These include constitutional challenges to gag orders imposed under the USA Patriot Act, surveillance conducted by the National

Security Agency, the denial of visas to foreign scholars based on their political views, and the sealing of judicial opinions issued by the Foreign Intelligence Surveillance Court.

The institute will also fund research, fellowships, publications, and lectures aimed at educating the legal community about how First Amendment principles ought to apply to new technologies.

“I am excited about this opportunity to build an organization dedicated to a mission that’s so essential in a free society,” says Jaffer. “Columbia and the Knight Foundation have made an extraordinary commitment to protecting and expanding freedom of expression and of the press in a constantly changing digital environment.”

## CUMC TO HELP LEAD NATIONAL PRECISION MEDICINE INITIATIVE

The National Institutes of Health recently chose Columbia as one of four universities to lead the enrollment of patients in its ambitious new Precision Medicine Initiative.

Over the next five years, physicians at Columbia University Medical Center, working with colleagues at New York–Presbyterian, Weill Cornell Medical, and the Harlem Hospital Center, will seek to enroll 150,000 volunteers who are willing to have their genomes analyzed and their health monitored for years to come. These patients will be among some one million Americans who are expected to participate in the nationwide Precision Medicine Initiative Cohort Program, which aims to discover new links between DNA and disease.

People who enroll as subjects will be asked to contribute detailed information about their lifestyles and medical histories and share their genomic and other biological information through blood and urine tests. Some participants will be asked to carry mobile health devices and download apps that will provide researchers real-time information about their levels of physical activity and environmental exposure. Researchers say that the enormous amount of data they hope to gather will enable them to identify risk factors for disease and determine which patients may respond best to existing medicines or new targeted therapies.

According to a press release issued by the National Institutes of Health, the Precision Medicine Initiative, which was announced by President Barack Obama '83CC last year, "is one of the most ambitious research projects in history and will set the foundation for new ways of engaging people in research."

Biomedical informatics experts at CUMC will also be helping to ensure the quality of data collected in other US cities as part of the Precision Medicine Initiative Cohort Program.

The other academic institutions coordinating the first phase of patient recruitment are Northwestern University, the University of Arizona, and the University of Pittsburgh.

The enormous amount of data to be gathered will enable scientists to identify risk factors for disease.



## AIMING HIGH IN MEDICAL EDUCATION

Lauded by *Architect Magazine* as "one of the most intelligent, original, and unexpected buildings of the decade," the Roy and Diana Vagelos Education Center at Columbia University Medical Center was dedicated on June 10. The new medical and graduate education building, a 100,000-square-foot tower designed by Diller Scofidio + Renfro in partnership with Gensler, incorporates technologically advanced classrooms, collaboration spaces, and a modern simulation center.





Hands-on activities were the focus of the learning fair.

## CAA HOSTS INAUGURAL 'STEM DAY'

The first-ever Columbia Alumni Association STEM Day, held on June 12 in Lerner Hall, showcased Columbia innovations in science, technology, engineering, and math (the STEM fields) to more than 350 alumni and their families. Alumni attendees spanned fifteen schools and seven decades. For many, it was their first time attending a Columbia event since graduation.

Participants had the chance to conduct hands-on science experiments and enjoy food, crafts, and a scavenger hunt. Interactive booths about sea levels, hovercraft, neuroscience, and robots were run by faculty, alumni, and current students.

For information about upcoming CAA events, visit [alumni.columbia.edu](http://alumni.columbia.edu).

## COLUMBIA'S DIVERSITY INITIATIVES APPLAUDED BY *INSIGHT* MAGAZINE

*Insight into Diversity*, a magazine that covers enrollment and employment trends in higher education, has recognized Columbia for its efforts to build a diverse faculty and student body.

The magazine named Columbia a 2016 Diversity Champion, noting that the University has for more than a decade sustained "a proactive effort focused on attracting and retaining the best and brightest scholars" while increasing diversity by race, ethnicity, gender, and sexual orientation.

