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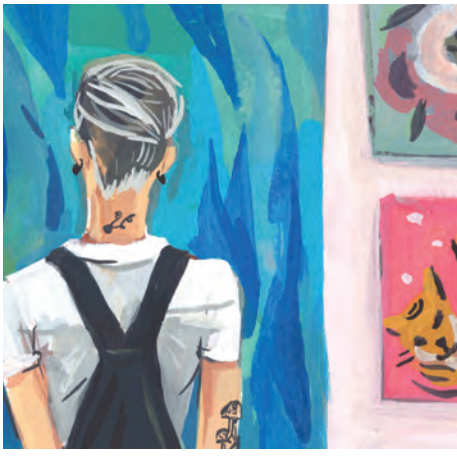

THE PENNSYLVANIA GAZETTE
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EDITOR John Prendergast C'80
SENIOR EDITOR Trey Popp
ASSOCIATE EDITOR Dave Zeitlin C'03
ASSISTANT EDITOR Nicole Perry
ART DIRECTOR Catherine Gontarek
PUBLISHER F. Hoopes Wampler GrEd'13
215-898-7811 fhoopes@upenn.edu
ADMINISTRATIVE COORDINATOR Linda Caiazzo
215-898-6811 caiazzo@upenn.edu

EDITORIAL OFFICES
The Pennsylvania Gazette
3910 Chestnut Street
Philadelphia, PA 19104-3111
PHONE 215-898-5555 **FAX** 215-573-4812
EMAIL gazette@ben.dev.upenn.edu
WEB thepenngazette.com

ALUMNI RELATIONS
215-898-7811
EMAIL alumni@ben.dev.upenn.edu
WEB www.alumni.upenn.edu

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NATIONAL ADVERTISING
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Departments

The COVID Issue

Back in April I wrote in this space that we would soon know more about the impact of the novel coronavirus, and unfortunately much of what we've learned in the intervening weeks has been grim, starting with more than 110,000 lives lost in the US and a worldwide death toll exceeding 400,000 as of early June.

Along with the disease and associated stay-at-home orders has come economic devastation and unprecedented job losses. And there have also been examples of heroism among health professionals and other essential workers, resilience and mutual support within communities, and promising efforts at developing more effective treatments and a vaccine. All parts of our current era of adjusting to the presence of this virus in our world, probably for a good while to come.

I also promised that in this issue we would report on how the Penn community has responded to, and reflected on, the challenges posed by COVID-19 in these early days. Our cover package, "Penn and the Pandemic," collects stories from a variety of perspectives concerning patient care and research, how teaching and learning may change coming out of the crisis, putting the current pandemic into historical context, and telling how individual alumni have been affected.

Included, among others, are reports about a researcher working on a possible vaccine, an expert in elder care's advice on how to improve nursing homes going forward, what it's like to take over a big city public transportation system on the eve of a pandemic, and a leading restaurateur's experience navigating his operation and staff through the crisis to eventual reopening. And Penn Medicine's leaders describe the Health System's contributions to treating patients and providing testing sites in the community, innovations to ensure safety and support staff mental health, and a "12- to 18-month playbook" to harness Penn's expertise to help understand and control COVID-19.

Our essayists also weigh the impact, from a graduating senior's column drawing connections between her current quarantine in West Philadelphia, her teenage online life, and a project early in her interrupted final semester to work a hand-operated letterpress; to the tribulations of a traveler caught in the wave of border closings forced to make her way home from a much-anticipated Antarctic trip; to a new doctor thrust into emergency service treating COVID patients at the same time that he and his wife are expecting their first child.

Associate editor Dave Zeitlin C'03's feature profile of author Erik Larson C'76, "Courage Through History," also resonates with the present moment. Larson's recent book, *The Splendid and the Vile*, deals with London under the Blitz and the inspirational leadership of Winston Churchill early in World War II. While he doesn't push too hard on the parallels, Larson does admit some similarities, both in small things like product shortages, and in larger terms. "In London at that time, everybody had to pull together," he told Dave. "We have to pull together now."

Much of what we've learned in the intervening weeks has been grim, starting with more than 110,000 lives lost in the US.

Elsewhere in the feature well, we offer tales of two very different forms of stress relief. In "The Power of the Pup," frequent contributor Kathryn Levy Feldman LPS'09 describes the pet-assisted therapy programs at Children's Hospital of Philadelphia, HUP, and Presbyterian Hospital, as well as her own involvement (with her dogs Millie and Franklin) as a volunteer. And Susan Karlin C'85 profiles cannabis industry entrepreneur Rob Rosenheck C'89, CEO of Lord Jones, which sells CBD-infused candy and other products, in "Seeds of Insight."

Among the consequences of Penn's necessary decision in March to close down the campus and cancel all public events until further notice was the loss of the traditional spring ceremonies of Alumni Weekend and Commencement, which we normally cover in this issue. Both went forward in virtual versions, however, with in-person celebrations rescheduled for next May, the week after regular 2021 events will take place.

A summary of what University Chaplain Chaz Howard C'00 called "a commencement unlike any other" appears as the lead story in "Gazetteer" and, in place of our usual Alumni Weekend photo album, we share some images of scattered celebrants (and kids, and pets) gathered from social media. While there's nothing like being there, one advantage in this case is that you can still view these events online if you happen to have missed them at the time.

LETTERS

Arguing economics and life, missing the *DP*, Ernie Beck on AJ Brodeur and an old teammate, and more.

We Welcome Letters

Please email us at gazette@ben.dev.upenn.edu. *Please note, due to the COVID-19 pandemic, Gazette offices are closed until further notice and we cannot retrieve postal mail at this time.* Letters should refer to material published in the magazine and may be edited for clarity, civility, and length.

Inverse Relationship Between Value and Compensation

It was gratifying to finally read that someone on the Wharton faculty is focusing on the fundamental inequalities inherent in the US capitalist economy ["Inequality Economics," May|Jun 2020]. Benjamin Lockwood's examination of the inverse relationship between the value to society and the amount of compensation paid to working Americans is a long-overdue echo of the research done by Karen Ho more than a decade ago, which she included in her book *Liquidated: An Ethnography of Wall Street*. There is something fundamentally wrong with a system when the brightest and the best of our graduates are being siphoned off to the financial sector, when society would be far better served if they brought their energy and intellect to bear on the enormous problems that are created by unbridled capitalism (environmental, social, medical, public education, energy, waste management, and the list goes on …). I hope to read more about Professor Lockwood's work in future issues of the *Gazette*.

Helen E. Pettit CW'65 CGS'76, Lambertville, NJ

The Economy We Elected

If Professor Lockwood ran the economy, he'd tax Wall Street out of existence, or at least all of its most successful denizens. It is true that some folks on Wall Street have made billions of dollars. Some, I suppose, were privileged. Some were lucky. Some were just plain smart. I concur that some of these folks probably earn in excess of their marginal contribution to social welfare. That's true of many of us. But I can assure the professor that for each individual who hits the jackpot there are dozens upon dozens—some equally talented and industrious—who struggle or go broke. That's not necessarily fair, but that's what drives our economy forward. In the hope of success, some people are motivated to risk everything against seemingly impossible odds. For whatever reason, some few succeed.

"The great thing about our capitalist economy is that it is *not* run by me or by the professor or by any single individual or committee exercising arbitrary authority."

If I ran things, I'd leave Wall Street alone, and I'd tax the following industries out of existence: the cosmetics industry, the "fashion" industry, the firearms industry, the tobacco industry, the corn syrup industry, and, with the professor, the soda pop and bottled water businesses. Talk about industries that waste resources and generate negative externalities. I'd also take a close look at the economics business. Seems to me it hasn't made even a marginal contribution to anything since Keynes and Hayek.

The great thing about our capitalist economy is that it is *not* run by me or by the professor or by any single individual or committee exercising arbitrary authority to decide what's best for everyone else. Instead, it is guided by hundreds of millions of consumers and businesses who daily vote with their dollars for the kind of industries and academic disciplines they want and don't want. For better or worse, then, the economy we have, like the government we have, is the economy we have elected.

Charles Cranmer WG'82, Haverford, PA

Donors Make Education Affordable

It is ironic that the May|Jun 2020 issue of the *Pennsylvania Gazette* has a cover story on grappling with inequality and also includes the latest data on annual tuition, room and board, and fees at Penn

of $76,826, a 3.9 percent annual increase ["Gazetteer"]. This increase certainly exceeds inflation and the absolute value of it is outside the reach of much of the world's population. Reference is made to $256 million of financial aid, which puts attendance at Penn within reach for many of the students. It is worth remembering that this education has become more affordable due to the generosity of donors who have funded an endowment that provides these scholarships and other forms of financial aid. The generosity of these donors, the group that is responsible for the inequality referred to in this article, is funding the education of our next generation. Thank you to them!

Paul C. Kelly WG'82, Longmont, CO

Life's Inequalities

What's missing from the article is a summary of the worldviews held by Professor Lockwood and his research colleagues. Those worldviews would help me, for one, get a handle on the conclusion that replacement of a bad teacher with an average one raises the future salaries of the kids in the classroom by $250,000 a year.

For that conclusion has no utility. Within any classroom there is an uneven mixture of talents and potentialities—aka students. They were not born equal (except in the sight of their Maker); they will not be treated equally in this life; they will not respond equally to whatever (and unequally) crosses their paths; and they will certainly not be evenly distributed over some income and achievement curve or another.

The inequalities of life—and life's economics—are most easily understood by taking a hard look at the statue of The Sower who strides the Great Plains from atop the Nebraska State Capitol. Handfuls of seed are unequal in size and composition; where the seeds fall is up to gravity and the breezes of springtime; and how each seed fares after that is unknowable and unpredictable by mere man—let alone a teacher.

Better to ruminate on how to teach individuals to understand and use whatever The Sower's broadcast brought to them than to fool around with more ways to tax individuals' monies and properties for whatever government employees think.

Stu Mahlin WG'65, Cincinnati

Adult in the Room

The saga of Eric Jacobs' tenure at the *Daily Pennsylvanian* was, indeed, "a marriage made in heaven" ["Paper Man," May|Jun 2020]. The paper needed "an adult in the room," who brought organizational and foresight expertise to a *very popular* and—in some cases—*challenging* campus publication. The paper had very difficult missions: (1) to publish *daily*; and (2) to "tell it like it is." I'm familiar with this yin and yang, having been the editor in chief of the *Pennsylvania News*, the women's newspaper, during the early 1960s. Jacobs' influence on the *DP* becoming independent and "going digital" is to be highly commended.

Jacqueline Zahn Nicholson W'62, Atlanta, GA

Back to the *DP*, Briefly

Tommy Leonardi C'89, who photographed "Paper Man," emailed this after the shoot, and later agreed to let us run it here.—Ed.

On the way to photograph Eric Jacobs, I experienced the freakish and disorienting sight of a near-empty campus on a sunny March afternoon. Having been at Penn as a student and a photographer consistently for almost four decades, I've developed an intuitive visual rhythm of the academic seasons. I know what the campus is supposed to look like just by the sun angle at any given moment. When I say "look like," I also mean "feel like." There is a completely predictable ebb and flow of energy—marvelous energy—at Penn. And I've fed off that energy for almost four decades. The emptiness I experienced this time felt so weird—and wrong.

I then walked up the stairs to the *DP* offices. Halfway there, I realized that I hadn't trudged up those stairs while carrying photo gear since 1989. Before I had graduated, I had been (and still am) the most prolific photographer in the history of the *DP*. The *DP* is where my Penn photography life started. It was the place where not only did I learn photography, but where I learned how to be a *professional* photographer. At the *DP*, I quickly learned to be creative on demand, not only when I felt inspired.

And there I was again, inside the stairwell leading to the place that had shaped my career—on the day it felt as if it was suddenly gone.

I felt disoriented until I entered the *DP* offices. There was EJ! He smiled at me through the glass wall in his private office. He, of course, was a fixture at the *DP* when I was there. And he still had that same "EJ way" about him, too. You know how some people change—*really* change—when they get older? EJ hadn't. Same person, same energy.

The familiarity of seeing EJ at this suddenly uncertain time was like a magnet. I walked quickly toward him and, being emotional, I approached to hug him as he stepped toward me, too. Two feet away, we both stopped in our tracks. We could not hug. Two Penn alumni with a deep connection during a scary time weren't allowed to hug. Social distancing was the call of the day.

It took at least an hour before we even tried to set up the shoot. That's because I quickly realized how "off" the Penn world had become to EJ as well. For over four decades, EJ had also lived off the Penn energy, but through a different, figurative lens. He knew when the students would arrive at the *DP*. It was entirely predictable. But it now was mid-March and the students were not there.

Instead, we talked about, well, everything. First the virus, then the current state of the *DP*, and then the memories. Through much of the conversation, we toured the offices, discussing the changes: the walls that were removed and added, and the people who used to work in each space.

LETTERS

That's when I started to feel a bit normal again. Then we set up the shoot. I felt wonderfully light. I was able to "lose myself" in the shoot and the world was right again.

Just after the shoot, however, I looked at my phone. It had blown up with alerts of the latest coronavirus news. Reality came right back.

After I broke down my equipment, I was chatting a bit with EJ and another *DP* employee. I said, "I know that the idea of a 'safe zone' on campus is sometimes mocked. But if I could be back here at the *DP* in the late '80s until this crisis ended, I would. Since that's not possible, I guess I'll have to go home."

Tommy Leonardi C'89, Philadelphia

Winner, All-Time Record for Sportsmanship

I just received the May|Jun 2020 edition of the *Pennsylvania Gazette* and was happily surprised. Normally, as a 90-year-old graduate from Penn, I look first at the obituaries to see if any of my old classmates had recently passed away. Then, when I turned back to the sports section, there was a picture of me congratulating AJ Brodeur, now the all-time leading scorer in Penn's varsity basketball history.

I was at the Palestra the night when he broke my record, having been invited to the game by Steve Donahue, who has done a great job in his years as head coach. The smile on my face is sincere for I had the scoring record long enough (67 years). AJ certainly deserves the honor for he is a well-rounded basketball player as not only a scorer but great as a passer and on defense.

Then, to top it off, I turned to an earlier page of the *Gazette* to the story "Those Woodstock Summers" ["Elsewhere"] and found it was written by Nick Lyons W'53, an old basketball teammate at Penn. He played on the freshman basketball team with me in 1949. Nicky was a tough little guard on the team. We could not play varsity because of the Ivy League rule in those days that freshmen could not play varsity but should concentrate on their studies first. We played our games at Hutchinson Gym, next door to the Palestra, against other freshman Ivy League teams because of the rule. Nicky also made the varsity, and we both played three years on the varsity basketball team. And we had a great coach, Howie Dallmar.

My scoring record was for three years, not four. Some consolation! However, congratulations again to AJ Brodeur.

Ernie Beck W'53, West Chester, PA

Beautifully Written

Thank you to Nick Lyons for "Those Woodstock Summers," a beautifully written letter to his younger self and beloved wife. I can't wait to read Mr. Lyons's forthcoming memoir, *Fire in the Straw: Notes on Inventing a Life*.

Irene Jacobsen Gr'02, Urbana, IL

Outstanding Teachers, Different Eras

I enjoyed "Mind Traveler," the short article on Renée Fox ["Gazetteer," May|Jun 2020]. It brought back memories of my days at the medical school and Wharton grad in the latter '60s and earliest '70s when I first learned of her concept of the "training for detached concern" of medical students. This sociological concept that physicians needed to be able to blend a degree of emotional detachment with ongoing concern for their patients in order to prove effective resonated for me when I first became aware of it. I think it correlates nicely with the earlier stated concept of medical pioneer Sir William Osler, who taught at Penn in the 1880s, of equanimity in balancing a vigorous effort on behalf of patients, while realizing that eventual outcomes in patient care were often beyond the physician's control and must be accepted for good or ill. Both have been outstanding teachers at the University in their respective eras. It is good to know that Renée Fox remains a vigorous "mind traveler," although more restricted than earlier in her geographic journeys.

Peter L. Andrus M'70 WG'76, Lakeway, TX

Lasting Lessons from a Super Teacher

Henry J. Abraham ["Obituaries," May|Jun 2020] was at the top of the super teachers I was blessed with at Wharton. He taught political science that stayed with me over the many years since I sat in his classroom in Logan Hall. Recently I came across an Abraham classroom video published by the University of Virginia, where he taught after Penn. There he was—all over again—endowing an entirely new student generation. It is teaching like Abraham's that makes Penn-Wharton such a jewel in the crown of collegiate education. Henry lives on in the lives he enriched.

Walter L. Zweifler W'58, New York

Coming Through in Trying Times

Your May|Jun *Gazette* was amazing, showing once again how Penn comes through in trying times. Of course you cannot find mention of the 1918 influenza in your archives ["From the Editor"], because Philadelphia was the very epicenter of myopic indifference to the spread of this disease, as described in many accounts of the time. Similar misjudgments are occurring today, but Penn, as you know, will not stand by quietly. Thank you.

Ken Klein C'67, St. Paul, MN

Earth Day Memory

Your 50th year recollections of Earth Day 1970 ["Old Penn," May|Jun 2020] brought back the memory of my own involvement on that day, which was not in Fairmount Park. I was in a party of about 50 who were sitting in at Philadelphia City Hall, bearing an eight-foot diameter version of an Earth Day button. I have been proudly donning my (smaller) version of that button every Earth Day since then.

Bill Tracy WG'75, Denver

Home Run

Nice job on your Mar|Apr 2020 issue. I read and enjoyed all four feature articles, a real home run.

Bill Mosteller C'71, Fairfax, VA

Illustration by Martha Rich GFA'11

Traces

A dispatch from the Zoom life.

By Amber Auslander

Once a week, a package arrives on my doorstep. Art prints fresh from friends' Etsy pages. Holographic stickers to plaster on my laptop. Small gifts to myself, their presence announced by email notifications, or my roommate's tiny Maltese mix, Dellie, frantically barking at the door.

In this new world of Zoom parties and endlessly updating group chats, many people are returning to hobbies of the heart and hand. My roommate, Dmitri, has started a small porch garden and is mending socks, occupying time previously spent in a vanished job. My other roommate, Taty, fills the kitchen with dishes and scents to rival the most extravagant of eateries, leaving brownies on the table with a handwritten note and a smiley face. My friend Ivy invites us to join him on video as he sews an endless array of colorful scarves.

"[These things] are almost like stimming," my online friend Vin Tanner muses as we discuss this over Discord, referring to the grounding, repetitive physical behaviors most associated with autism. "Knowing you exist beyond typed words."

It is the 42nd day of quarantine. I am sitting on my carpeted bedroom floor, which at this point hides too many memories of Pop-Tart crumbs past. I am imagining a time where the first thing that comes to mind is not this ever-looming pandemic. I am waiting for a day where the first and last things that occupy my hours do not involve sitting in front of my laptop or scrolling endlessly through my phone.

But this feeling is not new to me. I spent four years of high school sleep-deprived, mostly friendless, and perpetually online: nestled in my basement, sneaking blue-tinged Skype messages back and forth between e-friends and enemies. I became intimately aware of the ways in which technology can bring us together—teenagers baring their souls in text and digital drawings, pouring our hearts and traumas into one another like so many mother birds. I became just as familiar with the ways it can wedge us apart, spending enough hours burning my eyes against a bright white screen that I barely spoke with any of my real-life, fast-fading friends—an Ouroboros of isolation.

My mother used to question the presence of "the real" in my online friendships. "You don't even know these people," she'd scold, exasperation masking her lurking curiosity. "How do you know

Illustration by Jenny Kroik

they're not older men? How do you know they're not trying to hurt you?"

What she was really wondering about was what any of our interactions truly meant—what does it mean to cry, to laugh, to *be present* in a space where hands or shoulders cannot touch?

This semester—my final semester at the University of Pennsylvania—I was given the opportunity to conduct research on Virginia Woolf, the letterpress, bookmaking, and paper under and for essayist and novelist Beth Kephart, whose class I had taken the year before.

One cold afternoon in late January, Beth and I explored the press firsthand through an introductory workshop at the University's Common Press, crafting a collaborative broadside with the workshops' other participants. Each of us was given an opportunity to craft a single sentence and place it upon the page, themed to the poetry of a season. Mary Tasillo, the studio manager, guided us patiently through the history of the letterpress, the supply and imperfections of the type available to us, how to place our text upside-down on a composing stick before finally inlaying the page with furniture.

For spending three hours in this underground room, our reward was twofold: we were given the freedom to use the press however we would like (during open workshop hours, of course), and we left that day with a copy of our finished broadside. It sang verdant, inked in Kelly green, with all the petrichor of spring. My hands smelled of lead for hours afterwards, despite repeated washings. The press had embedded the smallest pieces of itself into me.

a ray of
HOPE

rare soft birdsong
I still miss
knowing you less

everything could
happen unless
nothing does

Cherry blossom,
I await your arrival
IMPATIENTLY

Daffodils pop up
to say HELLO!

The days march on. Barred from the letterpress by the pandemic and penned in my room, I find myself returning again and again to that three-hour eternity, to the scrape of the ink knife against the palette. To conversations I had with letterpress-owning women, who spoke with me about the tangible we now all so crave.

Lauren Faulkenberry, a North Carolina printer, told me, "I feel like the printer puts her mark on works that are made by hand, and when you hold a book that is letterpress printed, you get to experience some of what the printer experienced while making it. For me, there's no substitute for feeling the various textures that you feel in a handmade, hand-printed object. It has a special kind of life in it that you feel when you hold it in your hands."

Another printer, Joey Hannaford, contemplated the appeal of the press: "Setting type is physical, time consuming, and therefore a contemplative activity. For many people, the slow, deliberate process of setting type can increase one's awareness of the deeper meanings of words and their relative range of interpretive possibilities."

Holed up inside my bedroom, I am weightless in a way that leaves me prone to wonder, the curious counterpart to mind-wandering anxiety. Where I once blitzed through a book at breakneck speed, I take time to think about the other fingers that may have graced the page. I consider the placement of each word in poetry, the potent intricacies of white space.

Transient traces of human presence, a friendly bookshelf haunt. I think of the ladies of the letterpress sitting in front of their keyboards, the way I am sitting in front of mine, and I try to remember the scent of air when tinged with metal and ink.

Dellie's anxious barking pierces through my fog, and a bolt of instinctual alarm drives me to my feet. Down the stairs, just past the door and the wide-eyed dog, kneeling to retrieve the package left by some quick-moving delivery driver.

The most exciting part of any birthday party is fumbling through the wrapping paper to the prize beneath. Dashing back up to my reluctant refuge, I rip past the brown cardboard envelope flap and peel my gift from its container: a new print from Vin's Gumroad store, a digital drawing of a woman disappearing into a virtual forest. I scan the edges of my room with a smile, wondering where its golden tint might best catch the sun.

Here is the present. Here are the flags and prints that line my walls, the overexposed Polaroids from long-ago sunlit days. Here is this new piece of art, in its vibrant yellows and greens and blues, a friendly name staring back at me. Here is a single tree outside of my bedroom window, in my backyard where the sun barely brushes.

Here are its blossoms, patiently blooming.

Amber Auslander C'20 lives in West Philadelphia.

Welcome to Year Zero

What to expect when you're expecting.

By Christopher Magoon

Medicine is typically an intimate interaction with its one-on-one conversations and physical exams behind closed doors. COVID-19 is changing that as doctors and other clinicians are learning to care for patients while social distancing via telehealth. I was surprised to learn that this distanced care extends to intensive care units.

As a first-year doctor specializing in psychiatry, I was redeployed in the beginning of March to work in the newly created ICUs in my New York City hospital. Before COVID-19 emerged, first-year doctors were expected to perform the initial exam on each of their patients every morning, which would later be repeated by more senior doctors. To preserve personal protective equipment and limit exposure to the virus that causes COVID-19, the process has been streamlined. It's now my job to gather, from a distance, information like ventilator settings, drip rates, and vital signs while more experienced clinicians examine our patients.

Even when I do enter patients' rooms, all of them are intubated and unconscious, unable to interact. I have taken care of unconscious patients before, but never *only* unconscious patients. I have not had a conversation with a patient since mid-March.

That is just one novel feature of being a doctor in the time of COVID-19. We are all trekking through a forest of firsts. It's the first time these rooms have been used as an ICU—two months ago they were just regular hospital rooms. A sticky note taped to the door with "ICU" handwritten in block letters attests to the change. It's the first time many of our patients have ever been hospitalized. It's the first time nurses are using baby monitors to watch over ICU patients rather than being by their bedsides. For me, it's my first time working in an ICU.

The nature of the work—following up labs, monitoring vital signs, placing orders, calling consultant physicians—is familiar. What is different is the distance: my patients are behind closed doors in rooms I enter only when they need me.

Still, the intimacy of the relationship shines in unexpected ways. I immediately recognize the voice of this patient's family on the phone and know the precise volume of urine that patient has made over the past 24 hours. It's meaningful work. But I can't tell you the color of my patients' eyes or what languages they speak. When this is all over, I'm not sure I would recognize any of them walking down the street.

In the quiet moments, I think of two people close to me who are also unusu-

Illustration by Anna Heigh

ally far away: my pregnant wife, Alison, and the baby she is carrying. The baby is our first, due at the end of May, meaning that the first five months of pregnancy were BCE: before COVID era.