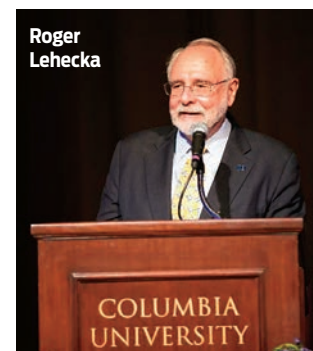
Columbia has invested \$85 million in recruiting and retaining underrepresented faculty across the University in recent years; it has also expanded college access to low-income, first-generation, and historically underrepresented students through its need-blind admissions policies and investments in financial aid.

*Insight* also named President Lee C. Bollinger a recipient of its 2016 Giving Back Award for fostering an environment of inclusion at Columbia.

## DOUBLE DISCOVERY CENTER RENAMED IN HONOR OF ROGER LEHECKA

Columbia College's Double Discovery Center, which brings low-income high schoolers to campus for tutoring by Columbia students, was recently renamed in honor of Roger Lehecka '67CC, '74GSAS.

Lehecka, a former Columbia College dean of students and professor, was one of a small group of Columbia and Barnard undergraduates who helped establish the Double Discovery Center, in 1965. Since then, the center has served more than fifteen



thousand young people; today 90 percent of participating high-school seniors go on to college.

On the occasion of the center's renaming as the Roger Lehecka Double Discovery Center — which coincided with its fiftieth anniversary — an anonymous donor also pledged \$2 million to support its mission. The gift will fund renovations to the center's offices and endow its Freedom and Citizenship Program, which provides local high schoolers an abridged version of Columbia's Core Curriculum.

LEFT: COURTESY OF CAA; RIGHT: COURTESY OF DOUBLE DISCOVERY CENTER

## \$10 MILLION GIFT CREATES NEW CENTER, PROFESSORSHIP FOR TURKISH STUDIES

Columbia recently established the Sakıp Sabancı Chair and Center for Turkish Studies with a \$10 million gift from the family of the late Turkish businessman.

The goal of the center is to increase knowledge and awareness about Turkey, including its historical significance and importance in modern global affairs. The center will support academic collaboration between scholars from Columbia and Istanbul's Sabancı University, which was founded by Sakıp Sabancı in 1994.

"Our University community feels a very deep connection with Turkey, with its history, and with its importance in the modern world," says President Lee C. Bollinger. "The Sakıp Sabancı Center for Turkish Studies will be a leading center of teaching, scholarship, research, and service in this field, one that will investigate contemporary issues in a global context. We are honored by the partnership of the Sabancı family in this endeavor and deeply appreciative of their exceptional gift."

Sabancı, who died in 2004, was the president of the board of Sabancı Holding, one of the largest family-owned companies in Turkey. The son of a cotton trader and textile-factory owner, he took over the family business in 1967 and with his five brothers built

it into a conglomerate with more than thirty thousand employees. "As his family, we share his enthusiasm for our country and strive to do good things for Turkish society," says his daughter, Dilek Sabancı.

More than 140 students from Turkey currently attend Columbia, representing one of the highest populations of Turkish college students in the US. In 2011, Istanbul joined the eight-city network of Columbia Global Centers.

"For historic and geographic reasons, Turkey plays a pivotal role in many global issues," says David Madigan, executive vice president for Arts and Sciences. "I am therefore very grateful that we can build on Columbia's long-standing links with Turkey to propel Columbia to a leading position in Turkish studies."

**"Our University community feels a deep connection with Turkey."**

## TWO-TIME OLYMPIAN SCOTT DONIE NAMED DIVING COACH



Scott Donie, a former Olympic diver and longtime New York University coach, has been hired to lead the Columbia Lions diving program. Donie, who won a silver medal for the US at the 1992 games in Barcelona and competed again in 1996 in Atlanta, comes to Columbia after sixteen years coaching at NYU. He was named coach of the year of the University Athletic Association conference seventeen times while leading both the NYU men's and women's squads.

A native of Somerset, New Jersey, Donie says that

his arrival at Morningside Heights represents a homecoming of sorts, since he practiced here regularly as an adolescent.

"From the age of eleven, I traveled to Columbia to train under the legendary Jim Stillson as a member of the nationally acclaimed Morningside Muggers, one of the top club programs in the country," he says. "There is a long tradition of world-class swimmers and divers who have trained on the campus of Columbia. I'm deeply humbled to have been selected to lead the diving program here."