On BCE weekend walks through Riverside Park, Alison and I sketched the details of transitioning into parenthood. We filed away which strollers could navigate bumpy sidewalks and chuckled about our dog adjusting to life as second fiddle. A website told us that at seven weeks a developing baby was the size of a blueberry. The name Blueberry stuck, even as she progressed to avocado, papaya, and pumpkin.

At the start of Pol Pot's deadly regime in Cambodia, the despot declared 1975 as "Year Zero" in the country. It's now clear that Blueberry will be born under the reign of a tyrant, a virus that forces children off playgrounds, teachers out of classrooms, and far too many people into early graves. In this Year Zero, all plans made BCE are extraneous.

That Blueberry would be born in the hospital where I work and come home to our apartment was once as manifest as the growing bump in my wife's belly. Then we found ourselves packing a rental car so Alison, entering her third trimester, could move to her parents' home in New England for the foreseeable future.

This decision, though steeped in privilege, was difficult. How could separating our family unit make us safer? That's not how humans evolved. But vindication came a few days later when I was unusually tired after my bike ride home from the hospital. That night I spiked a fever, then spent the next 10 days shuffling between bed and couch, intermittently short of breath, but glad that Alison and Blueberry were safely quarantining three states away, with no symptoms. (My hospital didn't have enough swab tests at the time, but an antibody test weeks later was positive for COVID-19.)

I'm now recovered and back at work. Statistics, though cursory, show that more than half of patients with COVID-19 who are intubated will die from the illness, despite all of our efforts.

Caring for patients in their final days is among the most human acts that clinicians can perform. In normal times, we could try to buy enough time for family and friends to hurry to the hospital to say goodbye. I could take a patient's hand, skin to skin, and try to comfort him or her by saying something like, "This is a safe place. We are here for you."

Not today. Nurses provide the most direct comfort to dying patients. Their poise and compassion are unmatched. Even so, most intubated patients will die apart from their loved ones, surrounded by figures wearing masks, gowns, and face shields.

Given the odds, it is hard to know what is reasonable to hope for. In the end, I want my patients to be comforted, even unconsciously, by how hard we are trying. My day is not done until I have had an unhurried conversation with each patient's family on the phone. And when there is no hope of survival, I offer to hold the iPad while the family says goodbye via FaceTime.

Similarly, I hope that Blueberry knows —or will someday understand —how present I am for her even though she is hundreds of miles away. Photos of my wife prove that time is moving forward as Blueberry asserts herself further in the world each day. Sometimes I imagine Alison turning in just the right direction to align Blueberry between Manhattan and herself, like we are three points on a line.

On the phone, Alison and I repeat to ourselves, almost like a mantra, that if we can come out on the other side of this alive and with a healthy baby, then we can shoulder the rest. Blueberry is our proof there is a future —the calendar for after Year Zero waiting to be unwrapped. Right now, that means a lot.

Christopher Magoon M'19 is a doctor in New York. He and Alison were together on May 30 when their healthy baby girl was born in Massachusetts.

Goodbye to All That

When COVID-19 hit I was in Antarctica, a year into a nomadic life I was bent on continuing. Fate had other plans.

By Lindsay Motlin

"Vlissingen, 14 March 2020. Dear Passengers," read the letter on my stateroom bed. I'd just returned to the Plancius, a 115-passenger expedition ship, after a morning exploring Neko Harbor, Antarctica. My boots were dripping a mixture of disinfectant and penguin guano onto the carpet, but I was too curious to take off my gear. "While you were onboard our vessels enjoying the Antarctic and South Georgia environments, the world has changed significantly because of the COVID-19 outbreak…"

Regrettably, I was aware. Although there was no cell signal, and the ship's satellite WiFi was prohibitively expensive—€300 per gigabyte—folks had managed to receive and share daily headlines about the outside world that we had traveled so far to escape. But these were intrusions. In my view, once we'd embarked from Ushuaia, Argentina, on March 9, all news had ceased to matter except the weather forecast for the Drake Passage. And when we arrived at the Antarctic Peninsula, I wanted to focus on what had lured me here: days filled with kayaking, climbing walls of ice, and photographing Gentoo penguins, crabeater seals, and minke whales. One morning a pod of humpbacks took interest in our zodiacs, and one spouted so close that I was momentarily trapped in a cloud of whale breath. It was putrid. I was enthralled.

"In a few days we will return back to Ushuaia," the letter continued. This was according to plan, except for one detail: Argentina's government had suspended international flights for 30 days. "We can only suggest you inquire with your travel agent to seek advice on your travels home."

It was reasonable to assume that people wanted to go home. But I no longer had one. I'd shed my apartment and most of my possessions to spend 2019 in a work-and-travel program called Remote Year. I moved to a new city each month with a group of 25 new friends, chasing summer from Cape Town to Lisbon, Hanoi to Me-

Illustration by Tracy Walker

dellín. For some participants the experience felt like a dream, but for me, it felt like waking up. When the program ended, I decided to keep traveling solo: this splurge of a trip to Argentina and Antarctica in March, and then less-expensive travel through Chile and Colombia in April, Spain and Italy through July.

One thing I knew for certain was that I wouldn't return to New York. The quasi-minimalist traveler's lifestyle had liberated me from countless decisions of daily life, and constant exposure to different cultures gave me an energy I'd lost in NYC. And I'd convinced my employer to let me telecommute indefinitely. So this letter didn't faze me. My next flight had a domestic layover in Buenos Aires, where I hadn't spent enough time yet. I'd simply skip the second leg, and eat lots of *choripan* until international flights resumed.

Two days later, we received another notice. Argentina had imposed a new rule: we had to remain quarantined for 14 days before reentry. This meant an extra day in Antarctica. Some passengers were flustered due to upended travel plans. But for me, this was a steal! I'd been given a 10 percent extension on the most expensive trip of my life.

On our last day of Antarctic exploration, we toured a whaling factory and research stations, walked on a black volcanic sand beach, and jumped into the freezing water for a polar plunge. Back aboard the Plancius, the crew greeted us with spiked hot cocoa. I drank mine in the shower as sensation crept back to my toes.

The return trip across the Drake Passage featured nonstop, 5- to 7-meter waves. The crew lined the ship's hallways with empty barf bags. I helped myself to a few. The dining hall became less a place for eating and more a place for sliding furniture and broken dishes. As I fixated out the window on the disappearing and reappearing horizon, rumors swirled that the Ushuaia airport had suspended all operations, even domestic flights. This wasn't ideal, but as long as I could find a cafe with WiFi to work from, I didn't mind staying in Ushuaia for an extra week or so. There were beautiful hiking trails just outside town.

An impromptu ship-wide meeting confirmed the rumors. But instead of "stranding" us in Ushuaia for an indeterminable length of time, the ship would sail directly to Buenos Aires to maximize our chances of reaching a functioning airport. I could roll with that: it would add five days to our journey, but simplify my path to choripan.

While my friends on the ship scrambled for flights, I used the now-free WiFi to update my boss, and ask my mother *not* to register me with the US embassy. I didn't want to be associated with any repatriation efforts.

As we sailed north, the temperature rose, the waves mellowed, and the Plancius transformed into a summer camp at sea. All our needs were met, from food to laundry to fun. We had fitness classes in the morning, trivia at night, and a scavenger hunt in between. There was a pirate costume contest, a BBQ dance party, and a night of camping on deck under the stars.

Yet the seriousness of the situation enveloping the outside world became harder to ignore. The ship's doctor took an inventory of passengers' medications and arranged to restock them, preparing for an extra month at sea. Frazzled passengers paced the hallways at all hours, trying to contact airline agents. And although we were temporarily isolated from COVID-19, headlines about worldwide contagion and deaths grew more severe each day.

About halfway up the coast, we had another ship-wide meeting. This time, the news was that Argentina had closed its borders entirely.

The next-best options, we were told, were Montevideo, Rio de Janeiro, Miami, or, if all else failed, Vlissingen, the ship's home port in the Netherlands. The Americans lobbied for Miami. The Europeans wanted whichever city had the nearest airport. The Argentinians cursed their luck. But to me and another nomad on board, the four-week journey to Vlissingen sounded promising. If most of the passengers left, the WiFi might be workable. And maybe we could upgrade to larger rooms. Besides, Europe in May had been my original plan.

A decision from the higher-ups was announced: those with flights out of Montevideo would be escorted from the Plancius directly to the airport check-in counter; everyone else would proceed to Vlissingen. But problems remained: the port dates were not confirmed, airlines kept cancelling flights, and the Dutch had closed their border to Americans. Who knew if those restrictions would relax by the time the Plancius arrived?

I texted some friends and family. Did anyone have a list of countries with open borders? No. Was I being ridiculous? Yes. Begrudgingly, I conceded I should fly from Montevideo to New York. But this decision too was easier made than executed. After much fruitless searching I found a seat on a GOL Airlines flight for March 25. After my payment was processed I learned that GOL Airlines had shut down the week before; Expedia just hadn't gotten the memo. Hours later I purchased a newly available ticket on LATAM Airlines. When I tried to download my boarding pass, the flight had been cancelled. I felt defeated. I hadn't even wanted to go the US, but now every single path off this ship seemed to be blocked.

I watched the sun rise behind shipping containers on the Montevideo dock in a riot of purple and orange. I decided I'd try to disembark with my still-active Expedia reservation for a non-operation-

al airline, and hope to snag a no-show's seat at the airport. The crew collected passports from the 30 passengers disembarking that day. Hours later, mine returned with a Uruguayan entry stamp. I couldn't believe it was working.

We squeezed in some last hugs, put on our masks and gloves, and descended the gangway. Uruguayan agents greeted us with clipboards and quickly checked our passports against their lists. Most were ushered straight onto the bus, but a handful of us were asked to step aside. After re-confirming their flights, all but three got on the bus. A married couple and I were informed what I already knew: our airline had shut down, so we would not be allowed to proceed.

A hundred onlookers watched as we hauled our luggage off the bus and prepared for an awkward return. There were a few tense moments when the captain refused to let us back onboard, since we might have been infected during our moments off the ship. "It's fine," I called. "Could you just throw me a sleeping bag?" At that point I was ready to camp out on solid ground. Ultimately we were allowed onboard, and I managed to secure a flight for the next day.

My parents met me at JFK with gloves, masks, and disinfectant wipes. I quarantined for two weeks in my old bedroom on Long Island. On my birthday, they left a cake by the door and sang from the kitchen. "Don't blow out the candles… seriously," my dad said. Thankfully, none of us got sick.

Not far from the US epicenter of COVID-19, I am suspended in a cocoon of safety and now-foreign comforts. I have appliances with settings in English. Potable water and reliable utilities. Costco-sized stockpiles of everything. All considered, I am very lucky. But I can't help but want my freedom back. I want to get back on the road.

Lindsay Motlin EAS'08 works remotely for Parachute Health, while plotting her escape from Long Island.

Expert Opinion

Identity, Revised

How genetic testing marks the end of family secrets.

By Libby Copeland

From *The Lost Family: How DNA Testing Is Upending Who We Are*, Abrams Press

Rosario Castronovo grew up without much in the way of cultural identity, but he clung to his mother's story that she had Sicilian heritage. At 21, when he decided to legally change his name to distance himself from a father he describes as abusive, he chose Italian first and last names in a nod to his mother's culture. He'd heard "Castronovo" meant "new castle," and that's what he believed he was building—a new life, a new identity. Nobody in his family stopped him, though he'd later learn that many of them knew this was a fable.

Come to think of it, a lot of the decisions Rosario made as a younger man were nods to a heritage he'd later learn he could not claim. He joined the Catholic church as an adult and was baptized. He studied and began singing opera. He proposed to his Italian American girlfriend after flying her to Italy

Illustration by Rich Lillash

for the millennium. He was "trying to define who I was." Many of us have family stories, memories, holidays, habits, and language to assist in the constructions of our ethnic identities. Rosario filled in the blank parts with what he thought it meant to be Italian. He was "searching," he'd say later. "What was going to make me *me*?"

It was when he was about to be married, in the early 2000s, that he decided to find out more about the background of his mother, an orphan raised in foster care. Rosario wanted children, and he imagined that one day they'd ask where they came from, just as he'd asked his own parents. He wanted to be able to give them an answer.

In the town hall in the small town in Vermont where his mother had grown up, Rosario found not one but three birth certificates for her, and they were rife with redactions. Strange. One listed the race of his mother's father as "negro." Rosario was mystified. Perhaps his grandfather had been a dark-skinned Sicilian mistaken for a black man. But more likely, he thought, putting the information together with old census reports that sometimes named his mom's paternal side as black and sometimes as white, the birth certificate was right, and there were important, fundamental facts he did not know about himself and his mother. He did not go to his mother yet because he wanted more evidence before he rocked her world. *Maybe she doesn't know*, he thought.

Over the next few years, Rosario used genealogy resources to research his mom's side, but there were details he could not fill in from the paper trail alone. So, like tens of millions of Americans by now, he embarked on home genetic testing. He would eventually learn that he is about 18 percent sub-Saharan African, as well as smaller amounts Native American and Asian, all through his mother's side. His elderly mother was uneasy when he went to her with the results of a DNA test he'd persuaded her to take.

"I said, 'Did you know?' and she said, 'Yes,' " Rosario says. Rosario's mother said, "I didn't tell you because I didn't want you to go through what I went through." She told him about her difficult life in foster homes, about her foster father directing a racial slur at her and her little brother, about her brother being sent away to a boys' home because, she understood, "he had darker skin."

Revelations from genetic testing can force a reckoning with history, with the things your ancestors did in order to be able to pass on their genes to you.

And Rosario began to learn about the history his mother had wanted to protect him from. He researched the small town in Vermont his mom came from, traced how the slate quarries and mills attracted black Americans, traced how the black families in the town peaked toward the turn of the 20th century and then began to disappear. He learned of the death of his 30-year-old great-uncle in what a 1930 newspaper article called a "fire of mysterious origin," when many black families had left the town, and wondered about the circumstances of that fire.

And eventually he came to understand some of the context for why his mother had lived out her childhood as an orphan, even as her parents were both living nearby. He learned that his grandmother was white and married to someone else when she had two children with Rosario's black grandfather. Looking in archives, he discovered his grandparents had both been sentenced for adultery in the 1940s, though only his grandfather served time, going in when the two children they'd had together were small. Rosario did historical research and wondered if his grandfather's race and his relationship with a white woman were the real reasons he wound up in jail. Part of the judge's ruling in Rosario's grandmother's case was that she no longer "make her residence" with his grandfather. She eventually divorced her white husband and married someone else, and Rosario's mother had only the haziest memories of seeing her biological parents as a young child. It was as if her family had never existed.

I got to know Rosario while reporting on the home DNA testing industry, the one that runs ads promising to identify relatives or to tell you how Irish, Italian, or Korean you are. When the industry first emerged 20 years ago with the founding of a company called FamilyTreeDNA, genetic testing was cruder, and only the most dedicated and science-minded family historians saw the appeal of mail-in spit kits. But over time, the technology has become much more sophisticated. Companies like 23andMe, Ancestry, and MyHeritage have entered the space, and the industry has become increasingly good at identifying relatives and returning ethnicity estimates. Spit kits have become so popular, and prices so low, that they are billed as entertainment and given as gifts over the holidays. But sometimes, the outcome of so-called "recreational" genetic testing can be far more profound than consumers expect. Well over 30 million people have tested their DNA to better understand their ancestries and family networks, and of those, a significant minority—well over a million—have discovered some-

thing big and surprising in those results. For my new book *The Lost Family: How DNA Testing Is Upending Who We Are*, I've spent years interviewing consumers about how this technology is reshaping our understanding of identity, and about what happens when secrets from the past collide with the present. For better or worse—and that determination varies from person to person—DNA testing marks the end of family secrets.

Most often, the genetic revelations that consumers uncover fall into one of two scenarios: Either the consumer learns he isn't genetically related to his own father, or he learns of a sibling he didn't previously know about. But there are other kinds of surprises, including the discovery of hidden ancestry that may hint at painful historical truths, including forced conversion and racial passing. In my reporting, I encountered a number of testers of significant African American ancestry who did not know of this heritage till they tested. Growing up, they were told they were Italian, perhaps, or Native American. In the face of these findings, they have had to interview family members, research census records, interrogate their own memories,

and come up with their own definitions of ethnic identity, informed by what they were told as children—as well as what they were pointedly never told. Is your culture your lived experience, or is it the story of ancestors you never knew? What if your forebears' decision to hide their own experiences was a matter of survival? Might it be your duty to reclaim those now? This category of revelations from genetic testing can force a reckoning with history, with the things your ancestors did in order to be able to pass on their genes to you.

Rosario has had years to research and process the news that genetic genealogy brought him, yet to this day he's seeking a deeper understanding of who he is and what this means. Over the years, he's consulted spiritual mediums and woken in the night believing he'd heard his grandfather's voice. One of the last times I talked to him, he was planning to change his name again, this time to Jerome Lafayette Naramore, to honor the ancestral discoveries he'd made through genetic genealogy. "Some people say what's in a name?" says Rosario, a restaurant server and union officer who lives in Manhattan. "I think everything is in a name."

Rosario struggles with how to think about himself and how to present himself to the world. "It's kind of weird for a guy who presents as white to say, 'I'm black,'" Rosario told me. "I'm still getting used to it." Could he even claim blackness, he wondered, without that lived experience and without any of the implications of what it means to be perceived as a black man in contemporary America? "I'll never know what it's like to be pulled over by a police officer and fear for my life," he said. "Can I call myself black and never have to experience it? It almost seems unfair, or like I'm pandering." Yet his mother's elderly cousin, who is more fair-skinned than he—and, according to her DNA results, has less African ancestry than his mother—is quite clear in her identity as a black woman. "It's a social construct," Rosario told me. "I raised myself as an Italian man, I immersed myself in Italian culture. What do I do now?"

We were talking on Independence Day, and Rosario told me the more history he learned about his black family, about the lives of black people in Vermont and in the rest of America, the more he wondered what he should be celebrating on this day, and if he should be celebrating at all. "I have learned more about African American history in this country, and the more granular you get, the more bitter you become," he said. "I never got to know my people."

And yet genetic genealogy had also given him an opportunity to know about what had been hidden, to wrestle with his mother's pain, with his grandparents' sacrifices, and with the wrongs done to his family. DNA testing had given back to him and to his mother a little of what was stolen by the past.

Rosario's mother has Alzheimer's now, but there are moments of lucidity. One day, Rosario took her to a quiet spot in a church not far from her assisted living home, and handed her a framed copy of the only photograph he had of her father: the man's mugshot, from when he had served time for the crime of adultery with a white woman—for the crime, really, of creating Rosario's mother. The old woman sat in a pew and stared at the image. She wiped her eyes and held the photograph to her chest and kissed it. She couldn't get over how handsome her father was.

"This is so wonderful," she said. "I could just sit here and cry."

Rosario sat down in the pew and told his mother they could do that together.

Libby Copeland C'98 is the author of *The Lost Family: How DNA Testing Is Upending Who We Are*. Adapted excerpt from the new book *The Lost Family: How DNA Testing Is Upending Who We Are* (Abrams Press) by Libby Copeland

Quarantine Commencement

Scattered around the world, the Class of 2020 was reminded of other graduates who left Penn in a time of "great adversity."

Screenshots from Commencement 2020

Inveniemus Viam Aut Faciemus.

For more than a century, Penn students have walked beneath those words, which are inscribed atop the Class of 1893 Memorial Gate, beside Houston Hall. Some probably never notice them. Fewer still likely know what they mean:

"*We will find a way or we will make one.*"

Penn President Amy Gutmann invoked that Latin phrase during a video tribute that highlighted the University's 264th Commencement—"a commencement unlike any other," remarked chaplain Chaz Howard C'00 during the opening invocation to a 40-minute online ceremony on May 18 that featured Gutmann guiding the graduates on a virtual walk through Penn's campus, beginning at that ornate gate.

"In great adversity, it can be all too easy to turn back," Gutmann said. "But your class has marched forward. Joining with countless others at Penn and beyond, you have both found and made a way. Penn has graduated hundreds of extraordinary classes but yours now joins a very small group that have made a way through times of enormous challenge."

Because of the "enormous challenge" presented by the COVID-19 pandemic, Penn's on-campus commencement ceremony at Franklin Field has been postponed until May 22–23 of 2021, delaying for a year the opportunity for the Class of 2020 to walk down Locust Walk, "side by side by side with friends, waving to family, getting those selfies," Gutmann said. "But we will reunite. You will have the unforgettable commencement you and your families have earned. In the meantime, campus holds a powerful message for you about the unique experiences shared by the Class of 2020."

After the virtual visit to the Class of 1893 Memorial Gate, Gutmann led the graduates to the Hospital of the University of Pennsylvania, where "so many of the ill were treated" during the 1918 flu pandemic; to an Ivy Stone on the north wall of Houston Hall laid by the Class of 1944, when the Penn community "showed their mettle" during "another profoundly difficult time"; to the War Memorial Flagpole beside Shoemaker Green, which "offers testament to service and sacrifices of generations of Penn students"; and finally to Franklin Field, where President Franklin Roosevelt delivered a 1936 speech during the Great Depression that included words Gutmann said should hold "special meaning" for the Class of 2020: "*To some generations, much is given. Of other generations, much is expected.*"

"Etched in stone, forged in iron, written on our hearts, the Penn story echoes across campus," Gutmann said. "It speaks of resilience, courage, and common cause, of dark storms chased by brighter days. The story of the Class of 2020 speaks the same. It is clear that of your generation, much is expected. And I am proud to say, so far you have done beautifully."

Scattered around the country and world, graduates watched commencement from their homes, with only close family to mark the occasion. For first-generation college graduates like Rosie Nguyen W'20, it stung to miss out on wearing a cap and gown and sitting with classmates inside Franklin Field—even the uncomfortable parts of it. "Someone tweeted about how it's like sitting for three hours under the sun while someone reads a phone book," she said. "Sure, but I never got to experience that. My parents have never got to experience that in their lives. No one in the generations above me got to experience that."

"Etched in stone, forged in iron, written on our hearts, the Penn story echoes across campus."

For that reason, Nguyen is excited to attend next year's ceremony. But she still made the most of watching from her Houston home this year. Her dad opened a bottle of wine. Her mom made a bouquet of backyard flowers and grabbed a leftover cucumber from the summer rolls she had made to use as a microphone to interview her daughter about her favorite parts of Penn. "It was really sweet," Nguyen said. "She interviewed my dad and brother too."

Nguyen also thought the online commencement celebration was "heartwarming," pointing to a tribute video that featured graduates

Screenshot from Commencement 2020; photo courtesy Rosie Nguyen

(Facing page) President Amy Gutmann, Rosie Nguyen; (below) Natasha Menon, Penn performers singing "The Red and Blue," chaplain Chaz Howard.

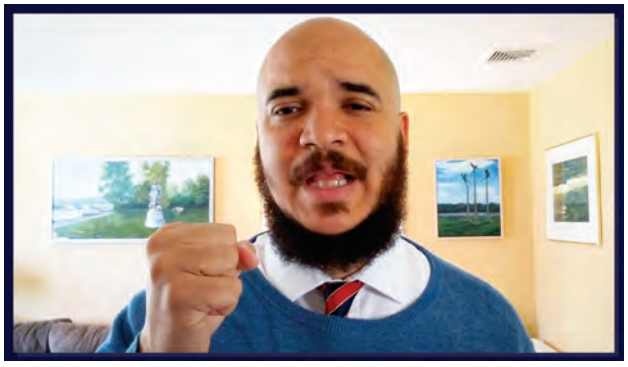
discussing their academic experiences, favorite Penn traditions, sporting events, life in Philly, the campus arts scene, and more. Before that, the Penn Band reunited virtually to play the 100-year-old fight song "Fight On, Pennsylvania!" and Duval Courteau C'20 belted out the national anthem from her house.

"It was amazing that we were all over the world and yet all of these different faces were on the screen," Nguyen said. "It felt like I almost got to see everyone again."

Natasha Menon C'20 GEng'21, the Undergraduate Assembly president, admitted that it felt a little disorienting to graduate without hearing her name called and walking across a stage (as students do at their school's graduation ceremonies, not the University-wide commencement). But she ordered a graduation cap off Amazon and snapped a few photos when she returned to campus to move out of her apartment. And once back home in Scottsdale, Arizona, she enjoyed cake and champagne with her parents and brother (who graduated from medical school the same weekend) while watching the online celebration live. The complete ceremony, which can still be viewed at commencement.upenn.edu, also included readings of this year's honorary degree recipients and senior award winners, brief words of advice from commencement speaker Chimamanda Ngozi Adichie, the conferral of degrees from the deans of every school, and a surprise appearance by John Legend C'99 Hon'14 singing "The Red and Blue," decked out in a Penn sweatshirt, with all of his Grammys behind him.

"I liked that I was able to sit with my family and be surrounded by them and see their reactions," Menon said. "Otherwise, I would've been amongst my friends, which is great, but I wouldn't have been able to see [my family's] faces from far away. It was nice to be in the comfort of my own home, with my dogs."

Senior class president Karim El Sewedy EAS'20 W'20 said he too appreciated the opportunity to watch commencement "intimately with your parents as opposed to sitting in a crowd far away from them." El Sewedy was particularly moved by the "powerful" words of Chaz Howard, whose invocation struck a similar tone as a speech El Sewedy gave at Wharton's virtual graduation, in which he reflected on newfound opportunities that may arise for this generation of graduates because of the current crisis.



"May these graduates see challenges not just as moments to survive but as moments to serve," Howard said. "May they see interruptions as opportunities. May they, even through tears, see catastrophes as callings. May what has been an unpredictable, uncomfortable, and in many ways disappointing ending to their collegiate journeys somehow be redeemed.

"What an auspicious time for them to graduate. Indeed a season of tragedy and loss—yet also a new heroic age." *—DZ*

Beatrice Forman C'22 contributed to this report.

Honorary Degrees

Chimamanda Ngozi Adichie
Honorary Doctor of Humane Letters

Anthony M. Kennedy
Honorary Doctor of Laws

Jhumpa Lahiri
Honorary Doctor of Humane Letters

Jill Lepore
Honorary Doctor of Humane Letters

Stanley A. Plotkin
Honorary Doctor of Sciences

Sister Mary Scullion
Honorary Doctor of Humane Letters

Gregg L. Semenza
Honorary Doctor of Sciences

Henry Threadgill
Honorary Doctor of Music

Bios of honorands are at commencement.upenn.edu

Photo courtesy Natasha Menon; screenshots from Commencement 2020

Parental Bonds

A much-needed hub for student parents, the Penn Family Center turns 10.

When Stephanie Pierson LPS'20 SPP'21 showed up to a support group for Penn students who have children, she didn't expect that everyone would be crying within the first five minutes, herself included.

"It was just this collective sigh," she remembers. "Everybody knew the pent-up anxiety and frustration we were all dealing with." The room included students from all around campus, "but everybody was feeling the same," she says. "*I don't know how to do this while having a family.*"

Until that meeting, Pierson had been struggling to meet classmates who understood her situation, even after a dozen years as a part-time student. Though she was enrolled in the LPS program, most of her classes were with 20-year-old undergraduates who lived on campus, partied through the weekends, and had no problem scheduling group project work late at night. Emergency babysitters and breastfeeding schedules were, understandably, far from their minds.

"It can be hard to find your student parent community at Penn," says Kendra Hypolite C'12 SPP'16.

That's why, 10 years ago, the Penn Family Center was born.

Today Hypolite serves as associate director of the Family Center, the student parent support group that Pierson had discovered. But the center's family-focused efforts extend far beyond that.

Hypolite says people often assume that the Penn Family Center is a daycare program. In fact, onsite childcare is one of the few things it *doesn't* offer. "We see ourselves as a hub—a place to deliver programming and resources, but also to connect and advocate for student parents," Hypolite says. At last count, there were roughly 1,300 Penn students who are parents. The center is open to any of them on weekdays from 9 a.m. to 6 p.m. Membership is free, and around 600 students are active members.

Located on the lowest level of the Graduate Student Center at 3615 Locust Walk, the Family Center has made a basement feel bright and cozy. Its walls are pale green and blue. Bright lights stream down from the ceiling. There are soft couches and chairs, shelves filled with books, and plenty of toys.

Any student parent is welcome, including eligible post-docs. Hypolite says most of the center's members are graduate-student families, though there are some undergraduates, too. About a third of its members are international students.

On a campus that wasn't designed with toddlers in mind, the Family Center has been carefully built to house everything parents and kids might need. It's a place where families meet other families and form deep friendships. Kids can play with one parent while the other is in class or at a meeting. There are two lactation rooms with breast pumps, a children's library, and even a place for naps. Hypolite often spots families eating lunch there, enjoying their time together while one parent is on a break between classes.

For full-time Penn students, membership comes with a free subscription to the popular (and pricey) childcare site Care.com, along with a week of subsidized emergency backup care. The center also helps administer two of Penn's grant programs for PhD students: one that defrays childcare costs, another that offsets dependent health insurance fees.

"All of that really changes the experience for Penn student parents, to the point where they're saying they actually chose Penn because of these resources," says Jessica Bolker LPS'16, who has

Illustration by Melinda Beck

been working with the Family Center since its earliest days and became its director in 2017. Noting that Penn was "very much at the vanguard" with its Family Center, Bolker says the University is still the only Ivy League school with a dedicated family center on its campus.

"We want fun things for kids and we also want informative and supportive workshops for parents."

With help from a small team of student Family Fellows, Bolker and Hypolite maintain a busy slate of programming at the center, all of it free. There are weekly, kid-friendly English lessons and the student parent support group that Hypolite, a social worker, runs. Over the past few years, there have been librarian story times and a sensory play series for toddlers. There are Saturday brunch playdates and an annual ice-skating party at the Penn Ice Rink. There are lactation support groups and workshops with children's sleep experts.

"We try to take a holistic approach," Bolker says. "We want fun things for kids and we also want informative and supportive workshops for parents. We're trying to address everybody's needs as much as possible."

That's been at the heart of everything since the center first opened in January 2010, with Anita Mastroieni GGS'99 GrEd'10 serving as its founding director. At the time, she described the center as "a way to connect and develop supportive networks."

Bolker says Mastroieni was inspired by both Penn graduate student parents, who had been advocating for resources on campus, and by new research that found PhD student mothers were both dropping out at higher rates and struggling more to land tenure-track jobs.

Launching a family center "was not only about supporting our Penn students," Bolker says, "but also supporting the academic pipeline, and making sure academia is as diverse as possible."

When it opened, the center was housed on the second floor of Houston Hall, inside a dance studio. On weekday mornings, Family Center staff would push in their furniture and toys and books and stuffed animals from nearby storage rooms. At 3 p.m., they'd clear it all out again. "Everything was on wheels," Bolker remembers. "It was a process, but we made it work." Still, she says, "it didn't feel like a permanent home."

After several years of the center-on-wheels shuffle, the Family Center found its current home inside the Graduate Student Center in 2014. "That's when the whole thing blossomed," Bolker says. The staff expanded and membership swelled. Evening and weekend events became possible.

To mark its 10th anniversary, the center planned a birthday party and an open house for early April. Then COVID-19 swept in, shuttering most of campus. But even with its festivities shelved and its members quarantined at home, the Penn Family Center has still been finding ways to support student parents.

RACIAL EQUALITY

Hope Amidst Despair

In a message to the University community in early June, Penn President Amy Gutmann called the killings of George Floyd, Breonna Taylor, Ahmaud Arbery, and others that shocked the nation "grim manifestations of ongoing racism, repression, and inflammation of hatred in our society."

"Yet out of our despair, we can also perceive hope," she added, pointing to the nationwide peaceful protests they spawned as a "long overdue" opportunity to create meaningful change.

"We must, as a country and community, resolve to find better ways forward to understand and address systemic racism and closely related economic, educational, political and social inequities," Gutmann said. "We must work together to build more hope for the future."

For Penn to do its part, Gutmann and Provost Wendell Pritchett Gr'97 announced a set of new projects that "will propel progress in our University, city, and society" toward more inclusivity and "help heal wounds, strengthen community, and create hope in our world." The projects include:

- **Penn Projects for Progress:** A $2 million fund to seed projects, grounded in Penn research, that offer new ideas on ways to eradicate systemic racism; achieve educational equity; and reduce health disparities based on race, gender, or sexual orientation.
- **A Year of Civic Engagement:** A mission to create programs, workshops, student-led dialogues, and more opportunities to engage with communities outside campus throughout the 2020–21 academic year.
- **The Campaign for Community:** Launched in 2015, this campaign seeks to find ways to discuss and understand social issues that appear difficult or intractable. Moving forward, members of the Penn community are encouraged to use Campaign funding and sponsorship for more small-group events (with consideration for physical distancing due to the pandemic).

Further details will be announced for these and other projects as the fall semester approaches. In the meantime, Gutmann tried to convey a feeling of optimism.

"We thrive when we join together, when we care for one another, when we speak and act with empathy for and in solidarity with one another," she said. "Today is not the first time—and it will not be the last time—that we speak up and stand up with our students, faculty, staff, alumni, and entire community of caring, loving, hurting human beings."

"We've moved everything virtual that we possibly can," Bolker says. Today the center's staff are responding to parents' questions, working to supply relevant information on isolation and homeschooling, and offering at-home family programming, including a virtual field trip series for kids.

Hypolite is still running her student parent support group, but now it's meeting virtually over Zoom. "Parents' lives look different right now," she says, "but some of the challenges are the same. The need to balance academic responsibilities with parenting responsibilities—that will always be there."

Before the pandemic, the center had been planning several workshops in partnership with Penn Career Services, covering everything job-hunting student parents need to know. They pivoted to video instead, with a three-part series now on YouTube.

Bolker plans to continue with similar digital offerings, even once in-person meetups are back on the table. Over the years, she's often heard from student parents who can't make it to the center's events but wish they could. "Being able to offer virtual content has actually been a goal of ours," she says. "It's a little more freeing, and it means we can get our content wider.

"We were trending towards creating a more online community," she adds. "It just would not have happened all at once in a span of two weeks."

—Molly Petrilla C'06

Virtual Reality

As students and professors transitioned to remote learning, many discovered what was lost—and gained—in translation.

During her first clinical rotation of the spring semester, Jenny Chang Nu'21 faced a challenge: think fast or let a deaf patient go misunderstood. She immediately grabbed a pen and paper to begin translating medical jargon into simpler terms, gratified by the opportunity to make a difference at a moment's notice.

Starting in mid-March, however, Chang had to learn practical skills from behind a computer screen. Some days, she watched her professors perform physicals on mannequins. On others, she grappled with the Kaplan software meant to simulate the experience of nursing in a hospital unit. For Chang, the lessons didn't compare.

"I miss my clinical experience because I learned a lot from professors who were actively working on the floor," she said. "There's a difference between people who have to think on their feet every single minute of the day versus professors who have done it in the past. They can't really give us the same insight as actual nurses and physicians can about learning how to use specific machinery or where to get ice—just little things I would've never learned otherwise."

Chang's experience illustrated the new normal for Penn students and professors after the University depopulated campus and announced the implementation of remote instruction on March 11 in response to the novel coronavirus outbreak ["Gazetteer," May|Jun 2020]. For some students, the transition from in-person instruction to Zoom lectures and prerecorded demos led to deeper engagement. For others, it created questions about the college experience.

"It's hard to remember I'm a student sometimes. I feel like college is already over," said Sam Friskey C'20, near the end of the semester. She particularly missed the sense of family that Penn's theater community provided. Though she felt fortunate that professors like Brooke O'Harra conducted check-ins with each of the students in her self-scripting class, Friskey admitted it was difficult to balance coursework with the gravity of the global pandemic.

"I would say my productivity in comparison to normal is probably quite low," she said. "But I like to remind myself that it would be strange if we were all operating at the same level of productivity."

Friskey spent much of her quarantine working on her senior Honors thesis, a play interpolating the effects of climate change with the 10 biblical plagues. Though she initially received funding from the Sachs Program for Arts Innovation to stage it, the performance instead had to be a Zoom reading for friends and family. "The element of theater that I miss the most is

Illustration by Stephen Schudlich

that there's always the potential for things to change, which is exciting," Friskey said. "And that spontaneity is very hard to create when you're not there, in person."

Other Penn students also missed not interacting with others in the campus community. "I learn best from hands-on experience, which is why I also work in a professional lab and why I'm interested in becoming an MD-PhD," said Sukhmani Kaur C'22, a pre-med student majoring in biology with a

"I miss my clinical experience because I learned a lot from professors who were actively working on the floor."

focus on neuroscience. Many of Kaur's lab-based science courses have been difficult to replicate remotely. In one physics class, which became a mandatory pass-fail, she said that students watched teaching assistants perform experiments before reporting on results that weren't theirs.

"I was kind of surprised that we were continuing lab," Kaur admitted, adding that she's nervous how pass-fail courses might be viewed by medical school admissions officers, even in these unprecedented times. "While I do understand why it's better for people to have the [pass-fail] option" if they need or want to take advantage of it," she said, "it creates a certain stigma."

Despite all of the difficulties and concerns, silver linings could be found. Charlie Aresty W'22 admitted that in the past he was "always afraid of missing things" while furiously taking notes in class. But having the ability to rewind and pause lectures increased his productivity and comprehension. "It's been really helpful," he said, "and I wish they recorded more lectures at Penn so we could do that."

Professors also tried to make the most of their situations.

Urban Studies professor Michael Nairn GLA'85 reworked one of his spring-semester courses to reflect the experiences of his students and the demands the pandemic has placed on public, urban spaces. The course—*Public Environment of Cities: An Introduction to Urban Landscapes*—typically involves gathering students together and touring different neighborhoods in Philadelphia. When that became impossible, Nairn initially thought he could film the walks himself. "But that's not the same as experiencing them," he said. "So I had to make a huge pivot at that point."

After polling his students for input, he drafted a new curriculum that centered on how COVID-19 is straining and changing cities. A new pandemic reading list was created, and students were encouraged to talk freely about how the virus was altering their own lives.

"I actually think that listening to them about … their fears and what they were observing and how they were making this transition gave me more insight and more empathy," Nairn said. "I think I grew much more aware of their struggles over the last eight weeks."

While Nairn admits the class was far from perfect—students faced more distractions at home and, in the beginning, there were some drawn-out, awkward silences—he was surprised that the level of engagement didn't waver. If anything, it got more intense.

"What's interesting is that we were talking about and discussing what many of their lives were like, so many of my students led discussions," Nairn said. "I didn't notice that as much in previous years."

—Beatrice Forman C'22

PLANNING

Coming This Fall?

"Navigating the year ahead will require us all to be creative, flexible, and resolute," wrote President Gutmann and Penn's senior leadership in a May 21 message about the planning underway for the Fall 2020 semester and the restoration of research operations in light of the continuing threat from COVID-19. The University's course was still undetermined as this issue of the *Gazette* was going to press in early June, but likely will have been set by the time it reaches readers (see our website or Penn's homepage for the latest information).

Four possible scenarios for instruction, some elements of which could be combined, were being considered: an all-online educational experience; a hybrid of in-person smaller classes (in spaces large enough to allow social distancing) and online larger ones; having in-person instruction end at Thanksgiving and the rest of the semester online; and expanding Summer 2021 course options to give students more flexibility.

Accompanying alterations to campus life being looked at included a "Public Health Social Compact" for mask-wearing, social distancing, and remote work whenever possible; a regular testing program; limitations on travel; reduced occupancy in College Houses and campus high-traffic areas (which would also cut hours to allow for deep cleaning); and a reservations- and/or takeout-based dining program.

While still in development, the path to restoring research operations seemed a bit more straightforward, involving a three-stage phased return, from increasing priority research while still limiting personnel present; to gradually expanding with attention to physical distancing; to full resumption, in all phases continuing with remote work where possible.

The COVID Class

College admissions in a pandemic year.

When the University released admissions decisions to applicants for the Class of 2024, on March 26, it was anybody's guess what exactly the recipients of happy news were being invited to take part in.

Under the threat of COVID-19, Penn had already sent current students home to complete the semester online. The fall was a giant question mark. Would lecture halls be limited to 25 people at a time? Would freshmen be assigned to double- and triple-rooms in the Quad? Would sports go on? Would libraries open? Would classes move to Zoom? Would students return to campus at all?

The uncertainty would persist into June at least (when the *Gazette* went to press). Meanwhile, admitted applicants had until May 1 to accept or decline their admission offers. It's hard to imagine a more fraught decision.

Yet when Penn's dean of admissions, Eric J. Furda C'87, sat down at his computer on May 8, he was greeted with a remarkable sight. "If I'd just been in College Hall the whole time, and hadn't read any news, and I just looked at the numbers for the incoming class, you wouldn't think anything was going on outside," he said. In an ordinary year, he'd expect 2,300 committed students by that point—and as of the first week in May, "everything was in line with projections." That remained the case three weeks later. By all appearances, the Class of 2024 was shaping up to look much like its predecessors, with 2,400 freshmen from the usual (vast) spread of US states and other countries.

Yet several question marks still loomed, perhaps none larger than that posed by the June 5 deadline for students to request a "gap year" deferral. Such requests are reviewed on a case-by-case basis, and Furda said that approvals typically require a compelling statement of what the petitioner proposes to do with the year. By the deadline, the admissions office had approved 99 requests—about 50 percent more than in any past year. Furda said that most of the requests cited familiar reasons—like compulsory military service for students in some countries—but several petitioners cited health risks related to COVID-19, such as asthma or other underlying medical conditions that make the disease more dangerous.

Furda also said that his office had been "utilizing the wait list" to a greater degree than in most recent years. "Some years we don't go to it at all," he said. "Some years we take 20 from the wait list, and some years a couple hundred." This year comes in at the top of that range. "But our yield rate is holding right around 66 percent," Furda added, referring to the percentage of admitted students who accept the offer to enroll. "Our high-water mark was 68 percent." Students admitted from the wait list are not eligible to request gap years.

What options would enrolled students have to change their minds if summer brings news that the coming academic year will not resemble the residential collegiate experience that originally motivated them to apply?

"I think we have to take one case at a time," Furda said, emphasizing how much remained unknown even apart from the University's ultimate decisions about campus life in the fall. "Fifty states may have 50 different rules around travel," he said. "Schools in Pennsylvania might be open but not schools in New Jersey, or vice versa. It might sound inauthentic when I say we have to take individual cases individually, but you really do. There's going to be local decisions and state decisions, as well as federal and international decisions that are made—and they will not be evenly distributed."

SUSTAINABILITY

Bright Spot

In a move that will bring the University "significantly closer" to its goal of achieving a carbon-neutral campus by 2042 ["Gazetteer," Jan|Feb 2020], Penn has agreed to purchase all the electricity produced by two new solar energy facilities scheduled to begin construction next year by Community Energy, a renewable energy company based in Radnor, Pennsylvania.

Expected to be Pennsylvania's largest solar power project at 220 megawatts capacity, the two facilities will generate a combined 450,000 MWh of electricity per year—about 75 percent of what's required for the academic campus and Health System. The University will pay Community Energy a rate competitive with prices for conventional generation, and the term of the agreement is 25 years.

The University's commitment to renewable energy goes back to 2006, with a 10-year agreement with the company for wind power. According to a May press release, the new project ranks at the top of solar and wind initiatives by Ivy League institutions designed to shrink their carbon footprints. When they begin operation in 2023, the power plants will reduce campus carbon emissions by 45 percent compared to levels in 2009, when the first iteration of Penn's Climate Action Plan was issued ["Red and Blue Makes Green," Nov|Dec 2009], and meet the 2030 emissions reduction goal set by the Paris Climate Accord seven years ahead of schedule.

He hoped that summer would bring more clarity. "But at some point, we have to say, 'This is what we're offering, and we want you to be a part of it. And if you don't want to be a part of it, well, you're essentially turning down your spot in the class.'"

Students who do so would have to reapply for the following year, if they still wanted to attend Penn. But as Furda observed, declining a spot at Penn doesn't necessarily solve the problem of what an 18-year-old aspiring to a four-year college education is going to do instead. He posited that, no matter what the coming academic year looks like, there's a case to be made for this cohort to stay together.

"For these high school seniors that are just graduating, they are the COVID class. There's some value in staying together as a class."

"For these high school seniors that are just graduating, they are the COVID class," he said. "There's some value in staying together as a class. You've already had this shared experience, which is a bond from your high school class—although certainly not one you wanted. And the same thing will be true coming into college—and I'm not just talking about Penn. There's also value to becoming part of this broader network of support."

Families, he allowed, may be faced with hard decisions pitting their child's health and welfare in tension with their educational prospects. "I'm talking as a dad now more than anything else," he said, "and if you're like, 'My child is not getting on a plane,' those are bigger issues.

"That being said, even if there is some virtual component [to instruction in the fall], there is some value to being part of this class—and also, what are the other options? What else are you going to do? By the time you get around to late August and September, are you going to be looking forward to being a part of something, whatever shape that takes? Or are you just going to sort of wait to see what else happens next?

"That question is larger than any of us," he added. "It's what does COVID testing look like? What does contact tracing look like? Are some of these early stages of a vaccine going to break through? But I don't know how long in life you're just going to sit around and wait for that next thing to happen, because you have absolutely no control over it."

For those students who do come together at Penn in the fall—whatever "coming together" looks like—he had a message: "Being a part of this class has its merit and meaning."—*TP*

AWARDS

President's Engagement and Innovation Prizes

Nine graduating seniors were awarded the 2020 President's Engagement and Innovation prizes, which provide $100,000 in funding for projects designed to make a lasting difference in the world. Each team member also receives a $50,000 living stipend and mentorship from a Penn faculty member. The prizes are the largest of their kind in higher education. Here are the winning projects:

PRESIDENT'S ENGAGEMENT PRIZES

Aarogya | Aditya Siroya C'19 W'20, Shivansh Inamdar EAS'19 C'20, and Artemis Panagopoulou C'20 EAS'20 aim to save lives by providing free medicines to those most in need. They created India's first digital medicine redistribution platform, which will broaden healthcare access and reduce medical waste by enabling safe, convenient redistribution of unused medicine to patients who can't afford them. Mentor: Mark Pauly, the Bendheim Professor of Health Care Management at Wharton.

The Unscripted Project | Meera Menon W'20 and Philip Chen W'20 hope to utilize improv theater training to empower Philadelphia youth to speak confidently, collaborate effectively, and practice perseverance. Partnering with Philly Improv Theater, the pair will coordinate 10-week workshops for sixth to 10th grade students in Philadelphia, emphasizing real-world skills. Mentor: Marcia Ferguson, senior lecturer in theatre arts in the School of Arts and Sciences.

Collective Climb | Kwaku Owusu W'20, Mckayla Warwick C'20, and Hyungtae Kim C'20 want to increase economic prosperity among communities in West Philadelphia through a financial literacy initiative and debt reduction model that centers around "community pots"—collections of monetary contributions that leverage collective wealth to tackle debt. Mentor: Glenn Bryan, Assistant Vice President of Community Relations in Penn's Office of Government and Community Affairs.

PRESIDENT'S INNOVATION PRIZE

inventXYZ | Nikil Ragav EAS'20 W'20 plans to set up makerspaces at high schools across the country to empower a new generation of inventors, regardless of income or background. The makerspace design includes equipment for automated manufacturing, electronics design, augmented/virtual reality, filmmaking, and digital music. Mentor: Adam Mally, lecturer in computer and information science in the School of Engineering and Applied Science.

Kayla Padilla made defenders like this one lose their balance throughout her freshman season.

Padilla Power

She's a rising basketball star and also runs a digital platform to amplify the voices of college athletes.

On the way to Hawaii for a New Year's Eve game, the Penn women's basketball team made a pit stop at rising sophomore Kayla Padilla's home in Torrance, California. There they squeezed into a backyard tent, ate mounds of Brazilian food, and listened to Padilla and one of her six-year-old twin sisters play guitar and sing Taylor Swift and Post Malone songs. Her parents and both sets of grandparents—who are from the Philippines, where basketball is the most popular sport—also made plenty of selfie requests.

"I question whether my parents or grandparents are the biggest Penn basketball fans," Padilla says. "They know every stat, every person on the team." Head coach Mike McLaughlin particularly enjoyed hearing about the parties the Padilla family would throw for every Penn game they could watch on ESPN+. "They told me exactly where they would sit," he recalls.

For Padilla, it was special to have her tight-knit family meet her new coaches and teammates just a few months after she had flown across the country as a 17-year-old to begin her freshman year at Penn. Having spent her whole life in southern California, Padilla admits that it was a difficult adjustment—not that anybody who watched her play at the Palestra could have been able to tell.

An immediate offensive dynamo, Padilla poured in 25 points in her second college game and continued to put up huge scoring numbers. She finished her freshman season in March with a 17.4 points-per-game scoring average and made 73 three-pointers, ranking second in the Ivy League in both categories. She was the Ivy League Rookie of the Year, a first team All-Ivy and All-Big 5 selection, and she ranked sixth nationally among all freshmen in scoring.

"We needed her to have the year she had," McLaughlin says. "We needed a scoring two-guard. And she was everything-plus. She's confident, creative as a basketball player. At times, she's unassuming. She may not look like she has everything, but she does."

Perhaps the pinnacle of Padilla's debut season came on January 11 when, in her first game versus Princeton, she had what McLaughlin calls a "special performance," shooting 10 for 14 to score 27 points. The following month against the nationally ranked Tigers, she had a successful encore with 24 points. "To feel that rivalry firsthand," she says, "was definitely something that came instantly."

The Quakers still lost both of those games, and missed the chance to play Princeton again when the Ivy League Tournament was cancelled due to COVID-19. But the way Padilla handled herself against Penn's fiercest rival reminded McLaughlin of another star freshman, Sydney Stipanovich C'17, who in her first year helped Penn dethrone Princeton to turn the Quakers into a regular Ivy championship contender.

"I was unbelievably impressed with her maturity," McLaughlin says of Padilla. "It's hard at that position. You're being chased all around the floor constantly. And her teammates totally embraced her because of who she is."