Donie succeeds former Lions head diving coach Gordon Spencer, who retired last spring after thirty-two years at Columbia. Under Spencer, the Lions won nine Ivy League diving titles, five Eastern Intercollegiate championship titles, and three Ivy League diver-of-the-year honors.

## COLUMBIA JOINS WHITE HOUSE IN 'FAIR CHANCE' INITIATIVE

This summer, Columbia joined with the Obama administration and twenty-four other colleges and universities from across the country in launching the White House's Fair Chance Higher Education Pledge — a call to action for all institutions of higher learning to give people with criminal records, including the formerly incarcerated, a fair chance to seek education and employment.

Columbia has long provided educational and employment opportunities to people with criminal records. Last year it extended this commitment by launching its Justice-in-Education Initiative, which offers courses in local prisons and helps former inmates continue their education at Columbia and elsewhere.

An estimated seventy million Americans — nearly one in three adults — have a criminal record. Research shows that removing barriers to their education reduces recidivism and benefits the economy.



# BOOKS

## Love for Sale: Pop Music in America

by David Hajdu (Farrar, Straus and Giroux, 320 pages, \$27)

What do we talk about when we talk about pop music?

It's an amorphous category that likely vexes more than illuminates. As David

Hajdu writes in his new book, *Love for Sale: Pop Music in America*, the term “provides no information about the music itself: no suggestions of how it sounds or what sort of mood it might conjure, no indication of the tradition it grows from or defies, and no hint of whether it could be good for dancing, solitary listening, or for anything else.”

Still, as “a phenomenon of vast scale and intimate effect, a product of mass culture that reaches millions of people (or more) at one time and works for each person in a personal way,” it is worth examining. Hajdu is perfectly positioned to do so — in addition to teaching journalism at Columbia, he is the music critic for the *Nation* and the author of four other related books. In this history of popular music, he displays an encyclopedic knowledge of a deeply elusive genre.

From the first published song sheets to the development of blues and jazz, to the songwriters of the 1960s to the

sequential rise of tapes, CDs, and MP3s, Hajdu chronicles how the creation and consumption of music expanded outward from a core of professional gatekeepers to become a more democratic, open avenue for creative expression. Ultimately, Hajdu proves that “what tends to matter . . . is that pop artists say something legitimately their own, in their own manner. There's something beautifully egalitarian and almost utopian in this, even when the music is less than exhilarating.”

Embedded within the roughly chronological history are countless delightful nuggets: a vest-pocket history of the Victrola; a cultural and social examination of Harlem's Cotton Club, which was “elemental to the story of American popular music as a nexus of blackness expressed, imagined, demeaned, and exalted”; and an insightful discussion of the development of the blues as an art form: “the blues was intricately coded, with multiple, sometimes contradictory meanings and allusions decipherable only to the informed.”

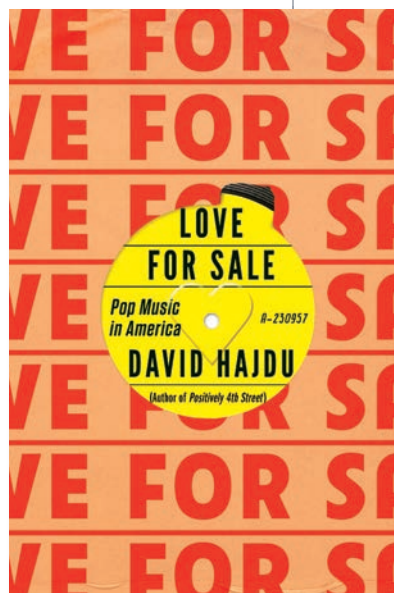
Hajdu even dispels some misconceptions about the mythic Elvis Presley. While “thought of as an alpha source in rock history,” Hajdu writes, “he was an interpretive artist, a singer of material created by a professional class of composers and lyricists, rather than a songwriter.” In fact, Hajdu argues that Bob Dylan and Joan Baez

were the first to really master both singing and composing. In 1966, the Kinks and the Beach Boys elevated the pop scene yet again with *Face to Face* and *Pet Sounds*, which “demonstrated striking levels of intellectual ambition and musical adventurousness.”

The author saves two of the best chapters for last. “Punk vs. Disco” — “disco fed on homosocial optimism and hope; punk, nihilistic cynicism and despair” — crackles with the on-the-verge-of-violence energy of 1970s New York, and Hajdu's take on hip-hop — which “set and met aesthetic values of its own choosing — groove and flow, layering, rupture . . . hip-hop was interested not in assimilation but in sovereignty” — is simultaneously astute and passionate.

Hajdu's scholarly chops are on full display in the book, but lay readers should not be put off. Hajdu is a master of distillation and often cleverly weaves in personal anecdotes to lighten the scholarly tone. In one charming passage, he offers his opinions on the current music scene, and particularly, his son's favorites. After all, claims Hajdu, “one generation's rock and roll is, more than anything, a music that veterans of the preceding generation do not like, approve of, or grasp.” In other words, perhaps one way to define the undefinable pop music is this: if your parents hate it, it's the real thing.

— Eric Liebetrau



What tends to matter is that pop artists say something legitimately their own.

## EXCERPT

# Black Hole Blues and Other Songs from Outer Space

By **Janna Levin '88BC** A professor of astrophysics at Barnard College and Columbia's Center for Theoretical Physics, Levin tells the epic story behind the scientific quest to detect gravitational waves.

We see evidence of black holes destroying neighboring stars. We see evidence of supermassive black holes in the centers of galaxies, their location, dark and unspectacular, marked by orbiting stars. We see evidence of black holes powering jets millions of light-years across, visible in the farthest galaxies in the observable universe. But we have never really seen a black hole, which only adds to the thrill of the prospect of hearing them.

There must be black holes out there that we can never see. They are alone. Or they orbit another black hole. Nothing falls into them. Nothing shines bright enough, close enough. We cannot make out the shadow, at least not yet. But if the black holes collide we might hear them ring space and time, sending waves in the curves of spacetime through the universe traveling at the speed of light. If the gravitational observatories succeed and we just marginally make out the reverberations against the noise, we can record the sounds of stars exploding in their final seconds before collapse. We can record the sound of imperfections scraping spacetime as neutron stars spin. We can record the sounds of neutron stars colliding, possibly forming black holes. And we can record the sounds of black holes colliding to form heavier silent black holes, emitting a billion trillion trillion trillion watts of power in gravitational waves.



decades in Egypt, is divided into three sections, set in 1984, 1998, and 2014. In the first section, the unnamed narrator is six years old. Her father has recently disappeared, and her mother is struggling to keep control of her emotions and her household. On TV, reruns of *Dallas* are interspersed with hagiographic documentaries about the late president Anwar el-Sadat — at least until the power cuts out each night. All the narrator knows is that she misses her father and doesn't understand why he's gone, but she won't get answers from her mother, who spends her days lying on the sofa, talking on the phone in a mixture of Arabic, English, and French.

Fourteen years later, the narrator has more empathy for her mother's apathy; she feels her own confusion paralyzing her: "It seems that politics is at the foreground and background of everything yet not something that can be impacted in any way." Her cousin Dido, an anarchist, is the "only person I know who speaks of changing the country." She is thinking of making films. She misses her father viscerally — "the sound of his breath as he wound up his wristwatch. How he gestured with his hands as he spoke" — but is resigned to never seeing him again.

In the final section, the narrator is considering switching from film to writing, despite Dido's belief that "writing in a country like ours [is] an exercise in passivity, a luxurious musing." She spends her time in cafes with Dido, debating whether literature can shape history. She wanders the city,

## Chronicle of a Last Summer

by **Yasmine El Rashidi** (Crown, 192 pages, \$22)

In the summer of 2014, a young filmmaker sets up her camera across the street from a vegetable stand, hoping to capture scenes of everyday life: "The better tomatoes on top, the bad ones hidden underneath. One minute, three minutes,

five. If nobody bothered me I would have let the camera roll all day." In the United States, the scene would be innocuous. But she is in Cairo, still reeling from the Arab Spring, which escalated after a Tunisian fruit vendor set himself on fire. As the

filmmaker in Yasmine El Rashidi's novel *Chronicle of a Last Summer* learns, when you live in a country ruled by suppression and misinformation, even the groceries can be incendiary.