McLaughlin began recruiting Padilla years ago, thanks to a tip from former Penn men's basketball player Camryn Crocker C'15 GEd'18, whose

Photo courtesy Penn Athletics

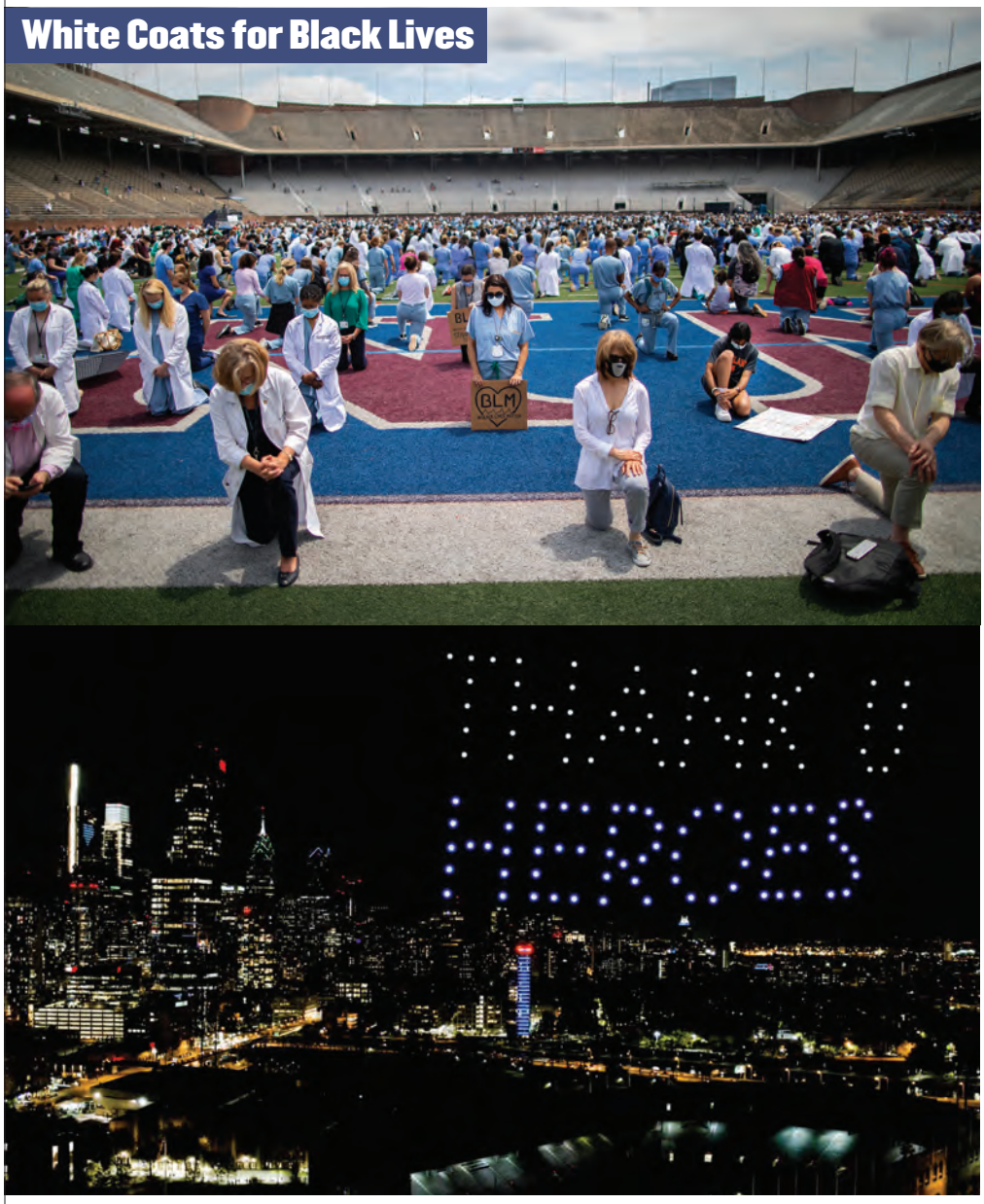
sister Cailyn played with Padilla on the California AAU circuit. Padilla's ability to shoot threes, drive to the basket, and control the open court immediately jumped out. So did her family values, including the way she supports an autistic sister, and some off-the-court aspirations that drew her to Wharton and have since manifested themselves in entrepreneurial ways.

In April, Padilla launched *The Sideline Post* (thesidelinepost.com), a website for college athletes to write personal stories. It's modeled after *The Players' Tribune*, which gives that kind of space for mostly professional athletes. "I wanted to step in and bridge that gap and offer a platform to do the same thing and highlight the backgrounds and stories of college athletes, regardless of how many followers they have or what division they play in," Padilla says. A recent story by Penn men's basketball guard Devon Goodman C'20, in which he revealed for the first time that he played nearly the entire season with a broken wrist, was particularly well received. But other stories have gone beyond University City and touched on topics outside of sports. And as the global pandemic and police brutality protests have reshaped the world around them, other discussions have been happening too, including on regular team Zoom check-ins.

"It's great to have an open dialogue," Padilla says, "and not avoid the things that are going on today."

TRIBUTES

White Coats for Black Lives



While Franklin Field was mostly quiet this spring due to the cancellations of Commencement, Penn Relays, and Penn sports, the stadium still hosted two memorable events. In early June, hundreds of Penn Health System and Children's Hospital of Philadelphia doctors, nurses, and staff gathered at Franklin Field to kneel silently in remembrance of George Floyd and countless others who have been victims of police violence. More than a month earlier, those same healthcare professionals were honored with an aerial drone display for being on the frontlines of the COVID-19 pandemic. Franklin Field was the launching point for 140 illuminated drones that lit up the University City sky in a show put on by Verge Aero, a technology company based at Pennovation Works.

On the court, the Penn coaches are trying to give Padilla a bigger voice as she evolves into a leader. Padilla also hopes to become a more well-rounded player and improve her defense and rebounding to fill a hole left by point guard Kendall Grasela Nu'20.

She has her mind set on becoming an all-time program great, which McLaughlin is confident will happen—and more.

"She is going to leave Penn as one of the faces of the school," the head coach says. "She's that type of kid." —*DZ*

Photo by Eric Sucar courtesy University Communications; Nick Lang Media courtesy Verge Aero

Penn and the Pandemic

How the University and alumni have responded to the current crisis.

By *Gazette* Staff and Contributors

Everyone has a story. When the novel coronavirus struck, Pablo Tebas plunged into vaccine development between shifts on the front line of COVID-19 hospital care. Wharton's Mauro Guillen abandoned his sabbatical to develop a mega-course on the pandemic that drew some 2,500 students from across the University. SEPTA general manager Leslie Richards GRP'93 tackled the unprecedented challenge of running mass transit amid mass contagion. James Beard Award-winning restaurateur Steven Cook W'95 convened the leading lights of Philadelphia fine dining to plot a safe path forward for an industry facing an existential threat. Penn Medicine set up testing sites that swabbed over 40,000 people in the first two months. And from biology to education policy to the history of medicine, Penn faculty rose to the moment the best way they know how: by teaching. Here is how some of them met the challenge this spring.

Health and Medicine

The Vaccine Hunt

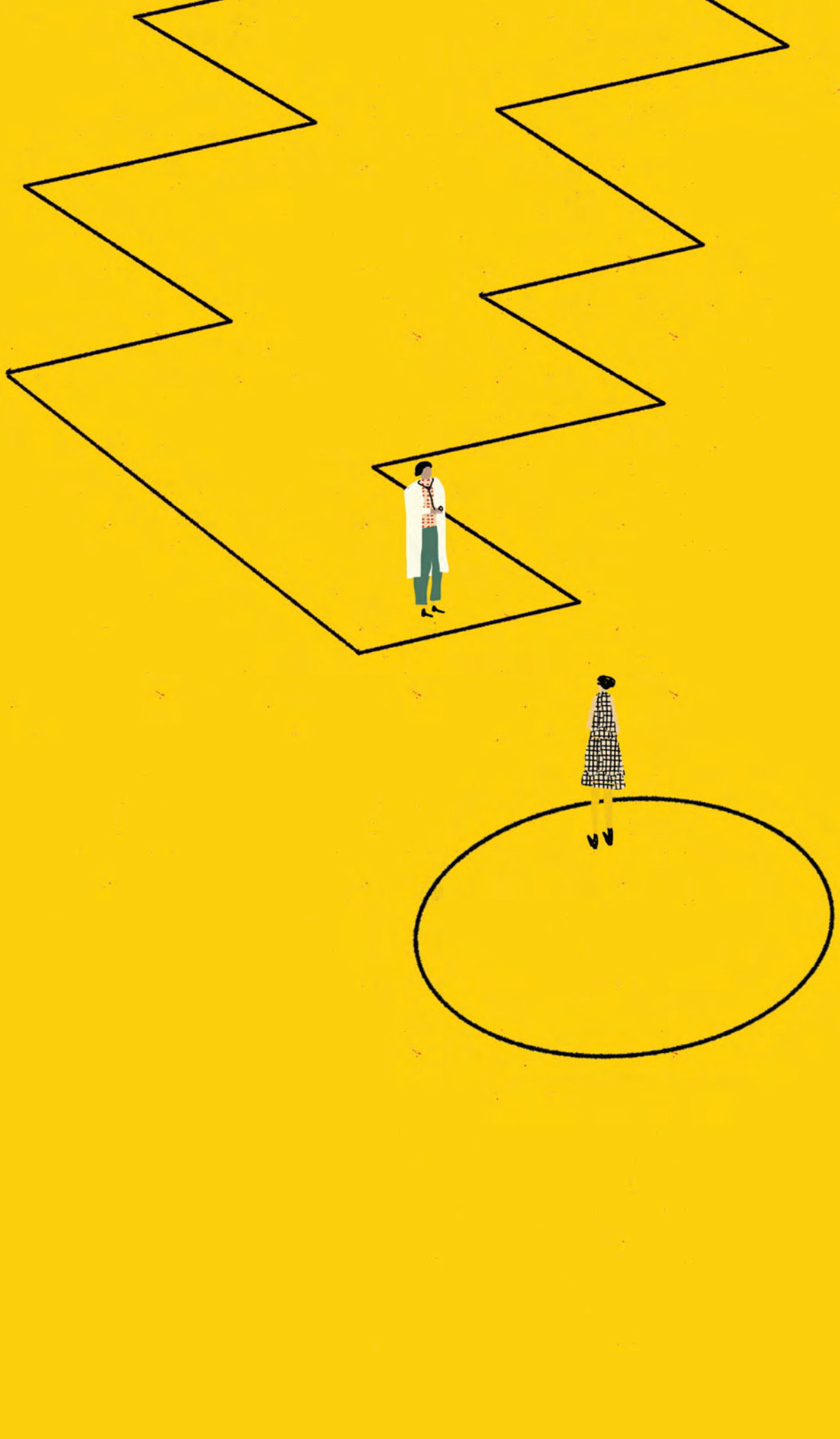
Two months before COVID-19 upended American life, Penn-affiliated researchers were already racing to create a genetic vaccine.

BIOMEDICINE

Epidemics have shaped Pablo Tebas's life. The infectious disease doctor has devoted much of his academic career to the treatment and prevention of HIV, and worked on vaccines for Ebola and Zika. So when the COVID-19 pandemic struck, he plunged into action. Doubling down on a partnership with professor emeritus David Weiner, who now directs the Wistar Institute's Vaccine and Immunotherapy Center, Tebas threw himself into the development of a genetic vaccine against the novel coronavirus SARS-CoV-2.

Through Inovio Pharmaceuticals, which was cofounded by Weiner and J. Joseph Kim GEng'94 WG'96 Gr'98 in 2000 (originally under the name VGX Pharmaceuticals) as a spinoff from the School of Medicine, the researchers turned to a technology they had used to create the world's first-in-man vaccine against Zika in 2016. This genetic vaccine is quite different from the shots administered to millions of arms

ILLUSTRATION BY RYAN PELTIER



every flu season, not least because it can potentially be manufactured far more quickly. Tebas talked about this effort with *Gazette* senior editor Trey Popp on April 8—two days after testing the vaccine's safety on the first human volunteer.

Can you describe the idea behind this sort of vaccine, and how it differs from the traditional vaccine for seasonal influenza?

Traditional vaccines are usually made of a protein, or killed virus, or live attenuated virus. With the influenza vaccine, people get injected in the arm with a protein. Your immune system reacts against the protein and makes antibodies, and those antibodies are what protect you. The problem with protein vaccines—or killed virus or live attenuated virus vaccines—is that they take a long time to develop. You have to culture the virus, you need to separate the proteins, and you need to isolate the protein that you want to immunize people with. That can take months and months. With influenza, in the spring the WHO says, 'Next year influenza is going to look like this.' And the reason they do that is that the manufacturers of the vaccine have to grow up virus—they have to grow it in eggs, isolate the virus, kill the virus, and isolate the proteins that go into the influenza vaccine. So it takes months.

Our process is much different: you get the genetic sequence of the virus and find the protein you want to target based on prior experience with similar viruses. Then you clone that genetic information into a plasmid, and *that's* what's injected into your arm: the DNA information that will make your cells make the desired protein. So you yourself become the factory that makes the protein that the immune system is going to react against. You don't need to culture the virus [in eggs or some other medium]. So it's much faster to develop. It takes weeks, not months.

You can do that with DNA, as we are doing. Other companies, like Moderna, are using mRNA, but it's the same idea. The main advantage of DNA is that it's stable at room temperature for a long time without deteriorating. So it's easier to keep on the shelf. You don't need a freezer. But you still have to prove that the vaccine is safe, and that it produces antibodies. That's what we are trying to do right now.

The sequence of the virus was published in January. How quickly did you swing into action?

It was published in January. David Weiner cloned this protein and put the protein in a vector, and then you have the plasmid. You test it in mice to show that the DNA you have causes the mice to make antibodies. Then you have to manufacture large amounts of the plasmid—you have to scale up to get enough vaccine to be used. That takes a few weeks. And of course you have to design the study and write the protocol. All of that went very fast. We decided to look for healthy volunteers. Then you go to the FDA, and then they authorize you. That happened last week. We already had our approval at the University of Pennsylvania. We vaccinated the first participant on Monday [April 6]. We are screening other people. After the first three patients we have to wait for a week. Then an external safety monitoring board will tell us everything looks fine, no major side effects, you can go ahead and enroll the first cohort, which is 20 people. Then we will increase the dose a little bit, and then we will vaccinate another 20. [In May, the team reported positive results and prepared to advance to the next phase of clinical trials.]

Has this technique been successfully used against any other pathogen?

Yes. We had an article about a Zika vaccine published in the *New England Journal of Medicine*. We had an article about an Ebola vaccine. The company has done this for other viruses such as MERS-CoV, which is similar to SARS-CoV-2, which is causing COVID-19. So the technology has been used in other infectious diseases. But it has not led to FDA approval of a product.

What has stood in the way of FDA approval?

We did Phase 1 studies, where you look at safety and immunogenicity—in other words, does the vaccine make people make antibodies against the protein? Those studies tend to be small and relatively fast. But then you have to prove the vaccine is effective—that those antibodies people make actually prevent infection. Those Phase 3 studies are large. You have to demonstrate that if you vaccinate a bunch of people, and don't vaccinate others, the treated group is at less risk of getting the infection. But that's a massive study, and it takes time.

And when we did this with Zika, it looked good—it was safe, it made people make antibodies. But when we were trying to do the Phase 3 study, the Zika epidemic ended. That's the problem with some of these epidemics: no matter how fast you go, the epidemic goes faster, and disappears, at which point it's very difficult to prove that it's efficacious in the field. That has been one of the reasons why some of these vaccines have not been approved by the FDA. The epidemics end, and then there is no economic interest. If there is no Zika, no company wants to develop a Zika vaccine. There has to be an economic incentive for a manufacturer to develop a vaccine.

But our experience so far suggests that perhaps COVID-19 may not burn out so fast as those others?

It's difficult to know at this point. Everything is going to depend on how much we contain the disease. With SARS and MERS, the epidemics died out. There was a reservoir in animals, but people were able to control it, so we have had no cases of SARS since 2003, and MERS since I think 2012, aside from very sporadic cases. That is one possibility of how the epidemic ends. Because of social distancing, if there are no more cases of transmission, the epidemic dies that way. But if there is continued transmission, and there is a human reservoir, then the epi-

demic might come back later—we can have a second or third wave.

At this point, we don't know. Hopefully the epidemic will end and that will be it. But at this point we don't have enough information. Because of the emergency, we're trying to convince the FDA that if the vaccine is safe, that we could go to a much larger study much faster.

What are your days like? How does the present moment compare to the professional pace you kept before the pandemic?

It is very busy. I am an infectious disease doctor, so I see patients in the hospital with COVID-19. I'm involved in therapeutic trials—not only in this prevention study. There are a lot of conference calls about different interventions, and what we can use on patients. And I have been involved in building clinical trials with NIH, treating COVID-19 patients with a medication called remdesivir to see if that works. It is busy clinical work. I have been coming to the hospital I don't know how many weeks in a row, every day. But I am an infectious disease doctor—this is what we study for.

It is sometimes a little bit heartbreaking when you see young people on ventilators, very sick. But it's also a positive experience. You realize how good the people in critical care and infectious diseases and internal medicine are, how good the personnel in the hospital are, how much they care about the patients. Everybody is willing to take care of people with this infection and are willing to take the risk. That warms your heart and makes you feel good, and is a little bit exhilarating, to see how hard people work to take care of people with this disease.

Do you remain in good health? How is your family?

I am well. My family is quarantined. You have to be careful when you go back home. I went back to my residency days—I wear my scrubs, I wash my clothes every day, I use gym clothes and I remove my shirt before entering the home. You try not to bring the virus home. I mean, you're always worried about the patients during the day, and when you go home you're worried about your family. And of course you worry about yourself. Every time you have a cough, or you wake up in the morning with a little bit of nasal congestion because you have allergies, you wonder, is this coronavirus? But you keep working and keep doing what you have to do.

"You yourself become the factory that makes the protein that the immune system is going to react against."

Emotionally, does this work feel different to you?

It is busy and a little bit draining at times. But I don't want to complain. The important thing is that everyone does what they can to help contain this disease. People should practice social distancing. They should keep up with recommendations from CDC. Washing hands, using masks. The only way to get out of this nightmare is to prevent transmitting this infection to others. Don't think that you are not at risk because you are young or because you don't have any comorbidities. I see people in the ICU that are 20 years old, that were Ivy League athletes, and they are sick and they are intubated. This disease has no respect for anybody. You can be young, and you can be very, very sick. So follow the recommendations and use common sense. And help to flatten the curve. Everybody can do their part.

The Future of Nursing Homes

An expert on long-term care facilities offers a way out of the darkness.

ELDER CARE

Even before the horrifying news reports began to surface, Ashley Ritter Nu'07 GNu'10 Gr'18 could sense what was coming.

"To me, the writing was on the wall early that nursing homes were going to be significantly impacted and didn't have a system in place to address it," says Ritter, a geriatric nurse practitioner, Penn Nursing postdoctoral fellow, and Penn Leonard Davis Institute (LDI) associate fellow. "And, to be honest, we still don't really have a system in place to address what's happening in nursing homes."

The vulnerability of nursing homes to COVID-19 was predictable, even though many put strict regulations on who was entering their tight quarters early in the outbreak. The problem with that strategy, however well-intentioned, was that an asymptomatic person could still bring in the infection—and "without testing," Ritter notes, "making judgments on who's sick and not sick based on clinical symptoms was totally insufficient."

Also somewhat predictable, given that older individuals face higher risks for developing more serious complications from COVID-19, was how the pandemic ravaged nursing homes across the country. According to a *New York Times* report on May 9, one-third of all US coronavirus deaths to that point were nursing home residents or workers.

But the outbreak has exposed deeper flaws in these long-term care facilities, from staff shortages to crumbling infrastructure to a model that places patient care in tension with the profit motive. And help has been hard to find.

"They sit in between these worlds," Ritter says. "They're not necessarily a home and not necessarily a hospital, so it puts them in this very tenuous region where nobody really pays attention and all you hear are the bad stories."

Although admittedly "fearful" about the future of nursing homes, Ritter does believe there's a path forward on the other side of the pandemic—but only if major changes occur.

One of the top priorities, in Ritter's view, is investing in the workforce—a point she's hammered home in articles and virtual seminars for LDI. While nursing assistants provide the majority of hands-on care for the some 1.3 million permanent nursing home residents across the US (and the 3 million more who are discharged annually to nursing homes following a hospital stay to receive skilled rehabilitative care), there's "not a lot of people in line for this low-paying, very, very difficult job." That left residents without adequate care during a crisis even as it placed overburdened staff—mostly women and minorities—in a dangerous situation, often without the same amount of personal protective equipment as hospital workers.

"We need incentives in place to encourage the nursing workforce to stay in nursing homes," says Ritter, noting that the high level of employee turnover is "really expensive" for nursing homes—and worse for patient outcomes. "Just because a nursing assistant doesn't have a college degree does not mean it's unskilled work. It's a very skilled job."

While cutting back on staff is one way that nursing homes have dealt with falling occupancy rates (which is also influenced by the growing preference of older adults to age at home), Ritter believes that "we need to critically evaluate for-profit nursing homes and how that model fits into our healthcare system." According to a *New York Times* report on May 7, nursing homes with private equity owners were particularly ill equipped to protect residents and workers. Says Ritter, "It's a lucrative business for some but it's not great for patients."

Oversight is another concern. Instead of states regulating nursing homes with yearly surveys and fines—which she calls "a punitive, reactive system" that creates anxiety and a negative culture—she'd like to see a strategy implemented in which small groups of nursing homes work together to troubleshoot problems with each other and local health departments.

And, Ritter says, positive stories should be told—particularly about frontline workers who have put themselves in harm's way to provide both healthcare and emotional support to residents whose family members have been locked out. She's been particularly galled by news commentary calling nursing homes "death pits."

Even before the pandemic, "you see a lot of blame and shame" going around about nursing homes, along with "this belief that they are not necessary, and you can find ways to provide care in other settings." Ritter disagrees. Although home care might be the best option for many people discharged from a hospital and needing post-acute care, "the utility of nursing homes really serves low-income, single individuals," Ritter says. For many without family, they serve as housing. "By doing away with nursing homes and not having another option, you're saying those individuals are not worth taking care of."

Despite several examples of the botched handling of nursing homes, steps were eventually taken to slow COVID-19's spread. Three days after a *Philadelphia Inquirer* report exposed Pennsylvania for failing to protect nursing home residents, the commonwealth announced a plan to begin coronavirus testing for every resident and employee in a long-term care facility. Other states did the same, following a nationwide call from the White House in mid-May for coronavirus testing in all of the country's 15,000 or so nursing homes.

Even still, "the loss of life is going to be profound," Ritter says. "And the individuals caring for people in nursing homes will be very struck by the gravity of the situation. We must address that and be there to support our colleagues, just like we've been supporting the workforce in hospitals and ICUs."

From those immediate concerns, she then hopes to look at the data to find which nursing homes had the most robust COVID-19 responses. Ritter believes that the VA's nursing homes, which are more integrated into the health system than other facilities, could provide a smarter blueprint moving forward. But she stresses that all nursing homes deserve support and improvement. "It seems to me without some investment and critical thinking about their role and their position, many are going to shut down," she says. "And we don't have an alternative plan right now.

"If we don't elevate the importance of their position in society," she adds, "there can be some really horrible unintended consequences for the most vulnerable members of our society." *—DZ*

History and Policy

Plagues and Peoples

What the "social X-rays" of epidemics reveal.

PANDEMIC HISTORY

Early in "Plagues Past and Present: Pandemics in Historical Perspective," a virtual presentation he did for Perry World House in April, David S. Barnes paused to identify his Zoom background: the newly renovated facade of the Lazaretto, the oldest surviving quarantine facility in the Western Hemisphere.

Built in the wake of a series of devastating yellow fever epidemics that struck Philadelphia in the 1790s, the Lazaretto operated from 1801 to 1895 on the Delaware riverfront, quarantining ships and cargo, and treating sick passengers in its hospital, before they could enter the city.

Barnes, an associate professor of the history and sociology of science, is working on a book about the Lazaretto and has been involved in efforts to preserve the site. His other books include *The Making of a Social Disease: Tuberculosis in 19th Century France* (University of California Press, 1995) and *The Great Stink of Paris and the Nineteenth-Cen-*

tury Struggle Against Filth and Germs (Johns Hopkins University Press, 2006).

"I think people are understandably hungry for lessons from history," Barnes said. Epidemics have always served as "social X-rays," he added. "They reveal otherwise hidden fractures and weaknesses in society," and also function as "inequality accelerators," widening existing disparities. "We're seeing that happen today all around the world." Historians can help to see that the novel coronavirus has not "come out of nowhere and affected us all equally. It hasn't affected us all equally."

In 1793 yellow fever killed 10 percent of Philadelphia's population within weeks and returned three more times over the next decade or so, Barnes said. The first epidemic led to the creation of the first board of health in Philadelphia in 1794. The board was responsible for the construction of the Lazaretto and improving sanitary conditions. "They enforced quarantine and cleaned up the city, which was something that was productive and relatively effective."

In the 19th century, waves of cholera in 1832 and 1849 roughly coincided with a period of revolutionary upheaval in Europe. "The earlier wave seeded the ground," intensifying social cleavages that manifested themselves following the mid-century epidemic, he said, ultimately leading authorities to build parks and other green spaces, construct water supply and sewer systems, and make broad efforts to improve unsanitary urban living environments.

After 1849, the Great Powers also got together to create a series of international sanitary conferences that were intended to develop uniform plans for quarantine—but at this they failed completely. "Quarantine always remained a political issue," he said, "as it remains today." A longer lasting impact of these conferences was the development of infrastructures and relationships among health departments in different countries, the legacy of which is the information sharing and transparency that, with some exceptions, does work when everybody tries, he said.