El Rashidi's novel, which details three tumultuous



## BOOKS

talking about Egyptian music with shop owners. And she drinks coffee with her father, whose return is marked with little fanfare and no explanation.

El Rashidi '99JRN, a journalist who grew up in Cairo, has said that while her novel is not strictly autobiographical, she wanted to capture "how we came to be muted in the way we were, and perhaps still are." We see an example of this lassitude in a long passage describing an afternoon waiting for a doctor's appointment, while indifferent receptionists lazily discuss recipes and eat sandwiches, instead of expediting the process. It perfectly captures the ennui, lethargy, and sense of powerlessness that many of the narrator's generation experience in the face of crushing bureaucracy. Yet we never learn why, exactly, the narrator



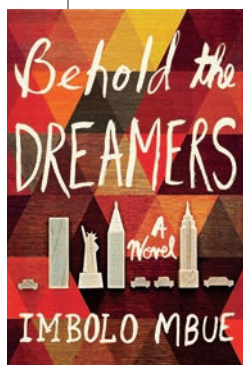
has gone to the doctor, which creates a distancing effect. It's just one of the myriad omissions and elisions that keep us from really getting to know the narrator, undermining the power of this otherwise vibrant and vital book.

— Jennie Yabroff '06SOA

# Behold the Dreamers

by Imbolo Mbue (Random House, 400 pages, \$28)

**E**sqire magazine recently asked four American men with different incomes (\$1 million per year, \$250,000 per year, \$53,000 per year, and \$7 per hour) how much money they would need to have the life they wanted. The results were fascinating:



each of the two men in the lower income brackets, without knowing what the others made, said that he would need exactly the income of the man above him. The implication was that their pursuit of the American dream had left them wanting —

not for everything, but for just enough to reach the next step.

This survey is an apt parable for *Behold the Dreamers*, the stunning debut novel from Imbolo Mbue '07TC, which tells, with enormous empathy, the story of two families in New York City at the dawn of the 2008 recession. Jende Jonga is an immigrant from the poverty-stricken West African nation of Cameroon. A lucky connection gets him a job as the personal chauffeur to Clark Edwards, an executive at the soon-to-be-doomed Lehman Brothers. The families become further entwined when Clark's wife, Cindy, hires Jende's wife, Neni, as a housekeeper and part-time nanny to their nine-year-old son, the ambitiously named Mighty.

In many ways, the immigrant narrative is familiar. The Jongas came to America with nothing and work tirelessly. Jende regularly puts in fourteen-hour days, and Neni juggles two jobs and classes at a community college. Their ambitions are modest, but clear: "We try really hard, we can save five thousand dollars a year. Ten years,

we could have enough money for a down payment for a two-bedroom in Mount Vernon or Yonkers."

But the Jonga family's story is also very much a modern one: they are here illegally, and deportation is a constant threat. Jende tries to navigate the immigration system with the help of his cousin Winston, whose presence in the book underscores how utterly arbitrary the process can be. Jende and Winston grew up in identical circumstances in Cameroon, but Winston won the green-card lottery. He came to America legally, joined the Army, went to college and law school on the GI Bill, and got a job at a corporate law firm. With one stroke of luck, Winston became as much a peer of Clark Edwards as he was of Jende. Similarly, a baby born in New York to Jende and Neni will have rights denied her older brother, who was born in Cameroon. Is she more deserving? Is Winston?

Mbue — a Cameroonian immigrant whose manuscript caused a sensation at the 2014 Frankfurt Book Fair, catching the attention of Random House editor and Columbia School of the Arts professor David Ebershoff — also beautifully interrogates the idea of America as the promised land. At a certain point, Jende and Neni have to decide if they are willing to fight to stay in America. On the one hand, America represents possibility, whereas in Cameroon "visions of a better life were the birthright of a blessed few." But daily life in America is a struggle, and Jende is homesick for his beloved seaside town, Limbe. In one particularly poignant exchange, Clark tells Jende about his own childhood, in a tony Chicago suburb: "I can't tell you Evanston's anything as wonderful as your Limbe."