By the time the misnamed "Spanish Flu" emerged in 1918 (most likely in Kansas) the overall infrastructure for public health was in place and history's worst pandemic had little impact in changing approaches. "The geopolitical order was transformed after World War I, but not because of the pandemic."

Barnes called it a "central fact" that the decline of infectious diseases in the industrialized world is the greatest achievement in the history of public health. But how that came about is subject to several common myths and misconceptions that continue to impede efforts to develop "pragmatic, effective ways of improving public health," he said.

The first is that health policy consists "essentially in providing medical care and pharmaceutical products." Instead, history shows that the greatest impact on population health has been from policies that improve overall standards of living and empower populations to take control of their lives.

Second is the belief that effective public health responses to specific diseases or health threats must be disease-specific, such as "vaccines or drugs that target specific germs." Such an assumption is "understandable," he said, "but it's frankly wrong," and there are numerous examples of successful responses in the absence of dramatic developments in medicine or treatments.

A third major misconception has to do with immunity—which he called "the critical dimension of inequality in the COVID-19 pandemic [and] in most epidemics throughout history." Immunity is generally understood as binary ("you're either immune to something or you're not") and dependent on either genetics or a vaccine. In fact, immunity is "relative and is profoundly amenable to policy interventions," he said. "In other words, public policy can, and I would say must, focus on improving people's ability to withstand infections like COVID-19."

The fourth misconception he cited—that "germs don't discriminate"—is especially damaging, he added. True, "microorganisms can't see or hear or perceive race or class or gender, [but] it's abundantly clear throughout history that germs do discriminate, have always discriminated, and are discriminating right now," he said. "They affect populations unequally, and it's that unequal impact that is our responsibility to investigate and to fix."

Finally, the assertion that "public health isn't political and should not be politicized" is similarly wrongheaded. While it is the case that policy decisions shouldn't be exploited for partisan advantage, "public health is and always has been inherently political—because it's about distribution of resources in societies and that's the essence of politics," he said.

"COVID-19 is a political problem, and it ought to be addressed with political solutions. That doesn't mean conservative solutions or progressive solutions. It doesn't mean partisan solutions. It means solutions that address the distribution of resources and access to resources within society," he added. "That's the only way that we can solve the underlying problems that are making certain people particularly vulnerable to COVID-19—and the same has been the case throughout history."—*JP*

Health and the Body Politic

How societies learn—or don't—from the successes and failures of public health.

PUBLIC HEALTH

"So many things are historically novel about this current pandemic, including the world we're now living in," says Robert Aronowitz, a medical historian who chairs the History and Sociology of Science Department. "It's so much more interconnected. We've discovered that our infrastructure with which to deal not just with COVID but all other medical problems is part of a global network of terribly minor things, like IV fluid," he continues.

"We've made our bodies vulnerable to dependence on modern medical care, and the level of interdependencies in our medical sector is astounding."

Aronowitz, who is a physician as well as the Walter H. and Leonore C. Annenberg Professor of Social Sciences, spoke with *Gazette* senior editor Trey Popp in mid-April about what history can and can't teach us about the trajectory of COVID-19.

Do you find any historical episodes of disease that offer any insight into the present moment?

The historical lessons learned by people in epidemics are often a matter of who controls the narrative—not necessarily what happens. Probably the best historical book for understanding epidemic disease is called *Cholera Years* (University of Chicago Press, 1962, 1987), which was written by my mentor Charles E. Rosenberg. He observed that the disappearance of cholera was attributed to strong public health and progressive politics in postbellum New York and other places, and that this in turn cemented the idea that a certain kind of science, tied to progressive politics, would be a way to advance American democracy and improve society. That was all based on the idea that public health had something to do with the disappearance of cholera. But we have no reason to believe that is true! Cholera disappeared from almost everywhere in the 19th century. But what is true is that people create a story, and the story is believed and has a lot of power.

Do you think this pandemic gives meaningful insight into what is right and wrong with our healthcare system, or do you think COVID-19 is an outlier case that's a shaky basis for such generalizations?

It depends on what kinds of generalizations you're making. We have firemen even though we don't have fires every day. We have a sense that not only may they happen, but they may happen in a way that you might need a set of national resources that can be shared to address it. And yet we don't think of health vulnerabilities in these terms at all. There's such a minor investment in public health infrastructure. There's no sense that you need an infrastructure of surveillance and case workers, people who can do legwork that all of a sudden we need in terms of testing and contact tracing, and capacities to rapidly produce tests and things. This has exposed a chronic weakness in our ability to think about health not just as an individual matter but as a collective problem. I'm hoping—and everyone wants to hope—that people will learn from this. But one thing that's clear from cholera epidemics is that people forget pretty quickly.

There have been many what seem now like prophetic voices. And not minor voices, either, but Bill Gates. Especially since 9/11, there have been so many global health people talking about bioterrorism and threats of pandemics and preparedness. People have been talking about this for 20 years, but we've done virtually nothing to prepare.

What are the historical reasons for that?

The notion that the market will solve problems of healthcare in our country is an underlying problem. Investing in fire stations is not a market-based decision; it's a decision based on the government's responsibility to protect people's homes. To the degree that we think about health as a problem to be solved by individual centralized hospitals and companies making products they make a profit on, COVID presents a set of problems and solutions that don't fit under the market rubric. But as the expression goes, there's 50 reasons you don't catch a fish; there are a lot of reasons we haven't done something. There are all kinds of political failures. There's the individualist ethos in American life…

As far as COVID being an outlier, it's an outlier waiting to happen. Most of our threatening infectious diseases emerge from animal-human interaction. That's true in the past, too. Measles, mumps, and almost all the other diseases we vaccinate against had their beginnings in animal-human interactions. So COVID is not an outlier in that sense. It's consistent with Ebola, SARS, MERS, influenza, bird flu… all these things are in a direct line.

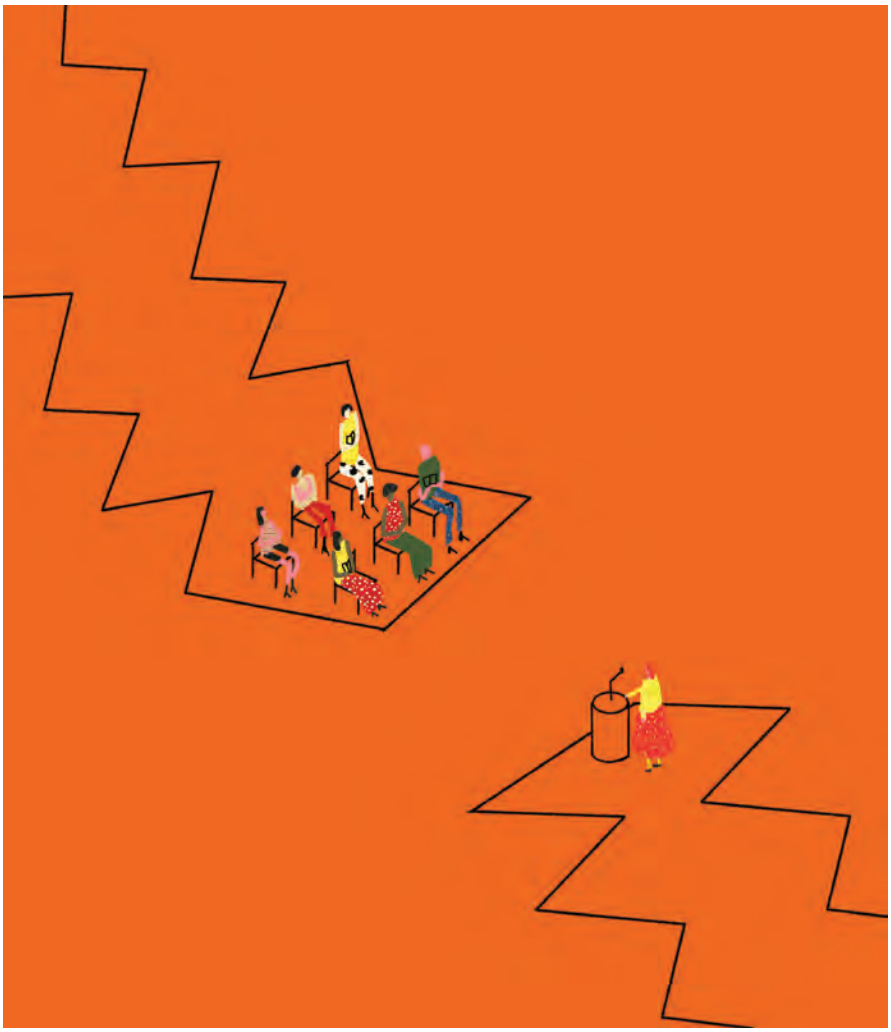
What factors are likely to shape the social recovery from this pandemic?

I'm very concerned about the day after: how people go from being told to wear masks and isolate themselves, to being told to loosen up restrictions and go out. In chronic diseases like cancer and heart disease, what we've developed since World War II are all kinds of interventions that in a sense control uncertainty and reduce our fear. They also may have scientific efficacy—but they do or they don't. We effectively do a lot of things because they give us a feeling of control: that we won't get prostate cancer because we get a PSA test, for instance, or that if we take a statin it will ward off heart disease. Similarly, every person who goes to a modern American hospital in labor gets a fetal heart monitor slapped onto their bellies—which has been shown objectively to *not* improve health outcomes, and maybe increase the number of C-sections—but this is reassurance that the baby is being monitored. I've been very critical of these things ["Our Labs, Our Health," Jan|Feb 2016], but I understand why they happen: people need, or seem to have needed in chronic disease, routines—pills, surveillance tests—to feel reassured that they're taking action against something they fear. So with COVID, over and above the need for testing to have good data to inform policy, or to do contact tracing to isolate people and their contacts, people may need a similar sense of personal control. They may need to be knowledgeable about their status, and maybe even their community's prevalence rate and where hotspots are, in order to get out of bed in the morning and go out into world.

Education

One Class, One Penn?

The leader of a whirlwind effort to organize a popular online course about the pandemic suggests "we don't need a crisis to do this."



DISTANCE LEARNING

It wasn't the way Mauro Guillen would have chosen to spend the spring of his sabbatical year, but when campus closed down in March the Zandman Professor of International Management was at least not otherwise occupied when the Wharton School called on him to develop a six-week online course in which various faculty members would analyze the public health, political, and economic ramifications of major disruptions like the novel coronavirus ["Gazetteer," May|Jun 2020].

"It was actually good, because I didn't have any other teaching commitments that would interfere," Guillen said in early May, with classes finished but grading still in process. "So I returned from sabbatical, so to speak, and I've been doing this for the last six weeks pretty much full time. I mean, it's been really, really intense."

Guillen was trained as a sociologist and is an expert on globalization, the subject of his forthcoming book *2030: How Today's Biggest Trends Will Collide and Reshape the Future of Everything* (look for more about that in our Sep|Oct issue). He's also a "big supporter" of online education who has been teaching on platforms like Coursera and through Wharton Online, which offers a certificate program that mirrors the MBA core curriculum, going back to when the acronym MOOC (for massive open online course) was current ["MOOC U.," Mar|Apr 2013]. His course on global trends in business and society has been taken by 5,500 people around the world, he says, and another, "Managing in the Global Digital Economy" recently launched.

"It's a mistake to think about online education and all the different ways we can deliver it as a substitute for classroom education. The two in the future will coexist one way or another," he said. "I think there are a lot of synergies between classroom teaching and online teaching." He added that the discipline required of online classes—where lectures must be pre-recorded, immediate audience feedback is lacking, and students are often much more diverse in background—can sharpen traditional classroom technique as well.

Guillen professed himself satisfied that the spring course, "Epidemics, Natural Disasters, and Geopolitics: Managing Global Business and Financial Uncertainty," delivered on its main goals of featuring faculty expertise on a critical issue, offering students the opportunity to earn credit when many study trips had been cancelled, and reaching new audiences beyond campus. "So far, so good," he said. "We are done with the class, but the students are writing their papers now. But I think yes—essentially, mission accomplished."

At the time, Guillen said he was still fielding 80-120 emails a day from students, who were working on their final papers in teams of three or four. There were 20 teaching assistants assigned to the course, and students were also doing peer evaluations of other teams' work. "And then I will go over all of that and make the final determination," he said. "But we're engaging them not just as writers of papers, but also reviewing other student's papers."

Because of time zone differences, schedule conflicts, and other issues, about half of the students attended class in real time while the rest watched a recording. "But for those following it live, we enabled the Q&A feature" online, he said. "We had two mod-

Illustration by Ryan Peltier

erators who would feed me the questions, and then I would ask the faculty member. So in each lecture we would probably handle about 30 questions from the audience, which is not bad considering the numbers."

About 2,500 people participated in the class, including 500 or so auditors. "To put things in perspective, that's about 11 percent or 12 percent of Penn students," Guillen said. "It was a big experiment."

He also suggested that it could be a model for future courses built around a key topic with broad appeal. "Under certain circumstances, to go fully online like we did in this class—out of necessity, of course—makes sense if you want to deliver something really quick to a lot of people," he said. "Even once we no longer have social distancing, at some point in the future, I think there's a need for these kinds of classes at Penn."

Drawing an analogy with the Philadelphia Free Library's One Book, One Philadelphia program, he suggested there could be an annual One Class, One Penn. "People can take it for half a credit, we get 2,000 people taking it every year, and the topic rotates. Using this technology we can do it in a way that everybody can participate," he said. "I think that's for me the biggest potential. We don't need a crisis to do this. We can do this during so-called normal times as well." —*JP*

Trading Places

Higher education's future may be a hybrid of online and in-person learning.

EDUCATION
ECONOMY

When Robert Zemsky was a boy in Tucson, Arizona, in the 1940s, a burgeoning baby boom meant there wasn't enough space in the local schools—which managed by instituting split sessions.

America's campuses, he says now, might need to consider something similar to cope with coronavirus. Half the students could be assigned to remote learning for a few weeks, after which they'd trade places with the other half.

Currently a senior scholar at Penn GSE's Alliance for Higher Education and Democracy, Zemsky joined the faculty in 1964 and gained firsthand knowledge of the issues facing campuses as the University's chief planning officer and master of Hill College House. For 20 years, he was the founding director of the University's Institute for Research on Higher Education.

He's in demand lately because of the pandemic—and because, by coincidence, he and two coauthors have just come out with a relevant new book. *The College Stress Test: Tracking Institutional Futures Across a Crowded Market* was written with Susan Shaman, Penn's former director of institutional research, and Susan Campbell Baldridge, a former provost at Middlebury College.

From his home in Lancaster, Pennsylvania, where his dogs raucously announced the arrival of a FedEx delivery, Zemsky sat for a Zoom interview with *Gazette* contributor Daniel Akst C'78 on the future of higher education in the time of coronavirus.

How did you come to study the higher education marketplace?

Forty years ago I was Martin Meyerson's faculty assistant when he was the University's president, and he would ask me questions to which I had no answers. So I went and figured out the market. At least a third of my career has been doing market analysis of higher education, and after a while I got pretty good at it.

In February we brought out *The College Stress Test*. We were interested in how many institutions were really likely to close, and the answer we came up with is: a lot fewer than most people were imagining.

What was the state of affairs before the pandemic? In your book you said one in 10 colleges were at serious risk.

The rich were getting richer and the big were getting bigger. And that's a classic description of Penn. But if you were a private institution with less than 1,500 students, you ought to worry. If you were also in the Midwest, you should worry. And if you had been cutting your price trying to keep enrollment and it wasn't working, you should really worry. Yes, 10 percent were likely to close. But they only account for 2 percent of enrollment. For their communities, it's sad, the way it was a loss for some towns when military bases closed. But it is not about the whole academic enterprise.

OK, that was pre-coronavirus. How does the pandemic change things?

One of the things that happened in early March was that a whole lot of authority passed out of the institutions. Public officials began to determine what was going on, and it has been that way ever since. By late April it was clear the disease was not going away. I actually have a mini roundtable of college presidents. We convene in a Zoom zone every Sunday afternoon. One of the presidents said, "You want to know the sad news in a nutshell? We're all going to learn to live with disease and death."

And the implications for campuses in trouble?

It's not 10 percent anymore, it's 20 percent. If the pandemic forces the cancellation of the coming academic year, those schools may never come back. Those institutions are losing enrollment, but they're also getting less cash per student. They're cutting prices and getting less volume. You can't survive that way.

But will most schools reopen in September?

Oh, yes. They say, "We have no choice. We're opening." Originally everybody said everything will get cleaned up and we can have a normal fall. There isn't anybody expecting a normal fall now. Now what they are thinking about is, how do we open under social distancing? All of them run dorms with doubles, some with triples. How are they going to operate in that world?

In the late 1940s when I was in elementary school, they didn't have nearly enough

seats in classes to accommodate all the kids. So they began to have split sessions. Half the school came in the morning, the other half came in the afternoon. The higher education equivalent would be a curriculum in which students were in residence every other month—and learning remotely the months they were not on campus. I don't know if it's the solution. What I do know is things have to be different. We can't just open the doors.

Nor can we just say, "We'll teach them online." I am convinced that we won't want to give up in-person education. We just can't have it the way we had it before. So we're going to ration in-person education in some way.

How about Penn? Is it safe from these trends?

Penn is safe as hell, but Penn will change. And Penn actually has the space and the resources to change, which causes us to ask: "Are you taking advantage of that to rethink your processes?" Because the world is going to be different. I would argue that Penn has an obligation to experiment with alternate paths forward because it's truly in the safe zone.

You've been advocating significant change in higher ed for years. What kinds of things have you been suggesting?

Well, how about a three-year baccalaureate? You teach basic skills the first year such as statistics and writing and foreign language. The second year you actually teach the major. And the third year is when you round them out. So don't teach them Shakespeare until they're actually in their last year, and then they'll appreciate Shakespeare. Now that's not necessarily the answer, but it's the kind of answer that I keep pushing. Let's think this through differently. We know things aren't working as is. The retention rates at many schools are not acceptable.

The pandemic has changed things. But the students had already changed, hadn't they?

They aren't like us. It isn't just that they're younger, they're wired differently. Students today are sophisticated gamers, and you need to teach a gamer differently than you teach a reader. The problem with today's faculty is, we were almost all readers, so we teach them the way *we* wanted to be taught, and that creates a distance between us and them. So there are a whole set of issues, and this could either be a period of just one funeral after another for institutions of higher ed, or it could be a wonderful blooming because we will now abandon things that weren't working and therefore there's no reason to keep.

Biology 406

David Roos has always used his course on infectious disease biology "to convey something about the whole nature of the scientific enterprise." COVID-19 was this year's case in point.

Back in January, the syllabus for Biology 406, "Molecular Mechanisms of Infectious Disease Biology," noted that the expected topics of influenza, HIV, bacterial pathogenesis, the microbiome, and malaria were subject to revision. One possible example: "the recent coronavirus epidemic in China."

ZOOM CLASS

David Roos, the E. Otis Kendall Professor of Biology, who has taught the course since 2008, doesn't have a crystal ball. But the 63-year-old parasitologist is keenly attuned to infectious diseases, having spent three decades researching malaria, the AIDS-related infection *Toxoplasma gondii*, and other infections. In recent years he has been developing tools to design and mine pathogen genome databases. It's not surprising that news of a novel coronavirus in China had caught his attention.

In fact, Bio 406—a graduate-level course popular with undergrads—has always been designed to accommodate whatever outbreak might be plaguing humanity. SARS, Zika, avian influenza, and Ebola had all previously sparked mid-semester shakeups. This year, when classes resumed remotely following Penn's extended spring break in March, the focus pivoted to COVID-19. Nothing like living what you're learning. "I couldn't have timed this better for the benefit of everybody in the class," says Roos via Zoom from his book-lined home office.

It helped that he had already asked students to imagine how they would scientifically handle a new disease outbreak. The first half of the course focuses on interpreting data and analyzing methods and conclusions discussed in research papers. The class picked apart published research on chloroquine and azithromycin as a COVID-19 treatment and looked at the promise of the drug remdesivir, along with papers covering Ebola and other infections.

"Everything we talk about is driven by the evidence," Roos says. "What I care about is whether they can think, to get people to understand not just what the answers are, but how anybody does science."

Roos was drawn to infectious disease research for the way it calls upon many specialties, from cell biology to immunology, field biology, epidemiology, and molecular genetics, "because you're focused on not a technique but a problem," he says. "I realized the field of malaria biology was really limited by a lack of an experimental system for genetic molecular manipulation," he says. "I thought, 'I can develop that.'"

After joining the Penn faculty in 1989, Roos developed a transfection system that introduced biomarkers to manipulate parasites for molecular genetic experiments—a long-sought tool now used worldwide. Roos also discovered a novel organelle (stolen by malaria parasites from an ancient alga) that has proved to be a popular target for the development of new treatments. Since 2000 he has focused on bioinformatics, leading a 60-person global team that supports research on parasites, fungi, and insects that spread disease. The Eukaryotic Pathogen, Host & Vector Genomics Re-

source (VEuPathDB.org) gets about 68,000 users each month.

On a Wednesday in April, about 15 students joined the three-hour, weekly class via Zoom to discuss five papers related to the possibility of developing anti-virus monoclonal antibodies as a specific treatment to inhibit an infectious disease outbreak. Roos had proposed about a dozen questions to guide class discussion.

Three guests dialed in: two executives involved with research at biotech company Regeneron, offering insight on antibody-based treatments for COVID-19; and Dinkorma Ouologuem Toure Gr'14, an assistant professor of cell biology at the Faculty of Pharmacy of Bamako, Mali, who researches malaria.

Roos asked the students to consider how specific experiments detailed in the papers were accomplished: how, for example, human monoclonal antibodies that recognize the spike glycoprotein of the SARS-CoV-2 were isolated. For each paper, he probed: *How did they do this? What did they find? What challenges might they have faced? Why do we care? What more do we want to know?* The students mostly rose to the challenge, many gaining a newfound appreciation for the limits and flaws in research studies—especially around COVID-19.

"If you're answering, you really have to know your stuff and be prepared to defend what you say," reflected physics and biochemistry major Samuel Kim C'21. "He really emphasizes deep understanding of methods."

Toure was a TA for the class as a graduate student. She had joined via Zoom, in part, to help with a similar class she was teaching in Mali on cell biology. "There is no way you find this kind of discussion in a textbook."

Of course, that's the point: "to convey something about the whole nature of the scientific enterprise," as Roos puts it, "*how* interactions work and *how* anybody does science"—and, he adds, in the time of coronavirus, "*how* one sorts out the unknown." *—Lini S. Kadaba*

Commerce and Society

Stop and Go

Inside the chaotic new world of Philly's public transportation chief.

MASS TRANSIT

When she accepted the position of general manager of the Southeastern Pennsylvania Transportation Authority (SEPTA) at the end of last year, Leslie Richards GRP'93 had big plans to help the nation's sixth largest public transportation system "move into the future," she says. "The reason the board wanted me, and why I wanted to be here, was to work on equity and accessibility issues and to make sure we are serving all of our communities." Her to-do list included fare restructuring, bus network redesign, trolley modernization, and sustainability and public engagement efforts.

Then things went off the rails.

As the coronavirus outbreak swept through the region, SEPTA found itself in the midst of a rapidly unfolding crisis that caught everyone by surprise. "I was working towards our first 100 days and so proud of what we could say we had already gotten done," Richards recalls. "All of a sudden, we're two and a half months in and everyone's moving out of our offices and I find myself in the unlikely situation of asking our customers not to use our system except for essential trips."

That unenviable mandate was the start of a hectic few weeks that found Richards and other SEPTA execs careening from reactive to proactive and back again. They started by implementing enhanced cleaning efforts of stations and vehicles in early March, even before the state and city called for the shutdowns of businesses and schools. Service reductions followed, with buses, trains, trolleys, and regional rail lines running on Saturday schedules. In early April, SEPTA instituted something it called "Lifeline Service," discontinuing some routes to prioritize others that offered direct access to hospitals, grocery stores, and other key locations. Social distancing measures were put in place, halving ridership capacity and requiring all operators and passengers to wear masks.

The ride along the way was often bumpy.

Take the issue of masks. "We wanted to make sure that our 9,500 employees were safe, as well as our customers," Richards says. "We were listening to the officials and medical experts, but there were a lot of mixed messages. We were all told not to wear masks at first. Then masks were OK." When SEPTA tried to make mask-wearing compulsory, the effort backfired. Over Easter weekend, more than 10 million viewers watched video footage of police officers dragging a non-masked rider off a bus. In response, SEPTA toned down its language to say that customers were "urged" to wear masks. (Facial coverings were again required after June 8, as the region began a phased reopening.)

"Our adrenaline was running at crisis mode for weeks," Richards says. "We never got a reset and a lot of it was counterintuitive to how we would normally operate."

Meanwhile, the virus raged on. Within a week of the first known SEPTA worker testing positive for COVID-19, the transit system implemented rear door bus and trolley boarding. Intended as a measure to protect drivers from contact, it also meant suspending fare collection. But workers kept falling sick, and at certain points employee absentee rates rose to 30 percent. (By mid-May, more than 270 SEPTA employees were confirmed to have contracted COVID-19, and seven had died.)

In late April, dissatisfied union leaders threatened a "job action" to protest what they viewed as unsafe conditions. When Philadelphia Mayor Jim Kenney entered the picture, a strike was averted and negotiations saw SEPTA relax its sick leave rules while promising to look into new protocols such as regular temperature checks, employee testing, and more frequent cleaning of facilities and vehicles.

"I've dealt with crises before," says Richards, who arrived at SEPTA after a five-

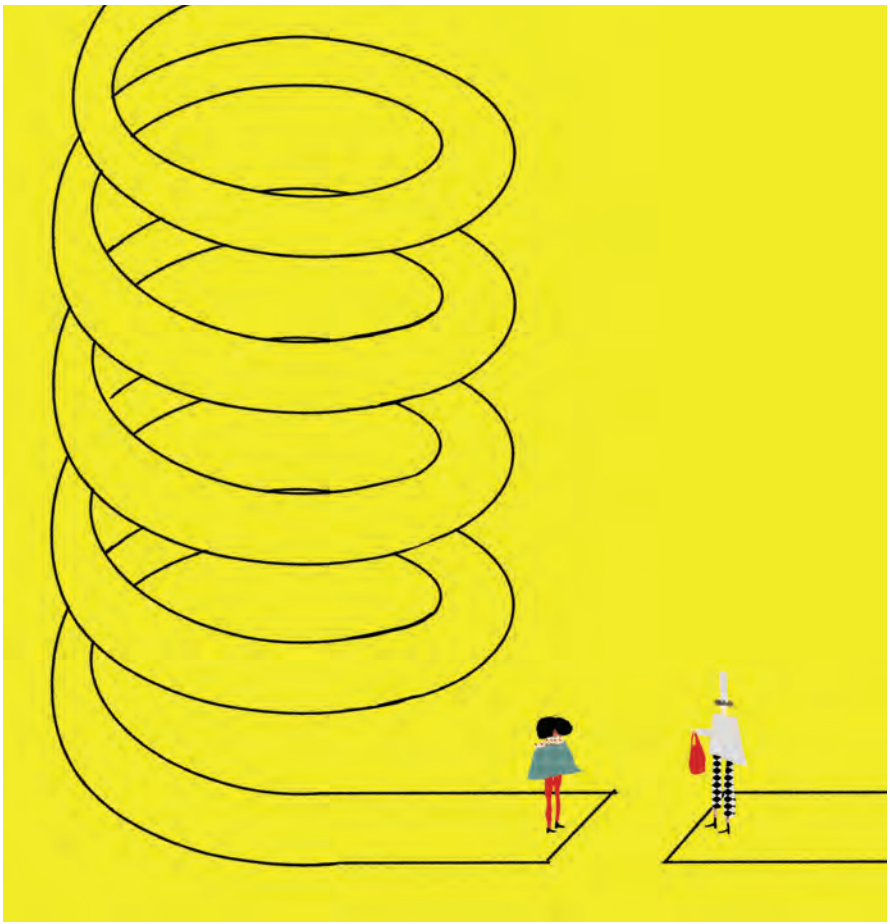
year stint as the Pennsylvania Department of Transportation (PennDOT) Secretary, the first woman in that role. During that time, there were "major bridge fires, freak snowstorms, the papal visit, the NFL Draft, the Democratic National Convention," she says. "Still, nothing could have prepared me for this. I've learned no matter how tough the crunch, to first think things through, though. And I've learned that if the information or situation changes and your decision isn't the right one anymore, it's OK to change your mind, to be flexible and nimble."

It's a lesson that the 52-year-old city planner imparts to the graduate students in her "Practice of Transportation Planning" course at Penn, where she joined the Weitzman School of Design faculty in January. "They've certainly gotten their effort's worth," she says with a laugh. "In every class for the last several weeks, we've discussed SEPTA's challenges and how we're responding. They've been really helpful, too, in giving suggestions on how to best communicate to different populations and offering their personal feedback on how they use the system. I've brought a lot of that back to the office."

The original syllabus, dealing with budgets and maintaining infrastructure, has "morphed into how transit agencies throughout the country have changed and will continue to change," she continues. "How fortunate for them that they've chosen a field where they will be needed and will have direct impact on how people live their lives."

Regular service on most lines resumed in mid-May, but Richards admits that much will be different for SEPTA—and public transit in general—going forward. As former commuters realize they can work from home, and businesses look at implementing staggered work shifts, ridership—down by more than 90 percent across all modes—will "definitely not snap back to prior levels immediately, or perhaps ever," she says.

She predicts SEPTA will continue to improve everything from its social distancing policies to social media outreach. "But I think the biggest change will be in how we get our revenue," she continues. Right now, about 40 percent of the authority's funding stems from fare collection. The bulk comes from state (50 percent) and regional (7 percent) subsidies via the collection of sales tax and highway tolls and the like—income streams that have been hammered by the pandemic.



Instead, Richards is laying her bets on a different outlook. Just as the coronavirus brought newfound appreciation for unsung frontline workers like grocery cashiers, Amazon warehouse stockers, and UPS delivery people, she says that we now know that public transit operators are essential.

"I think SEPTA will be seen as the necessary service that it is, just like law enforcement or fire fighters," Richards says. "To work together to solve problems like we've never seen before and to be in a position that impacts so many people during this very critical time has been an extremely gratifying but also heartbreaking experience for me. But I'm optimistic because I know that we will get through this, and SEPTA will exist and be very important to both the economy and our communities." —*JoAnn Greco*

Table for None

Steven Cook reflects on the restaurant business in the COVID era.

DINING

The second week of March may go down as the strangest time in the history of the Philadelphia restaurant business. Monday, March 9, brought assurances that the city's 250th Saint Patrick's Day Parade would proceed as planned the following Sunday. Tuesday night, officials abruptly canceled the event under the threat of COVID-19. On Wednesday the NBA suspended its season and President Donald Trump W'68 announced a ban on travel from Europe to the United States. Yet even against that foreboding

Illustration by Ryan Peltier

backdrop, business continued to boom for Steven Cook W'95 and Michael Solomonov, the James Beard Award-winning owners of Zahav, Dizengoff, Federal Donuts, and several other popular Philadelphia restaurants.

"We were having huge nights," Cook recalled during a mid-April interview with the *Gazette*. "Some of the fast-casual stuff was trailing off a bit, but some of those locations were as strong as ever. And that Saturday night, Laser Wolf, which is the new restaurant, had its busiest night [since opening one month earlier]."

Yet a queasy anxiety was mounting. "I remember thinking, in the week leading up to the 16th, 'I wish someone would just tell us what to do.'" But no one did, so Cook and Solomonov invited about 30 or 40 local restaurateurs to a meeting at Zahav on the morning of Monday, March 16. The impromptu assembly soon coalesced around a common opinion. "There was a will among us to shut everything down," Cook recalled. "For the most part, we were all on the same page that it was not responsible to have people dying in our restaurants."

As it happened, later that day Philadelphia Mayor Jim Kenney ordered the closure of all non-essential businesses, including dine-in restaurants (which were permitted to fulfill pick-up and delivery orders). From there, things progressed quickly.

The CookNSolo group laid off "somewhere north of 450 employees" across 16 locations, Cook said. "For the first five weeks we did some limited takeout packages from Zahav. And after paying for that food, we put the net profits into a relief fund for our salaried managers, to help bridge the gap between their last paycheck and whenever unemployment would kick in. We had done something similar with a gift card promotion for hourly employees." The skeleton staff also produced about 400 meals a week for Broad Street Ministry, a nonprofit faith organization. "They needed it," Cook said, "and it felt better to do something than to do nothing."

In April the CookNSolo group secured a forgivable loan through the federal Paycheck Protection Program, which permitted the rehiring of about 40 or 50 salaried managers for eight weeks. Cook was grateful to be able to do that, but he lamented the mismatch between the program's terms and the reality of the restaurant business.

"The way it's written, you get the money and have eight weeks to spend it," he said. "The first problem is that none of us are open—or we're open and doing 20 percent of revenues [through takeout and delivery]. So really, we become, in a way, the unemployment office." He wished he could have instead waited until business operations meaningfully resumed to restore those jobs, so that the wages might actually generate additional economic activity. "If we were able to take that money and delay spending it until we were able to open, then you're not just paying people, you're generating real revenues: you're paying your vendors," he said. "Our farmers and butchers and dry good purveyors, they're sitting there—with our company alone—on tens of thousands of dollars of receivables from February and March that nobody's able to pay. So if I could spend that money when we're open, that money becomes fuel for the economy. Right now, I get to pay people, but the effects don't really emanate outward from there."

Nevertheless, bringing back any jobs, even for a limited time under suboptimal circumstances, was better than the alternative. For the eight weeks CookNSolo could pay wages with federal funds, Cook and Solomonov hoped to earn enough through limited takeout meals and catering to repay their vendors. "So hopefully after eight weeks, if we return to something like normal, the revenue outlook will be shitty but at least our balance sheet won't be a mess," Cook explained.

But normality seemed hard to envision.

"I'd like to think that after eight weeks we'll roll into something approaching normal operations," he said. "But I don't have a lot of confidence in that. And even if we are legally able to open our restaurants, I don't think any sit-down restaurant can make money at 50 percent capacity or less, which are the guidelines we're seeing start to coalesce in other states."

The restaurant business faces an uncertain future—especially in places like Philadelphia, where cramped and crowded spaces are a hallmark of dining at virtually every price point. "For sit-down dining, we need to get to a point where there are not as stringent limits on capacity issues," Cook said. "Bigger picture, we need better testing so people can feel comfortable going out. Ultimately the holy grail is a vaccine.

"I think people's behavior is going to be changed, if not permanently, then certainly for a long time," he added. "I don't know when people are going to walk into a restaurant and not look for the hand sanitizer. It's just going to be different.

"Thank God I have a partner to go through this with. Thank God my family is healthy and we're spending a lot of time together," Cook said. But this is unlike anything he has faced in his 16 years in the business, so even his final expression of hope had a plaintive edge. "This is going to be, I hope, the biggest challenge of my career."—*TP*

Institutional Response

The View From Day 60

Penn Medicine leaders look back on the early response to COVID-19, contemplate the next stage in confronting the disease, and consider healthcare delivery and research in a post-pandemic world.

HEALTH SYSTEM

In a May 13 webinar hosted by Penn Alumni, leaders of the Penn Health System—J. Larry Jameson, executive vice president and dean of the Perelman School of Medicine; CEO Kevin Mahoney; and executive vice dean and chief scientific officer Jonathan Epstein—shared insights on the University's response to the pandemic on

the front lines of patient care and in a broad range of research efforts designed to better understand the novel coronavirus, improve treatments, and develop a vaccine for COVID-19.

Jameson, who served as moderator, noted that the date marked two months since Penn sent students and most employees home in response to the pandemic. Since then, he said, Penn had provided patient care and testing to thousands in the community, served as a trusted source of information, and launched the Penn Center for Research on Coronavirus and Other Emerging Pathogens to pursue research in areas from drug development to testing to contact tracing through social media.

"We will innovate our way out of this crisis," Jameson predicted. "We will invent better tests. We will find new drugs. We will assist in the development of new vaccines. We will continue to support our local communities. We will learn lessons from this pandemic and use these lessons to create a better future in education, the workplace, and in healthcare. We will continue to lean into this crisis, so that all of us can return to more normal lives."

At the time, Penn Medicine had treated some 2,000 coronavirus inpatients. As new case counts in the area fell from a mid-April peak, the system had begun to shift to "learning how to coexist with COVID until a vaccine is discovered," Mahoney said.

More than 40,000 people had been tested at drive-thru testing centers Penn set up in Philadelphia and suburbs; for the 8,000 who tested positive, "we initiated contact tracing to help stamp out any hotspots in our community." Penn also reached out to local nursing homes "to help them provide appropriate care and honor the most fragile [part of our] community and prevent the spread of this disease."

Mahoney called the safety of employees and patients "our North Star." The University moved "aggressively" to secure supplies of personal protective equipment (PPE), he said, expressing gratitude

to the alumni who had used international connections or provided other help in that effort. To assist staff in other specialties reassigned to care for COVID patients, refresher courses were developed that have been viewed from 58 countries, he noted, "spreading the Penn knowledge to all reaches of the globe."

He also highlighted a new digital platform designed to address employees' "pressing mental health needs." Dubbed Penn-COBALT, the platform invites users (who can remain anonymous) to answer a series of questions to help determine the kind and level of support needed, and had been accessed 8,000 times, as part of a suite of services offered through the website PennMedicineTogether.

Recognizing that virus cases could overwhelm hospitals, Penn created the text-based app COVID Watch to facilitate home monitoring and treatment. Mahoney said the app had been used to follow 3,000 patients. While 15 percent were eventually hospitalized, the rest could be cared for at home "without stretching our thin human resources preparing for the surge." COVID Watch is in use at all six Penn hospitals and has been made available at no cost to other regional health systems as well, he added.

Contactless registration has also been implemented, with consent forms, copays, and other "paperwork" being handled digitally in advance. With Google, Penn developed a chatbot to provide information about the virus, freeing clinicians for direct patient care, which had answered 12,000 questions from 4,500 people.

Illustration by Ryan Peltier

Long-term investments in information technology facilitated a quick pivot to virtual healthcare when the virus made that issue critical, Mahoney said. "We took the high touch practice of medicine and made it possible from six feet away." Although only about 150 patients were remotely evaluated during the first two weeks of March, more than 200,000 telemedicine visits took place in the subsequent two months.

"With COVID-19 the future came sooner than we anticipated [but] much of the flexibility we exhibited in recent days reflects these early long-term investments," Mahoney said. The key question now "is what investments will we make today that will allow us to survive in the future without shutting down the entire system again?"

Epstein noted that stay-at-home orders and social distancing measures had flattened the curve and helped spare the Philadelphia area from the "acute surge" that afflicted New York, northern Italy, and some other hotspots. "Now we have to map a path forward," Penn Medicine's chief scientific officer added. "We envision a 12- to 18-month playbook that begins with the transition from isolation to intensive testing and contact tracing."

Epstein assigned a task force in early May to create new approaches to testing and he expressed optimism that capacity could be scaled up quickly to meet the need. "Penn investigators and others are working with people all around the world. We're coming up with new ways to test for the virus at very low cost and in minutes." He called the discovery that the virus can be detected in saliva a "game changer," removing the need for "uncomfortable and logistically difficult nasal swabs."

Epstein drew a distinction between antibody testing and testing for the virus itself. "Antibody testing provides information about past exposure to the virus, and possibly about immunity," he said. While accuracy problems have been seen with many antibody tests marketed in the US, Penn researchers have developed a "very sensitive and quantitative antibody test," he added. "So far we've tested well over 1,000 of our frontline healthcare workers."

One encouraging sign was that only 2 percent of healthcare workers tested showed a history of exposure to the virus, compared to 7 percent of pregnant women coming to the hospital to deliver babies, seen as a representative sample for community exposure. (Testing also provided more evidence of disparities in community exposure, Epstein added: just 1 percent of white women tested positive versus nearly 12 percent of black women.) But the limited exposure among healthcare workers was an indication that masks, shields, and other PPE do work. "We can come to work every day in an environment with known and common exposures and be protected," he said. "If we get people to follow the rules, we can probably work and get the economy going."

On the other hand, much of the community has not been exposed, so there are likely many more infections to come. "We're nowhere near herd immunity, even assuming that the presence of antibodies equates to immunity, which is something that we're studying now," he said.

Until it's known whether people with antibodies have immunity or aren't still spreading the virus, Epstein downplayed the value to individuals of antibody testing. Its use lies in helping epidemiologists understand how much infection there has been, for studying the spread of the virus.

Testing for active virus is most important to scale up as quickly as possible, he said. There are studies under way to compare the effectiveness of testing sewage, saliva, and deep or anterior nasal swabs. "For the general population, any of them will be more useful than none," he said. "Whichever is quicker to scale will give the most information."

The playbook for the next 18 months also depends on identifying better medicines, which alone or in combination could reduce mortality and symptom severity until a vaccine is developed. "After all, remember we haven't yet been able to come up with a vaccine for HIV/AIDS after many years," Epstein said, "but we have found combinations of medicines that have transformed the implications of acquiring the infection and transformed the lethality of acquiring that infection."

"I've never seen research move more quickly."

Penn was part of a multicenter study that showed a "modest benefit" from the much-in-the-news drug remdesivir, which targets a key enzyme required by the virus, "although it's not nearly enough." More than 150 drugs have been tried on COVID-19 patients, though mostly not in controlled clinical trials, "so much of the information coming from their use is uninformative to the rest of us," Epstein added, expressing eagerness for more controlled trials that yield actionable data.

Penn has also been screening all 3,000 FDA approved medicines in a high-tech containment laboratory to "see if they might have activity against this virus." About 40 had been identified by mid-May, and the best of these will be tested in humans "as soon as possible," he said. Some of these drugs are generics that are affordable and widely available. "If they work alone or in combination that would be another game changer."

Treatments that could serve as a bridge to an eventual vaccine will likely involve a combination of drugs "that target different parts of the virus life cycle," Epstein said. "Most infections find ways to get around a single blockage caused by a drug, but have trouble getting around two or three." He added that one promising strategy—prompted by the benefits seen with remdesivir—would involve combin-

ing an antiviral with a drug that acts on the immune system.

Penn is developing therapies to counteract the extreme immune responses known as cytokine storms that sometimes strike coronavirus patients, proving more deadly than the virus itself. "There's something regulating the individual response to the virus," he said, and the immune response to COVID-19 is also "quite different" than to other viruses like the flu. "It would be informative to look at those people who don't even seem to get symptoms. Their immune system is doing the right thing."

Adapting Penn's pioneering work on treating cancer (as in the CAR-T therapy developed at Penn ["The T-Cell Warriors," Mar|Apr 2015]) and other diseases could lead to new tools to "tweak" immune response. Penn labs could test "thousands of parameters," he said, in an effort to understand why the response to the novel coronavirus varies so widely and make it possible to adjust it.

There are therapies now in clinical trials to "dampen down" immune response, "but you can imagine the risk of trying a medicine that damps down the immune response in an infectious disease when you need an immune response," he said. "So it's just going to be critical for us to learn how to tweak and dial the immune response appropriately without overdoing it."

Penn's experts in gene therapy are also working on a preventive therapy "that would be inhaled into the lungs, delivering a neutralizing antibody to lung tissue to prevent infection," he said. "This unique and innovative approach is particularly attractive to me because it can be tested relatively quickly, and it can be produced at scale—but it will be several months before we know if this can work."

The ultimate goal is a vaccine. Of the 100 or so potential candidates in development, about eight are in clinical trials. "We've completed a Phase 1 safety testing trial with a DNA-based vaccine with the Wistar Institute, and we hope to enter Phase 2 in order to test the efficacy of that very soon," Epstein said. (See page 28 for more on this effort.)

In a post-pandemic world, Mahoney suggested, healthcare delivery will be more decentralized. "We have come off of 40 years of building large buildings and bringing a lot of people to one location, which is based on reimbursements and operational efficiency," he explained. The future will see more "pop-up clinics" nearer to patients and with "less human density." Penn is already working on how to surround the community with these kinds of "smaller, more intimate locations."

He also predicted a further shift to value-based payments, "where we will get a set fee based on clinical outcomes for patients," rather than the current system in which Medicare and most insurance companies require that "you have to be seen and document a certain amount to bill." Meanwhile, billing will be "simpler and more virtual." And remote work will continue to be the new normal for a larger segment of Penn and the Health System's 42,000 employees, one impact of which will be reduced operating costs.

Epstein emphasized how the pandemic has transformed research and collaboration. "I've never seen research move more quickly," he said. Data and results are being shared at an unprecedented pace, often before peer review. "There's a risk to that," he added. "People could share lousy data and others could be misled." On the other hand, "it is a very rapid way to learn about new discoveries, and that is greatly increasing the pace of work right now."

This has been accompanied by an environment of "much more transparency" among colleagues at different institutions, which is a development worth preserving, Epstein said. "I've had conversations with my peers about what can we do to make this persist after COVID, because there is real value in this quantum change in how people are being willing to collaborate."—*JP*

Look for the Helpers

When the outbreak hit, many people looked for ways to assist those most affected. Below is a small sampling of Penn alumni who started or adapted businesses and other initiatives to lend a helping hand.

Joe Ammon WG'19 — Clove
Launched by Ammon last year, this company designs comfortable, easy-to-clean sneakers specifically for healthcare workers. In response to COVID-19, it donated more than $50,000 in footwear to nurses and doctors across the country, including some in the Penn Health System.

Anna Dailey C'19 — Perfect Strangers
This COVID-19 relief nonprofit coordinates volunteers to deliver groceries, prescriptions, and other essential goods to those in need, including the elderly and the immunocompromised. It currently serves communities in Boston, Philadelphia, Washington, and the Bay Area, where Dailey has worked as a regional captain since returning home to quarantine with her family.

Grace van Arkel C'17 — Fuel the Fight
This former Penn women's squash captain has helped lead an initiative that supports local restaurants by buying meals and donating them to hospital workers on the frontline of the pandemic. She brought what had started in Philadelphia to New York City, where it quickly raised over $100,000 on GoFundMe. Several other cities have since come on board.

Kayla Lebovits C'13 — Bundle
For anyone trying to juggle working from home with young children crawling all over them, this business aims to provide a much-needed break. Like everything else these days, it's done virtually with trained instructors giving personalized one-on-one learning experiences to kids—and maybe offering just a little bit of quiet time to parents.

Ashley Stinnett C'17 — CoronaMetro
Not using public transportation anymore because of quarantine orders? Stinnett created a website that links New Yorkers who need MetroCards to work-from-homers who can donate. "Doesn't look pretty," the site reads. "But it does the job. Just like the subway."

Seeds of Insight

Rob Rosenheck, CEO of Lord Jones—purveyor of CBD-infused candies, creams, and other products—is high on the cannabis industry's potential to promote a revolution in economics, health and wellness, culture, and consciousness.

By Susan Karlin

The first time Rob Rosenheck C'89 smoked pot was a revelation. He was 20 years old and an anomaly among his stoner friends for eschewing drugs. But two years into living off-campus with buddies he knew from the campus music scene, a female housemate finally coaxed him into trying it late one night.

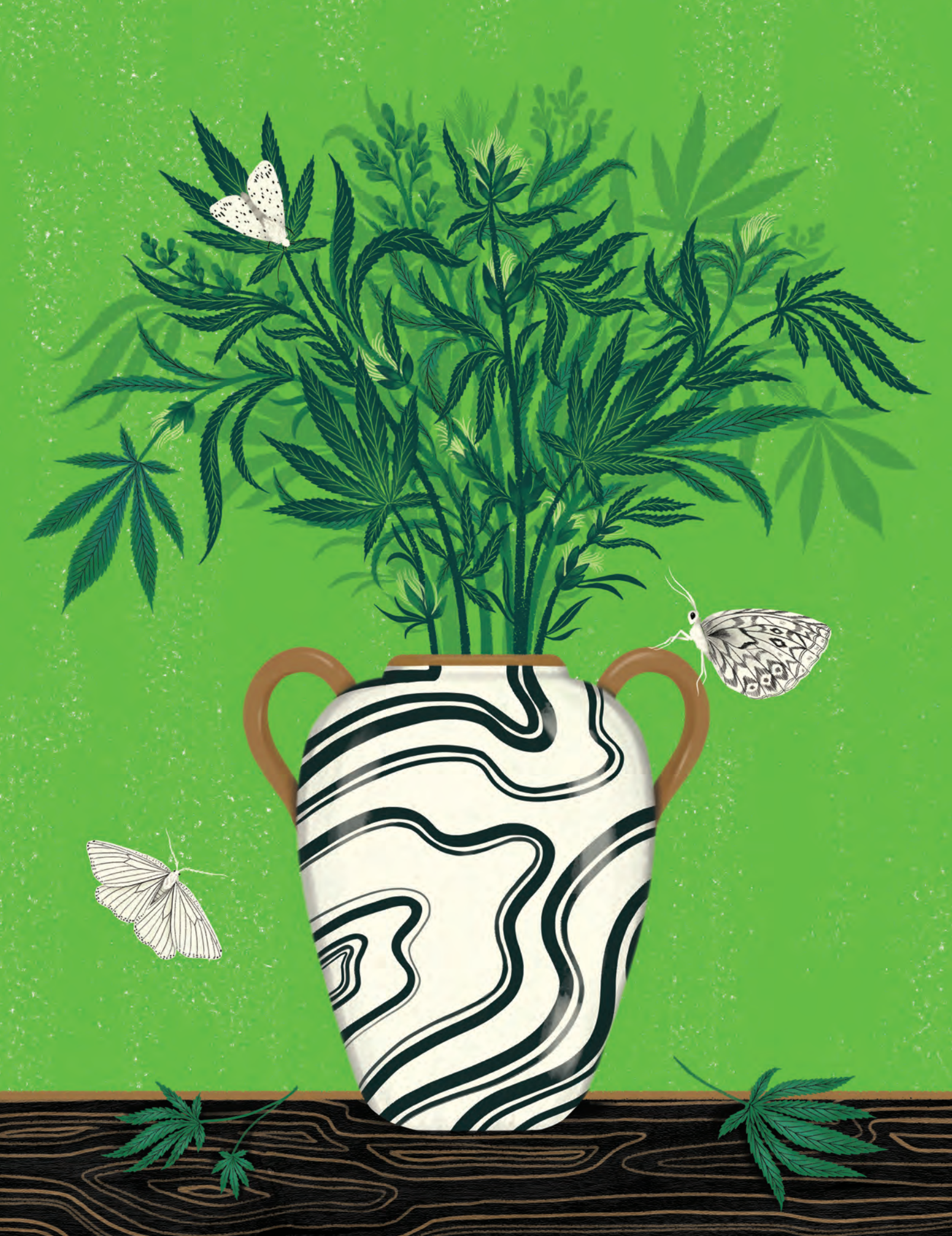
"I had this experience that people describe when they go onto antidepressants," Rosenheck recalls. "It was like a veil had been lifted. I gained access to my true self; the noise was lowered. I got high, but that wasn't the thing. When I smoked cannabis for the first time, I felt miraculously cured of my depression. Instantly."