It would have been easy for Mbue to draw Clark as what Tom Wolfe would call a "Master of the Universe," and his

family as vapid and uncaring. But she is kind to the Edwards family — in her telling, they are flawed but also sympathetic and, as Lehman Brothers falls, even vulnerable. Watching them, Jende begins to understand that the American dream is a complex ideal, even without the obstacles of immigration. Cindy Edwards didn't come from money: she married into it, and all the social pressures that came with it. Her two sons seem to reject the great privilege that was their birthright: Mighty relishes the rare evening when he can escape Park Avenue and spend time at Jende and Neni's one-bedroom Harlem apartment; his older brother, Vince, drops out of Columbia Law School to backpack around India.

And even Clark Edwards, with his corner office, summer home, and personal chauffeur, was not simply given these things. Born into the upper middle class, he had to earn his position in the American elite. On the evening of Lehman Brothers' collapse, Clark tells Jende, "When I went to Stanford I was going to study physics, become a professor like my dad. Then I saw what was possible on a professor's salary and what was possible on an investment banker's salary and I chose this path." It's an insensitive thing to say to Jende, who will never have those luxurious options. But it also shows how much the two men have in common. Like the men interviewed in *Esquire*, both are desperately reaching for what's next.

— Rebecca Shapiro

## READING LIST

### New and noteworthy releases

#### THE DOLLHOUSE

by Fiona Davis '00JRN

For the better part of the twentieth century, the Barbizon Hotel for Women was a haven for aspiring Manhattan career girls, including Lauren Bacall, Joan Didion, and Sylvia Plath. It's an ideal setting for Davis's juicy debut novel, which toggles between a mysterious death at the hotel in the 1950s and the efforts of a present-day journalist to uncover the truth.

#### BUSH

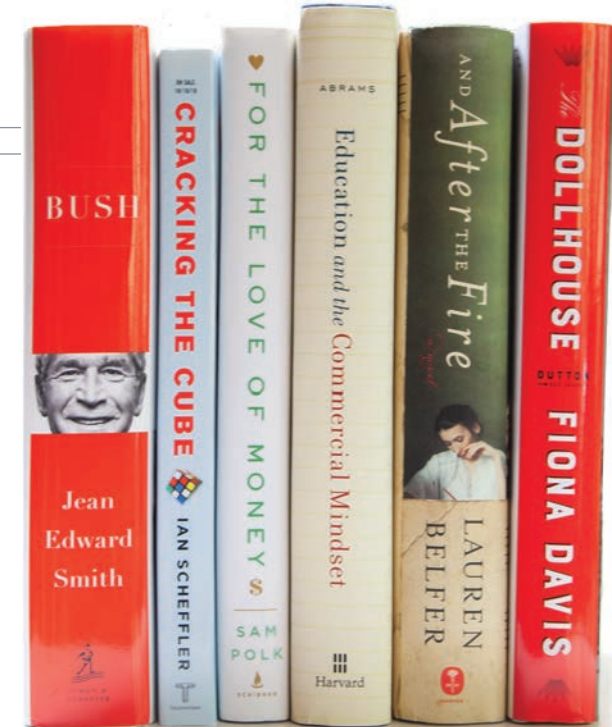
by Jean Edward Smith '64GSAS

There's a perception that George W. Bush was a puppet president, who left his important foreign-policy decisions to figures like Dick Cheney and Donald Rumsfeld. Not so, says presidential biographer Jean Edward Smith (he's also written about FDR and Grant). In his controversial new tome, Smith paints Bush as faith-driven and hasty and says that he generally acted alone, particularly in his decision to invade Iraq.

#### EDUCATION AND THE COMMERCIAL MINDSET

by Samuel E. Abrams '89CC, '06TC

The idea of privatizing K-12 education has been gaining traction for the past several decades. In his new book, veteran teacher and school administrator Samuel Abrams offers a thorough critique of for-profit and nonprofit educational alter-



natives, while also suggesting that public schools look to the business world for some key strategies: offering competitive salaries, giving teachers more autonomy, and employing sampling techniques rather than universal testing to gauge progress.