Besides making him a fan, the experience was also the start of a fascination—long before the notion became mainstream—with the medicinal applications of cannabis. This was reinforced a few years after his graduation from Penn, when he found that it alleviated the chronic pain that afflicted him in the wake of a rock climbing accident. "I wasn't using it to get high, eat pizza, and watch cartoons," says the now 53-year-old Rosenheck. "I was using it for wellness."

Those seeds of insight would sprout some 30 years later—after careers in photography, filmmaking, and advertising—into a fourth act as the CEO and cofounder of Lord Jones, a high-end boutique cannabis company based in Los Angeles with a celebrity following and a focus on health. Launching in 2017 after two years of informal sales, Lord Jones has grown from a three-person operation consisting of Rosenheck, his wife and cofounder Cindy Capobianco, and chief of staff Mona Mohammadi experimenting with cannabis recipes in their kitchen to a 60-member staff that includes two fellow Penn alumni: senior vice president James Park WG'00 and chief financial officer Jeff Henretig WG'09. (Lord Jones's company policy prohibits employees from speaking with the media.)

Celebrities including Olivia Wilde, Mandy Moore, Busy Philipps, and Kristen Bell swear by Lord Jones's dozen or so

ILLUSTRATION BY LISA PERRIN



products of hemp-derived broad-spectrum CBD oil-infused confections, capsules, tinctures, skincare, and bath salts. Ranging from $30 to $100, they retail online at LordJones.com, and in over 1,000 retail outlets across the US, including Sephora, SoulCycle, The Standard Hotels, and Neiman Marcus. The company made *Fast Company's* Most Innovative Companies list for 2019, and has appeared in stories in the *New York Times, New Yorker*, and elsewhere.

"We've never paid for a celebrity endorsement," Rosenheck says. "The brand is successful because we spent two years learning the cannabis industry, the law, the plant, the chemistry, and how to make our formulations to make this a best-in-class product.

"We always tried to be frugal with every dollar we had. In 2018, our business took off and we experienced 900 percent growth," he says, declining comment on 2019 figures. (*MarketWatch* reported that unnamed sources put 2018 revenues at $2-4 million and a monthly run rate of $2 million in midsummer of last year. A Lord Jones spokesperson maintains those figures are incorrect but declined to go into further detail.)

Last September, Canada's Cronos Group, a NASDAQ-listed cannabinoid company, acquired Redwood Holdings Group, the private holding company cofounded by Rosenheck and Capobianco that had owned Lord Jones and three other subsidiaries, for $300 million in cash and stock. The pair joined Cronos, but still run Lord Jones, and intend to use the cash infusion to expand into international markets and other sales channels.

"We treat this as a start-up, and run it very lean and mean," says Rosenheck. "We have a very old-fashioned view of business: make a good product and protect our margin, give value to our customer, and have really talented, smart people we can trust. That's the key to business in general. The main difference between this and any other start-up is you have to have a lot of lawyers."

A Confusing Business

Marijuana is legal for either medical or recreational use in 33 states and Washington, DC, but remains illegal under federal law due to its psychoactive compound, THC (tetrahydrocannabinol). But the government is slowly relaxing its stance. The 2018 Farm Bill legalized hemp, a low-THC-level cannabis plant from which CBD (cannabidiol) can be derived. The law's passage enabled the sale of CBD oil from hemp containing less than 0.3 percent THC in all 50 states. But CBD oil from marijuana is still federally illegal. Moreover, the Food and Drug Administration (FDA) has yet to approve any CBD products other than Epidiolex, a prescription drug for certain seizure disorders in children. (The FDA has also approved three other drugs containing synthetic THC and THC-like compounds—Marinol, Syndros, and Cesamet—for treating nausea from chemotherapy and weight loss in AIDS patients.)

The FDA and scientific evidence need to catch up to public interest, which centers on the notion that CBD may promote "wellness." Although the agency recognizes the potential therapeutic uses of CBD, the limited data it has reviewed indicates safety risks such as liver injury, male reproductive toxicity, and medicine interactions, according to its website. While the FDA prohibits marketing CBD as a dietary supplement or food additive, it has focused enforcement on companies claiming to treat psychiatric disorders and diseases like cancer, Alzheimer's disease, and diabetes.

Still, evidence gathering is slowly proceeding. Last year, the FDA held its first public hearing on CBD, while the government's National Center for Complementary and Integrative Health awarded $3 million in grants to study CBD use in treating chronic pain. CBD research may also get a boost from a novel synthetic stable CBD acid. EPM, a Los Angeles-headquartered start-up, has developed a more potent and consistent solution for the pharmaceutical industry that doesn't involve plant extracts, which face murkier regulatory guidelines.

"Right now we're in a regulatory void, because you have a law signed by the president that legalizes CBD and authorizes the FDA to regulate it, and the FDA has not," says Rosenheck. "And that's why you have all this confusion in the marketplace."

That makes cannabis a potentially lucrative, but precarious, business. Arcview Market Research and BDS Analytics estimate that legal domestic cannabis sales grew 46 percent to $15 billion in 2019 and anticipate a $20 billion domestic and $43 billion global market by 2024.

Brands fronted by celebrities ranging from Snoop Dogg to Martha Stewart, corporate chains like MedMen, and novelty niches like Kosher Kush (which bills itself as the first commercial cannabis to be blessed by a rabbi) are all vying for a position in the industry. College students now regard it a legitimate career track. By way of example, Harvard, Yale, Stanford, New York University, and University of California, Berkeley have cannabis business clubs, with Yale running the first US business school cannabis conference earlier this year. Others, including Cornell, University of Maryland, UCLA, University of Washington, and Colorado State University offer courses, programs, or degrees in the agronomics, chemistry, and legalities of cannabis. At Penn, the three-year-old student-run Wharton Cannabis Business Club hosts industry speakers and networking events for 75 members who pay $30-40 in annual or biennial dues. Last year, the Wharton Club of New York presented a sold-out cannabis-themed panel, with other alumni organizations following suit, while *Wharton Magazine* highlighted several Penn alums already populating the burgeoning industry.

"Wharton students have always had an interest in emerging industries, like blockchain and, now, cannabis. It's interesting, complex, and needs strategic thinkers," says Wharton Cannabis Business Club copresident Tyler Wigington

WG'20 G'20. Last year, the Wharton MBA Career Management office recognized cannabis as an up-and-coming industry and assigned two staff members to undertake employer outreach and advise students in this area, he adds. "They're closely engaged with our club."

But hiccups involving state licensing, municipal bans, high taxes, lax law enforcement, lack of banking access, and inconsistent regulation have contributed to industry growing pains and a thriving black market of unlicensed growers and sellers who outnumber their legal counterparts. Rosenheck hopes that eventual FDA oversight will better protect the consumer and thin out competition. "It's hard to comply with regulation. We know how to do it, but not that many others do," he says. "So you have everybody and their brother now launching a CBD company, because there's no regulation."

Life at Penn

Rosenheck's circuitous path to the cannabis industry was presaged by his passage through Penn.

Love brought him to the University from his hometown of Bridgewater Township, New Jersey. In a way.

"I didn't know where I wanted to go to college or what I wanted to do," he explains. "There was a girl from camp who was at Penn, and I had a crush on her, so I was like, 'Why don't I go to Penn?'" He got in and became a pre-med student for no reason other than that his father was a doctor.

But he quickly gravitated to the alternative music scene on campus, having earlier sought solace from a miserable high school experience by attending punk concerts at nearby Rutgers University. He got involved in the Penn Union Council Concert Committee, which he co-ran as a sophomore, booking and producing campus concerts by artists ranging from Stevie Ray Vaughan to Elvis Costello to Philip Glass. "It became an obsession," he says—which didn't help with his grades.

"I wasn't using it to get high, eat pizza, and watch cartoons," says the now 53-year-old Rosenheck. "I was using it for wellness."

His sophomore year ended with academic probation and a request from the University that he take a year off to get his act together. "I had a GPA of, I think, 1.08," Rosenheck laughs. "I love the idea of healing and helping people, but I didn't have the discipline to study to become a physician. And I wanted to promote rock concerts. My parents were incredibly despondent that I was asked to leave Penn. But it ended up being the greatest thing that ever happened to me."

He spent what would have been his junior year working at a Rittenhouse Square camera store and exploring a childhood passion for photography—meanwhile continuing to chair the concert committee. "No one knew," he says gleefully. "I was going to work every day in Houston Hall and promoting more rock concerts than had ever been produced at Penn. Every concert sold out, the University was making a profit, and they were delighted." He expanded into Philadelphia's punk and new wave music scene, cross-promoting Penn shows with downtown hotspots like Revival, Black Banana, and Memphis. For a time, he even toyed with the idea of pursuing concert promotion as a career.

"The year I took off caused me to do a lot of soul searching," he says. "When I returned, I got very serious about wanting to learn, but I didn't want to be on a career track. Young people are put onto a track when they're far too young to know who they are and what they want."

Rosenheck plunged into an eclectic assortment of classes—photography, English, oceanography, marketing, economics, and more—pulling *A*s, but almost failing to graduate because nothing in this patchwork added up to a major. Fortunately, Norma Kahn, the late assistant dean for advising, "took pity on me," he says, calling her "the patron saint of lost souls who have promise at Penn."

Rosenheck's interest in photography had led him to film classes at the Annenberg School for Communication, with an eye towards directing. Amos Vogel, the late film studies professor and New York Film Festival founder, became his academic advisor. With Kahn's help, Rosenheck designed an individualized major called Film as Artifact, which "stitched together all these things that I had studied under the guise of film theory," he says. That allowed him to graduate.

But his most pivotal influence was the photographer Becky Young, who started Penn's photography department and taught classes for 30 years before retiring in 2005. Rosenheck joined her class as a junior in 1987 after honing his skills during his year off. "Becky was the most transformational figure in my life, because she taught me how to see," he says. "She opened up the world of possibilities for her students and broke down all of these myths of what you're supposed to do in your life. There were no rules. She inspired people to think differently."

Young, who has remained in touch with Rosenheck over the years, was equally impressed. "I knew from the time I met him that this guy was going to go places," she says. "He knew who he was. He was very self confident without at all being cocky. He was a great communicator—both verbally and visually. He was very interested in environmental issues and a very good businessman. He knew what he wanted, and he went after it. It never surprised me that he was as successful as he was."

Rosenheck with Becky Young at her retirement party and art opening in 2005.

"He had a great way of communicating with students and getting them excited about what was going on around them."

Young mentored Rosenheck to the extent that, when she decided to shift focus to her painting at the end of his junior year, she began referring photography clients to him. "And with that, I became a professional photographer," he says.

In his senior year, a college friend who'd landed a job with the satirical magazine *Spy* tapped Rosenheck as its cocktail party photographer. Every couple of months he took the train to New York to snap the rich and infamous at *Spy* events.

For five years after graduation he split his time between photography gigs in Philadelphia and New York and traveling across the country photographing people and landscapes. For six weeks he was an artist-in-residence at Joshua Tree National Park, though he often lived out of his car. It was during this period that he wandered into a Barstow, California, thrift store and stumbled upon a hand-carved wooden sign spelling *love* in bright red 1960s-era lettering with a yellow outline. Something clicked.

"I felt like I was struck by a bolt of lightning, like it was divine inspiration," he says. "I started to photograph everybody I met with this sign. I went back to New York to shoot an event for *Spy*. Joan Rivers was there, and I asked her to hold up the sign and took a picture of her." He managed to land photos of Nelson Mandela, Bill Clinton, Mikhail Gorbachev, and Margaret Thatcher holding the sign. He camped out in a men's room for three hours to sneak into an Oprah Winfrey book signing party and talk her into posing with it.

His friend at *Spy* suggested he turn the collection into a book. Published in 1996, *The Love Book* became a bit of a sensation. "It was the number one-selling book in Tokyo, and covered in *New York Magazine,* the *New York Times*, and *Entertainment Weekly*," he says. "I had exhibitions across the country and around the world because of this book." (The *Gazette* even wrote about it in the days before our website launched.—*Ed.*)

Young also hired Rosenheck as a lecturer in the photography department, where he taught classes in photography, printing techniques, and on creating visual diaries from 1996 to 2000. The two occasionally taught classes and graded portfolios together. "I learned how to become a teacher from Becky," he says. "It was really about how do you see, how do you break down the boundaries of sight and the limitations that you put on yourself as a person."

"It was so lovely to have him come back, not as my student, but as my colleague," says Young, who continues her painting and multimedia work from an airy apartment studio in Rittenhouse Square. "He had a great way of communicating with students and getting them excited about what was going on around them."

The Move West

While teaching at Penn, Rosenheck was living with Capobianco, who was then the head of publicity at Banana Republic. The couple eventually married in 2000. When a promotion to VP of global marketing at The Gap prompted a move to San Francisco later that year, Rosenheck resurrected his college interest in filmmaking, creating documentaries for the Center for Environmental Health in nearby Oakland and writing screenplays.

The pair also became medical marijuana patients, California having legalized cannabis for pharmaceutical use in 1996. Rosenheck was still feeling the effects of a 1991 rock-climbing accident. "I fell 22 feet off a cliff in Utah, was on crutches for two years, and had seven surgeries. My whole leg had to be rebuilt," he says. "So when I moved to California, I discovered how I could use cannabis topically to provide aid to chronic pain."

In 2003, Capobianco left The Gap to start her own marketing agency, Capobianco & Associates, enabling a move to Los Angeles, where Rosenheck could more aggressively pursue filmmaking. He came maddeningly close to getting two of his screenplays produced. But when both fell through, Rosenheck lost patience. "I became disillusioned with the whole process of getting permission to make a movie," he says. "It's fickle and you have no control."

Priorities were shifting, anyway. In 2005, the couple had twin girls and needed to make more money. Rosenheck joined his wife's agency, which focuses on the fashion, lifestyle, food, and wellness industries. What Rosenheck calls a "watershed moment" occurred when Colorado voted to legalize recreational

Photo courtesy Becky Young

cannabis use in 2012; he and Capobianco spied a potential goldmine.

"At the time, the cannabis industry was filled with seedy dispensaries and products that weren't labeled, so you had no idea what you were consuming," he explains. "We saw this as a monumental opportunity to normalize cannabis use, elevate it, and position it as a health and wellness product, because that's how *we* understood it. We shopped at Whole Foods, we were Equinox members, Cindy would buy her cosmetics from Sephora. And there was nothing in cannabis that spoke to that consumer. That was the idea behind creating Lord Jones."

Its moniker was a calculated mash-up of an everyday name with an aristocratic title. "We wanted to elevate the cannabis category," he adds. "Lord Jones is an oxymoron. Jones is the name of the common man, so by elevating Jones to royalty, we were anointing the humble weed."

On the advice of his attorney, Rosenheck began weekly reconnaissance missions to Colorado in 2013, meeting industry players, learning the law, and studying the system. During that time cannabis was legal to possess but not to sell there, while the state set up the necessary regulatory structure. "Cindy and I read every single piece of scientific cannabis research that we could get our hands on. There was relatively little of it here, but a great deal conducted in Israel," says Rosenheck. Israel has long been a leader in medical cannabis research, which has included isolating CBD and THC in marijuana, and its effects on issues ranging from pain and mood to inflammation and autism.

Research led them to edibles and topicals. The market was already saturated with smokable products, and their work with food and personal care lines mirrored delivery systems for cannabis-infused packaged goods. They spent two years developing their product, designing the look and feel of the brand, and finding reliable cannabis sources by hiring a lab to test batches of product.

"We loved the idea of candy, because you could achieve pharmaceutical levels of accuracy and potency in the dosage," says Rosenheck. "That's what was key, because before, you'd go into a dispensary for an edible and it would be a giant cookie in a plastic bag with a staple without a label. You didn't know what any of the ingredients were or how much to consume, and with a candy, you could make one bite-size piece of candy and you'd know exactly what was in it.

"We hired a candy chef to teach us how to make it," he adds. "I would make and infuse it, then Cindy would enrobe it in chocolate. Mona, who was our right hand, would sprinkle the salt on it and package it. The three of us made every piece of Lord Jones sea salt caramel for the first year of the company."

They began selling their products through the Hollywood Hills Wellness Association, a nonprofit medical marijuana collective they founded in 2015. The knowledge they gleaned from the collective would ultimately inform the current Lord Jones line. Initially, their products contained THC. But in 2017, after learning more about the medicinal properties of CBD, Rosenheck and Capobianco shifted to solely selling hemp-derived CBD products, dissolved the collective, and launched the Lord Jones brand.

"People wanted them, and we could sell them across state lines," says Rosenheck. "One day we plan to return to THC, when marijuana THC is federally legalized."

Their foresight and preparation paid off. By the time the laws relaxed, they had a viable business in place. In 2016, California passed a ballot measure legalizing the sale and distribution of recreational cannabis beginning in 2018. In late 2018, the Farm Bill legalizing hemp became law, thus allowing the sale of hemp-derived CBD products in every state.

The Next Chapter

When the coronavirus pandemic hit the US in March, cannabis retail sales had been increasing by a whopping 23 percent annual rate, which was likely to grow with people spending more time at home. Amidst tightening restrictions and lockdowns, many states allowed cannabis dispensaries to stay open as "essential businesses."

"Lord Jones is an oxymoron. Jones is the name of the common man, so by elevating Jones to royalty, we were anointing the humble weed."

"Cannabis sales are doing great and are going to do better, provided companies have enough supply," says Arcview founder and CEO Troy Dayton. "The downside is that capital is drying up with the stock market tanking. So while, relatively, cannabis is going to do better than all other sectors, everybody is going to be doing much worse from an investment standpoint. When the world shifts, we can expect the cannabis industry to rally."

In the next few years, Rosenheck plans to expand the Lord Jones product lines and begin distributing them internationally. He'd also like to eventually return to Penn to teach or share his Lord Jones experiences with students. "We are in the midst of a revolution," he says. "Cannabis holds the promise of an economic revolution, a health and wellness revolution, a cultural revolution. But at its center, cannabis presents a revolution of consciousness."

Susan Karlin C'85 is an award-winning journalist in Los Angeles who has written for *Fast Company,* the *New York Times, Newsweek,* and NPR. She also loved Becky Young's photography class.

Therapy dogs are reducing stress and bringing joy to patients and staff across the Penn healthcare community.

By Kathryn Levy Feldman

Power of the pup

Millie and I were checking in for duty at the ninth-floor nursing station at Children's Hospital of Philadelphia (CHOP) when her tail began to wag. (Millie is my six-year-old certified therapy dog.)

She had spied a mother pushing her toddler in a red plastic toy convertible in our direction. I don't know who was most excited: Millie, the toddler, or his mom. Millie lay down right in front of the car so the little boy could pet her. Doctors, nurses, and therapists soon created a roadblock watching the lovefest. Then, in a matter of minutes, traffic cleared, and everyone went about their day.

Witness the power of the pup. We could have been anywhere—on a sidewalk, in a park, in someone's backyard—but we were no longer in the middle of a nationally ranked children's hospital. And that is exactly the point. From CHOP to HUP to Presbyterian Hospital and other corners of Penn's health system, therapy dogs are de-stressing patients and staff, one wagging tail at a time. (While Pennsylvania Hospital in Center City also offers animal assisted therapy, this article will focus on campus-based programs.)

Lisa Serad CGS'07 G'10 coordinates the Gerald B. Shreiber Pet Therapy Program at CHOP, the oldest and largest program on campus. It goes back at least to 1992, originally at Children's Seashore House, which merged with CHOP in 1998. Serad currently oversees 75 dogs and 78 handlers (some of whom, like me, have more than one dog enrolled) and tries to have one volunteer per week on each unit.

At the Hospital of the University of Pennsylvania, David Cribb, director of volunteer services, oversees HUP's Pups, which has "been around for seven or eight years," he says. Currently, 15 dogs work in both the inpatient and outpatient areas of the hospital.

The newest program is Presby Paws, which Kim Daniels Nu'07 GNu'12, a clinical nurse specialist, started at Penn-Presbyterian Medical Center two and a

ILLUSTRATION BY GINA TRIPLETT & MATTHEW CURTIUS

half years ago. Under the auspices of volunteer services, four dogs and handlers work on the inpatient floors, wherever their services are needed, and also visit staff on the units. "Everybody loves it," Daniels says. "We are thinking about making paw print magnets that the nursing staff can place on the doorframe of patients' rooms [if they] verbalize that they would like a dog visit while they're here."

"It's something that's simply observable as you go around with the volunteers," says Cribb. "You see that smile on the faces of people, and you know you're doing something good and part of something good."

"I've been here for almost 47 years, and I've had a chance to watch how patients and their families respond to the presence of those wonderful animals," says Alan Cohen, professor of pediatrics and a member of the CHOP pet therapy advisory team. "Over and over again, I have seen children who are dealing with their own health problem, often with pain, or prolonged hospital stays, and missing their families or friends and in some cases their dogs, just light up when the dog enters the room. It is just phenomenal. And for just that time, they seem to be transported to a different place."

The American Humane Association defines animal assisted therapy (AAT) as "a goal directed intervention in which an animal is incorporated as an integral part of the clinical healthcare treatment process." AAT actually dates back to the 1790s in England, where exercise and the presence of animals such as birds and rabbits were part of the treatment regimen at the York Retreat, which pioneered a more humane approach to mental illness.

In the US, the modern movement started in the 1960s with Boris Levinson, a child psychotherapist who noticed that sessions with his patients were more productive when his dog, Jingles, was in the room. "A pet is an island of sanity in what appears to be an insane world," he wrote. "Whether a dog, cat, bird, fish, turtle, or what have you, one can rely upon the fact that one's pet will always remain a faithful, intimate friend, regardless of the good or ill fortune life brings us."

When Levinson presented his findings at the American Psychological Association's conference in 1961, some were "enthusiastic, some guffawed, and a few others asked whether my dog shared in the fees," he wrote in his 1969 book, *Pet-Oriented Child Psychiatry*. These days acceptance is practically universal. Therapy dogs can be found in schools, libraries, nursing homes, hospitals, even some airports. And scientific research has documented the benefits of human–animal interaction in medical as well as nonmedical settings.

A 2012 study found that stroking a therapy dog for between five and 24 minutes resulted in a significant drop in stress hormones like cortisol, adrenaline, and aldosterone, and an increase in social and health-inducing hormones like oxytocin, dopamine, and endorphins. Working with a therapy animal has improved behavior and communication skills in people with autism, anxiety, depression, and other psychological challenges, and also been found to reduce depression among elderly adults with dementia. Petting a dog can lower your blood pressure and heart rate, reduce fear and loneliness, and help you heal.

Pet visits in pediatric hospitals have been shown to provide stress relief, help normalize the hospital setting, and generate positive rapport and morale for patients and their parents. In pediatric oncology patients, pet therapy is credited with improving the overall mood and well-being of patients as well as parents and helping a patient adapt to a therapeutic regimen. One study even documented that just one visit by a canine significantly reduced pediatric patients' perceived pain after surgery, perhaps by providing a source of distraction.

"I think pet therapy reduces anxiety and sort of normalizes the hospital experience and just helps a kid be a kid," says Jason Freedman Gr'13, inpatient director of oncology at CHOP.

The findings are similar in adult patients. Hospitalized adults who received pet therapy showed significant improvement in perceived energy levels and significant reduction in pain, respiratory rate, stress/anxiety, and negative mood compared to those who did not visit with animals.

Margaret (Peg) Rummel, an oncology nurse navigator at the Abramson Cancer Center at Penn, brings her therapy dog, Darla, to work on Fridays to visit the medical oncology department, clinics, or hospitalized patients if they have requested a visit. "We did a small survey on what the reaction was to having Darla around, and overwhelmingly the staff's feedback and the patient's feedback was very positive," she notes. Staff reported pre-visit stress levels of 4 or 5 with 5 being the highest level. Stress levels decreased to a 1 or 2 after Darla's visit. "She makes people laugh, and how can you have a bad day when you've got Darla around you, just making you smile and giving you some extra love?"

To apply as a pet therapy volunteer at CHOP, handlers must be 18 or older and dogs must be between one and 10—and be approved as a registered therapy dog through one of four certifying organizations: Pet Partners, Therapy Dogs International, Alliance of Therapy Dogs, or Comfort Caring Canines, which have similar requirements. My dogs Millie and Franklin are both registered through the Alliance of Therapy Dogs.

I also had to complete a background check and pass a test evaluating my handling skills and my dogs' reactions to strangers and other dogs. Then each dog and I had to complete three visits to a medical facility in which we were supervised and evaluated on our work as a team. Only then could we apply to CHOP's program.

That process begins with an interview with Serad for the handler (without dog)

giving a general overview of the program and a brief tour of the hospital. "We show them how big CHOP is and we go over the good, the bad, the ugly of volunteering here and make sure they have a better idea of what they're getting into," she explains.

This is followed by paperwork confirming current immunizations and annual flu vaccine, plus FBI fingerprint clearance, criminal background check, and child-abuse history clearance. I had to sign off on CHOP's policies of patient and institutional information, confidentiality, and therapeutic boundaries.