#### CRACKING THE CUBE

by Ian Scheffler '12CC

Journalist Ian Scheffler gets sucked into the frenetic world of the Rubik's Cube and its "speedcubing" circuit. As he attempts to break into the elite circle of "sub-20" solvers (that's under twenty seconds!), Scheffler also tries to figure out what makes the puzzle so appealing, talking to everyone from children to engineering professors to the notoriously reclusive Ernő Rubik himself.

#### AND AFTER THE FIRE

by Lauren Belfer '91SOA

In 1783, a young musician named Sara Itzig Levy gets an unsettling gift from her teacher: an anti-Semitic

cantata by Johann Sebastian Bach. Over two centuries later, that manuscript comes to haunt another woman: Susanna Kessler, the niece of an American soldier who took the score from a German mansion after World War II. Sara and Susanna form the backbone of this epic novel, the third from *New York Times* best-selling author Lauren Belfer.

#### FOR THE LOVE OF MONEY

by Sam Polk '01CC

In 2014, Sam Polk wrote an op-ed for the *New York Times* about his decision, several years earlier, to walk away from his job as a Wall Street trader after a \$3.6 million bonus made him angry "because it wasn't big enough." His deeply personal new memoir continues the story, delving into his "wealth addiction" and how it plunged him into depression and anxiety. Since leaving finance, Polk has founded a nonprofit addressing poverty and obesity, and has married and become a father.



# The Klan's Last Stand

Laurence Leamer '69JRN, '69SIPA discusses his new book about how Morris Dees, cofounder of the Southern Poverty Law Center, shut down the largest Ku Klux Klan organization in the US after the 1981 lynching of a Black man in Mobile, Alabama



**Columbia Magazine:** Many people have heard of the Southern Poverty Law Center, but who is Morris Dees?

**Laurence Leamer:** Dees is an Alabama-born white man who made a fortune in the direct-mail business. He grew up in a culture of white supremacy and got his start in public life working on a campaign for George Wallace, the notorious segregationist who became Alabama's governor and ran for president. Dees, who was also a lawyer, successfully defended a Klansman charged with beating Freedom Riders in Montgomery. But step by step his views evolved, and he became one of the country's leading civil-rights litigators and a founder of an organization that has about forty lawyers working on human-rights issues in the South.

**CM:** "The Epic Courtroom Battle" is a catchy subtitle, but the lawsuit that shut down the United Klans of America is just a section of your book.

**LL:** True — the book is an intricate story of the history of the civil-rights movement through the lives of Dees, Wallace, and Robert Shelton, the Klan's clever and manipulative leader. Shelton

helped incite the lynching of a random Black man, Michael Donald, over the mistrial of a Black defendant accused of killing a white police officer. I had to do a lot of research to weave those three stories together to show how the South was changed and what it took to make that happen.

**CM:** You've written fifteen books, including biographies of very disparate people: Johnny Carson, the Kennedys, Arnold Schwarzenegger. Have you found any common threads?

**LL:** Yes, there's a moral complexity to all of them. And Morris Dees is the ultimate example of that. He'd like to think of himself as Atticus Finch, that saintly fictional character in *To Kill a Mockingbird*. But he's more like Oskar Schindler, the real-life hero of the Spielberg film who's a womanizer and greedy guy who ends up saving more than a thousand Jews. People tend to see important figures as either saints or devils. Almost no one is one or the other.

**CM:** Your professors at the journalism school sent you to cover Wallace on the night of the 1968 presidential election. How did that come about?

**LL:** In November of 1967, while I was bored to death studying international affairs at the University of Oregon, I talked my way onto Wallace's plane and spent a few days with him. The *New Republic* published an article I submitted cold, and then *Student* magazine sent me to Alabama. When I came to Columbia the next fall, the professors asked me to do their election-night radio coverage in Montgomery. I put my Columbia banner up there with ABC and CBS. They thought I was

broadcasting across the nation. It was just to a classroom at Columbia!

**CM:** Is what you learned about Wallace relevant to the 2016 election?

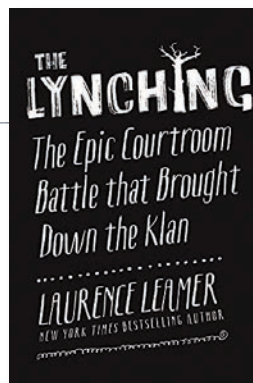
**LL:** Yes. Donald Trump and Wallace have many similarities. Wallace was a brilliant politician, certainly in his understanding of the white working class, particularly in the South. He knew segregation inevitably would end. But he figured he could rise to power as its most militant defender. In the same way, Trump knows he's not going to throw eleven million people out of this country and stop Muslims from coming here. But it was a great issue when he was starting out and he didn't have any traction. They're similar, too, in liking to bring crowds to the edge of violence.

**CM:** You interviewed former Klansmen, including some who went to prison for the lynching. How did that go?

**LL:** It was scary, frankly. I'd go out in the countryside and knock on doors, and most of the time it was the wrong person. I thought, "Why the hell am I doing this at this age?" but I had to find these people. To the Klansmen, those were the most exciting days in their lives, so they were willing to talk about it after all these years. They knew they weren't going to get in any more trouble.

**CM:** How did you get started on Dees?

**LL:** He called me and said, "I've got a project that's been sitting here all these years. Would you like to do it?" He promised total access to the files and total control of the writing, and he kept his word. There are many things in the book that would upset a lot of guys. Morris didn't flinch. — Fred Strasser



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## VACATION RENTALS

**FIRE ISLAND:** Ocean Beach, for rent/sale, inexpensive, 3 bedrooms, 2 baths, AC. Near ocean/NYC, piano/fireplace, large deck/property, convertible LR/BR. Call 917-748-3868, Dr. Pollner. [cinemaveriteintlinc@gmail.com](mailto:cinemaveriteintlinc@gmail.com).

**HILLCREST, ST. JOHN, US VIRGIN ISLANDS:** Guesthouse. 340-776-6774; [www.hillcreststjohn.com](http://www.hillcreststjohn.com).

**NAPLES, FL:** 3-bedroom, 3-bath plus study with pool/hot tub in enclosed lanai. TPC Treviso Bay includes golf privileges. Close to downtown and Marco Island/Naples beaches. 908-642-6735.

**PARIS, SAINT-GERMAIN-DES-PRÉS:** Lovely studio apartment on rue Jacob. [www.lefanion.com/paris.html](http://www.lefanion.com/paris.html); 212-463-8760.

**ROME:** Bright, quiet, spacious apartment. Wi-Fi. Elevator. Easy access to major sights. Metro San Giovanni. 2 double bedrooms, 2 baths, living room, eat-in kitchen. \$850/week. [www.casacleme.com](http://www.casacleme.com), 212-867-0489, [lm603@columbia.edu](mailto:lm603@columbia.edu).

**TUSCANY:** Gorgeous apartment in lovely hilltop village of Casole d'Elsa near Siena. 2BR, 1BA, sleeps 4-6. Beautifully appointed. Wi-Fi. Large eat-in kitchen, private garden overlooks 11th-century church. \$650-750/week. Columbia alum owner Lyn '90PH: 404-371-8287, [info@imagesoftuscany.com](mailto:info@imagesoftuscany.com), or see photos and details at [www.imagesoftuscany.com](http://www.imagesoftuscany.com).

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# FINALS

## What's Your Line?

Who hasn't dreamed of winning the *New Yorker* caption contest? For eleven years, the weekly feature has captivated legions of armchair wags and cost companies thousands of hours of productivity. Wanting in on the action, we asked *New Yorker* cartoonist Ben Schwartz '03CC, '08PS to draw a cartoon for a *Columbia Magazine* contest. He did, but could offer no insider tips. "I've never entered the *New Yorker* contest," Schwartz confides. "It's too hard!"



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Send your entry to [captioncontest@columbia.edu](mailto:captioncontest@columbia.edu) by October 15.



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The CAA Shop was founded and made possible entirely by our alumni. Two alumnae first conceived of the idea for an alumni store, another helped launch the website, and over 3,000 Columbia alumni from across the University hand-picked designs that are now available for purchase in the Shop. Looking forward, the CAA Shop will continue to be a reflection of our 330,000 alumni worldwide, a showcase for alumni passions and ideas, and a celebration of our shared connection to Columbia.

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