Dogs must be current on their vaccinations and rabies booster; must not consume a raw diet (which increases risk of pathological bacterial and protozoal shedding and infection that can compromise patient health); and have an annual physical and behavioral evaluation at Penn's Ryan Veterinary Hospital.

Once cleared, dogs and handlers attend a two-hour Unit/Patient Care orientation in which Serad reviews the rules of the road, including stringent hand-care regulations: no one can pet dogs without washing their hands or using a bacterial hand wipe or hand sanitizer, before and after the encounter. I travel with my CHOP-provided pack of wipes at the ready and sometimes go through two packs in an hour! In addition, I must use Purell on my hands before and after entering each patient's room.

Millie and Franklin are permitted to jump on a patient's bed—with consent, of course—but I must go to the linen closet and get a clean sheet to put down and remove that sheet when we leave the room. Dogs are also not allowed to lick patients, and no patient is permitted to give a dog a treat. Each dog must be bathed within 24 hours of their volunteer shift and for two days before a visit no flea or tick topical can be administered.

At the end of the orientation, Serad assigned us to a unit and took us on a short visit. Then I was required to complete three supervised visits (I alternated dogs) under her tutelage, the last of which required me to find my way to the unit without her—a daunting task!

When reporting for work, Millie and Franklin wear CHOP-provided bandanas and I wear a CHOP blue polo shirt. I am never allowed to wear shorts or open shoes. Each dog also gets an official trading card with their photo and some fun facts about them. Many patients collect the cards. The onboarding process takes between four and six months to complete.

Serad freely admits "there are barriers to entry, the first of which is the dog has to be a registered therapy dog. Everybody thinks their dog is the best, but we need an independent, impartial opinion as to whether the dog is suitable or not." Which is why the Penn Vet piece is so vital, she says. "I think it's important to have many sets of eyes on these dogs who are working with some of the sickest patients in the world."

Alison Seward is the behavior representative at Ryan Veterinary Hospital and has been administering the test for dogs in the CHOP program since the late 1990s. "My role is to see them when they come here for a yearly medical exam to evaluate the safety of their being around patients," she explains. "I do a simple test for obedience to the handler as well as watch them around other dogs in our waiting area and pay a lot of attention to their willingness and apparent comfort meeting me and interacting with me."

The pre-certification requirement tends to weed out unsuitable candidates, so "failing the behavior test is vanishingly rare," she adds, "but if we do see a dog who is obviously distressed, we will say, 'Why don't we give this another year?' It's in everyone's best interest not to certify a dog who could not possibly manage."

Seward herself was the beneficiary of an impromptu therapy dog visit when she was a patient at HUP three years ago. "As I recall, I was up by the elevators and there was one of the volunteers with their Labrador," she says. "He gave me the dog's little card and now I have it on my bulletin board."

"We need an independent, impartial opinion as to whether the dog is suitable or not. It's important to have many sets of eyes on these dogs who are working with some of the sickest patients in the world."

HUP's onboarding process is similar but a bit quicker, forgoing fingerprint checks and no longer requiring its therapy dogs to be evaluated at Penn Vet in addition to precertification. "We do not have a pediatric program, so we don't worry about the FBI fingerprint," says Cribb. "We're not fortunate like CHOP to have a dedicated coordinator, but when we do see applications come through for somebody who has a certified dog, we tend to respond to them quickly because we always have openings for HUP's Pups volunteers." Presbyterian's requirements are the same as CHOP's, but dogs in the Presby Paws program must be certified in animal assisted therapy specific to healthcare and hospitals.

The lengthy process does self-select a pool of committed volunteers. One example is Flaura Koplin Winston EAS'83 GEng'84 M'88 Gr'89, founder and scientific director of the Center for Injury Research and Prevention and director of the Center for Child Injury Prevention

Studies at CHOP, where she is also a distinguished professor of pediatrics. Winston and her dog Dobby, a Miki (a rare breed mix of Maltese, Shi Tzu, Japanese Chin, and Papillon), started volunteering at CHOP last November, working on the trauma floor since that is where her professional interests lie. "It's very consistent with what I do, and I did a lot of traumatic stress research," she says. "I can understand a lot of what the kids are going through."

She feels that Dobby—who, weighing in at seven-and-a-half pounds, is extremely portable and totally nonthreatening—is well suited to this type of work. "If they hold him next to their chest, it's just this incredible release," she says. "The very first time I did this, there was a woman who was visiting a relative who asked if she could hold my dog. And she just held him and started crying. He's just perfect that way. He will just sit there and be fine with it. I feel like I have a special gift to give because I'm also a pediatrician so I can really understand what they're going through."

Winston doesn't hide her professional background, identifying herself as Dr. Winston ("just because that's my name," she says), but on a volunteer visit, wearing her blue shirt and with Dobby decked out in his petite bandana, she has found that the patients don't ask her medical questions. "It's really all about Dobby," she says. And as intriguing as the prospect of researching the impact of therapy dogs on trauma victims is, she has refrained. "Personally, this is my joy. This is not my research."

One of Winston's most memorable encounters involved a young woman who did not want to get up and walk after her surgery, despite her nurse's orders. Winston asked her if she wanted to walk Dobby, and that got her to complete two laps around the unit. "Everyone you meet says, 'This was the bright point of my day,'" she comments.

Every volunteer has their own motivation, which often begins with firsthand

Camp Comforters

Therapy dogs help children grieving loss.

Laurie Leevy's son Justin C'95 was very ill during his time at Penn and after graduation, succumbing in 2016 to complications of chronic fatigue immune dysfunction syndrome. For the last 13 years of his life, Justin lived at home and, among other things, helped his mom rehab a rescued Kuvasz dog named Jazz.

(Kuvasz are large white dogs from Hungary, bred to be caretakers of young livestock and guardians of their families—and to "listen to no one," says Leevy, who nevertheless has owned, trained, and shown this breed since her children were small.)

"With Justin's help, I took a dog who feared people—especially women—and trained him to get obedience titles, several under women judges," she recalls. "I think I learned, at an even deeper level, the importance of the canine–human connection watching the importance of the dog in, by then, my disabled son's life."

Jazz unfortunately developed metastatic cancer, and in the last stages of his illness, Leevy purchased her current dog Lahdee (registered name: Szumeria's Taliszman Love in a Mist). "I thought I had gotten Lahdee for Justin who, even during periods of pain and suffering, would walk her almost every day and lie on the floor with her in a heap of cuddles."

But when Justin passed away just seven months after Jazz, Lahdee became the dog that pulled her forward in her own life. "No matter the grief or the loss, a young dog needs our immediate attention," she says.

Leevy embarked on a regimen of classes in agility, obedience, rally, and eventually therapy dog certification. She and Lahdee have been volunteering at CHOP since 2018 on the neurology unit, where they have become beloved regulars. Some children are boisterous and active, others withdrawn. In all cases, Lahdee has proved to be a nonreactive big, white, fuzzy girl. "Some people have called her the Peaceful Cloud," Leevy says.

"Kids are a little nervous. A dog is a really nice object to focus their attention and ease the transition."

Through CHOP's pet therapy program coordinator Lisa Serad, Leevy learned about Camp Erin Philadelphia, a bereavement camp for children six to 17 run by Penn Medicine Hospice. For the past three years, therapy dogs have been part of the camp's three-day program.

Last summer, Leevy and Lahdee were among the greeters who helped welcome the children to camp. "Kids are a little nervous showing up for the first time, meeting all these new people," says Eric Trumbower,

Photo courtesy CHOP

manager of volunteer services for Penn Medicine Hospice and the camp director. "A dog is a really nice object to focus their attention and ease the transition."

Lahdee was one of three therapy dogs at camp last summer. Liz Decina, a recreational therapist at Moss Rehab in Philadelphia, and her dog Pender (who is the facility dog at Moss) have volunteered at the camp for the past two years.

"The camp schedule is expertly laid out to cycle through fun activities and then work on grief, interpersonal issues related to the grief, group talk therapy sessions related to grief, and then roll back into fun," says Decina, who coordinates the camp's therapy dog program as a volunteer. "This cycle goes on five times a day to create a beneficial relationship with grief and then moves forward to tackle the rest of your day."

The dogs are involved in expressive activities such as grief and memory circles, participate in the camp preview party and opening ceremonies, and even join in at bedtime. "Last year we ended up with a dog that was in the cabins with the kids getting a story read to them, and the campers fell asleep on the dog," Trumbower says.

Judy Dinofrio, a registered nurse who has worked in Pennsylvania Hospital's neonatal intensive care unit for the past 30 years, has seen the effect her eight-year-old golden retriever Apolo has on children struggling with grief.

One little girl was struggling to express her feelings during an activity in which campers were encouraged to place a photo of their loved one on a memory board and talk about them. "Apolo wanted her to pet him, and once they were off playing with each other, she started to open up more," Dinofrio recalls. "She started telling me about her mother and her cancer and was able to express something through her contact with Apolo. There's a sense of him not judging, just being there."

At this writing, Camp Erin Philadelphia is on hiatus due to the coronavirus, but Trumbower intends to add more therapy dogs to camp when it reopens. *—KLF*

experience of animal assisted therapy. When Elena Cappella got her therapy dog—Nessie, a Shetland Sheepdog—in 2011, it was originally to comfort herself. "I retired from a very demanding career expecting to have more time with my mom, but she died a few months later," she says. "I got Nessie to be my emotional support dog."

She soon realized that Nessie was very smart and easy to train, and she began pursuing the requirements for therapy dog certification. She recalled that her mother enjoyed it when dogs came to visit her assisted-living facility and was drawn to work at a children's hospital because she has a granddaughter who went through treatment for kidney cancer in other cities. Cappella and Nessie have been volunteering at CHOP for about six years and work in the rehab unit at Seashore House, as well as in the lobby of the Buerger Center for Advanced Pediatric Care as "greeters" when patients are registering.

Besides volunteering at CHOP, Capella and Nessie have appeared in events at the Wharton School, the dental school, the graduate chemistry department, the Annenberg School, and at open houses at the Graduate Student Center and some undergraduate departments under the auspices of Comfort Caring Canines, the therapy organization through which Nessie is certified. The team was also included in a doctoral program class at the School of Social Policy and Practice taught from 2017 to 2019 by Katharine Wenocur SPP'11 GrS'18 called Animals in Social Work. CHOP's Serad was also a guest speaker in the survey course, which explored the history of therapeutic involvement of animals in social work practice, including the wide range of roles that animals play in clinical social work.

For their final project, students researched sub-areas of animal assisted therapy. "Some were focused on the elderly. Some were focused on victims of abuse. Some were focused on folks on the autism spectrum," Wenocur says. "And in all of these populations there were bodies of evidence that were emerging, saying that this could potentially be really helpful for reduction in symptoms and improvement in quality of life."

Christina Bach SW'96 Gr'12, the psychosocial oncology content editor for the Penn Medicine cancer education website *Oncolink* and field liaison at the School of Social Policy and Practice, has seen the benefits of animal assisted therapy firsthand. For the past five years, Bach and her late dog Finn and her current dogs Linus and Huck have been pet therapy volunteers in the radiation oncology waiting area at the Perelman Center.

Bach sets up shop in a corner of the waiting area, asking anyone sitting there if they are comfortable with her being in the vicinity. She covers the chairs, puts up signs identifying her dogs as therapy animals, stocks the area with Purell for pre- and post-petting hand sanitizing, and waits for people to come to her. "The rule here is that we can't approach people. They need to approach us," explains Bach. "If they are a little shy and looking longingly at Linus I often say, 'You're welcome to pet him. This is Linus. He's a therapy dog and he's here for you.'"

Waiting for radiation treatment is highly stressful, and pet therapy is one of many interventions Penn offers in the waiting room, including yoga, music, meditation, and a virtual reality relaxation station, says Fern Nibauer-Cohen, director of patient engagement in the department of radiation oncology. "The pet therapy program is an important component of our quality of life programs." As an indication of how much this program is valued, during the pandemic it has continued virtually. "We had a virtual gathering of about 15 former patients, structured like a talk show, featuring Christina and her beagles. Everyone loved it," Nibauer-Cohen reports.

Bach is confident animal assisted therapy is beneficial, "but's it's hard to prove the evidence of that," she admits. "Do you measure biometrics? Do you take some-

body's heart rate and blood pressure before and after they interact with the dog? Or is it all really qualitative, in that we're just really hearing stories and using this narrative about these experiences with animals?" She does know that "people miss their dogs; they love their dogs. So this is a nice connection for them."

Bach also appreciates the continuity of her patient encounters. "In radiation oncology, these patients are being treated for four to sometimes eight weeks," she explains. "So we develop relationships with them and become part of their treatment teams, and we look forward to seeing each other every week."

Bach has written about her patient encounters on the *Oncolink* blog. One of her favorites involves a patient who bonded with her late dog Finn. "He came in and kept to himself, looked kind of disheveled, and he loved Finn," she recalls. "Finn didn't care if he had showered that day or hadn't brushed his hair." The patient noticed that Bach fed Finn multigrain Cheerios as treats. "On the last day of his therapy, he arrived with his hair styled and looking dapper. Everybody was congratulating him, and he took out a box of multigrain Cheerios for Finn," Bach recalls. "What Finn did was make him feel normal. For him to go out and buy a box of Cheerios for a dog made him feel not so much like a cancer patient but like somebody who was compassionate and cared about this creature who cared about him."

At CHOP, therapy dogs are an accepted, nontraditional therapy that helps hospitalized patients normalize their experience—but Serad is always mindful that some people believe dogs should not be in hospitals. "That is why we have to be so strict with hand hygiene and all of our other rules around safety, boundaries, and privacy," she says.

One of the largest barriers is the issue of infection, though Presby Paws founder Kim Daniels says she "dug into the literature and found evidence-based practice, research studies, a whole bunch of support and not one piece of literature evidencing anything negative." Infectious disease experts are part of Serad's advisory team at CHOP and helped develop the sanitary protocol that all the hospitals follow.

For the past two years, therapy dogs have even been able to visit some of CHOP's pediatric oncology patients, based on meeting certain health criteria on a day to day basis. "Obviously if our patients have major infections, or they're on specific type of contact isolation, or they have bacteria they could easily share, or they're in the middle of a bone marrow transplant, they're not able to participate," says inpatient director Jason Freedman, citing the major categories of concern. "But we were really able to open it up to a large group of the patients undergoing generalized cancer therapy because their immune systems are not as weak, and it really made a world of difference."

The protocol was developed in conjunction with colleagues in infectious disease as well as on the unit, and in large part because of the "way Lisa runs the program," he says. "There's no data to guide you; it's kind of gestalt. You have to just realize that this is really important for the children and you have to balance quality of life with other things. But I can tell you the smiles on these kids' faces when you walk in and they've had pet therapy, it's kind of unbelievable."

Another pediatric population on high-level contact precautions (gown and gloves required to enter their rooms) are patients with cystic fibrosis (CF). Ronald Rubenstein, professor of pediatrics at the Perelman School of Medicine as well as director of the Cystic Fibrosis Center at CHOP and HUP, recognized that his patients—who may be hospitalized for weeks at a time—were excluded from getting pet therapy as part of their inpatient stays. "In collaboration with the infection control colleagues, we came up with a protocol by which the dogs could visit kids with CF," he says, "and as part of that, we tracked if we would ever have hospital-acquired infections."

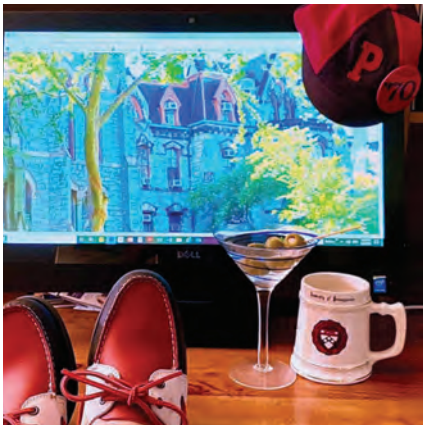
Under the protocol, a therapy dog visits with one CF patient for an extended time, enters and exits via a service elevator, and is not eligible to return for two weeks. A pilot study is currently under way to determine whether or not the dog was transmitting bacteria from the patient and vice versa, developed by Rubenstein and the veterinary school's Daniel Morris, professor of dermatology, and microbiologist Daniel Beiting.

Through his other research, Morris knew Meghan Davis, an associate professor at Johns Hopkins University, who was investigating similar transmissions of bacteria via the dogs in the pediatric oncology population there. "Meghan had some preliminary data that suggested that using chlorhexidine wipes on dogs could decrease the transmission of these pathogens," Rubenstein says. Together the group wrote a grant securing NIH funding to investigate whether these wipes could decrease the transmission of bacteria from dogs to humans and humans to dogs.

A clinical trial is in its second year. The first year was mainly about planning. According to Rubenstein, they are currently waiting for approval by the Institutional Review Board to begin data collection, which he hopes will be up and running in the near future. The plan is to use the same dogs over and over and to swab them (nose, mouth, and the "petting zone") before and after the visit with similar sample collections from the patient.

"If you're a kid who happens to have CF and the family wants to have a dog as part of their normal family life, then that's part of being a kid," says Rubenstein, who owns two Portuguese Water Dogs. "But I don't have any guiding data to tell me if it's really OK or not. That's one of my motivations in this."

Kathryn Levy Feldman LPS'09 writes frequently for the *Gazette*.



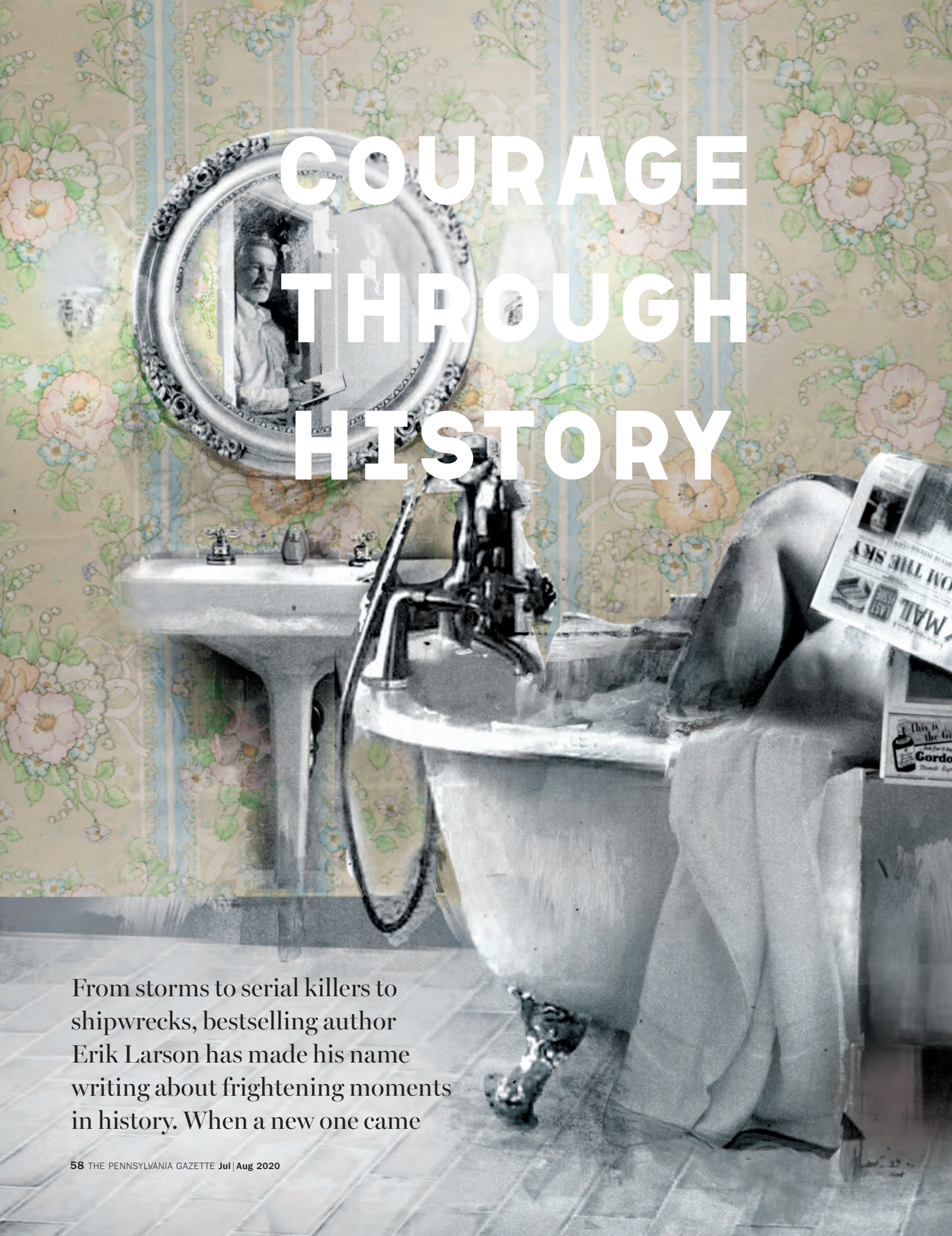
VIRTUAL

Alumni Weekend 2020*

*In-person celebration coming May 22-23, 2021. Save the date!

Pictured here are photos posted on social media at the invitation of Penn Alumni with #LOVEPENN to mark the first (and, let's hope, one-of-a-kind) Virtual Alumni Weekend on May 16, 2020. You can view all the day's activities—which included several presentations, a simulated Parade of Classes (using old photos), and spirited renditions of "The Red and Blue" and "Drink a Highball"—by visiting alumni.upenn.edu and clicking on Events. —Ed.

COURAGE THROUGH HISTORY



From storms to serial killers to shipwrecks, bestselling author Erik Larson has made his name writing about frightening moments in history. When a new one came

in the form of a global pandemic, readers found unlikely comfort in his latest book—a story of leadership, perseverance, and hope in the bleakest of times 80 years ago. **By Dave Zeitlin**

ILLUSTRATION BY DAVID HOLLENBACH

It was dusk in London when Erik Larson C'76 gazed out of his Egerton House Hotel window. The sky was clear, the weather warm—the kind of evening that would have been perfect for hundreds of Luftwaffe aircraft to suddenly appear on the horizon and pummel the city with bombs.

How terrifying must that sight have been? How did ordinary British citizens mentally cope with relentless air raids for 12 straight months from 1940 to 1941? Or with the more terrifying belief that Hitler would soon unleash a full-on invasion with German paratroopers landing in the heart of one of the world's great cities?

Larson, a bestselling author known for his gripping works of historical narrative nonfiction, tried to imagine those feelings while in his hotel room that beautiful night two years ago. He did the same during daytime walks through London's famed Hyde Park. "Suddenly you're vibrating with a sense of the past," he says. "And that's what I try to convey to my readers—that sense of immersion in an era, in a story, to the point where maybe they lose sight of the fact that they actually know how it ends."

How World War II ends is, of course, well known. The Nazis never invaded Great Britain and instead got bogged down in the Soviet Union, the United States entered the war after the attack on Pearl Harbor, and the Allies ultimately prevailed. But before all that, the only thing that stood in Hitler's way was the United Kingdom and its pugnacious prime minister, Winston Churchill—a man who, despite his faults, Larson says, was a "terrific leader for this particular period, because he was very good at helping people find their courage."

Although, by Larson's admission, Churchill is "one of the most heavily written-about people in the history of the planet," his newest book, *The Splendid and the Vile*: *A Saga of Churchill, Family, and Defiance During the Blitz,* delves into the prime minister's first year in office—which coincided with the German air campaign meant to bring Great Britain to its knees.

Drawing on original archival documents, untapped diaries, and recently released intelligence reports, Larson approached Churchill from a different angle, painting a vivid portrait of what life that year was like on a daily basis for the prime minister and his family, including vivacious daughter Mary, and an inner circle of advisors. A diary entry from one of those advisors, Churchill's private secretary John Colville, turned out to be the inspiration for the book's title. During one of the raids, while watching shells explode and fires rage underneath a clear black sky from his bedroom window, Colville "was so struck by the sort of weird juxtaposition, as he put it, of natural splendor and human vileness," Larson says.

That kind of juxtaposition animates Larson's book. During the day, Londoners still went to work, shopped in stores, ate in restaurants, sunbathed in parks—but they did so while holding onto gas masks and "their identity discs, in case they got blown to smithereens," Larson says. Then, at nightfall, they darkened their windows, went to their basements, bedrooms, or backyard "Anderson shelters," and hoped luck was on their side when the bombs dropped. "As time wore on," Larson says, "people just said, 'Look, I can't predict whether I'm going to live or die. There's not much I can do about it, so I'm just going to live my life.'"

Released in late February, shortly before cities around the world were flipped upside down due to the novel coronavirus outbreak, *The Splendid and the Vile* quickly found its audience. Larson says he hears "all the time" from people who tell him they've found comfort reading the book while quarantined at home, drawing hope from how people in England 80 years ago strove for normalcy in the midst of terror and uncertainty. "I'm slightly mystified," he says. "People are turning to this book about mass death and chaos for solace, and they're finding it. They're finding it because there is this model of really terrific leadership. And I think people need to be reminded of what leadership looks like." Also, Larson notes, the story does have a happy ending—even if nearly 45,000 Britons lost their lives in the air raids. "They got through it," he says. "They went through the gates of hell and came back out again."

Has the story of "The Blitz" even helped Larson, who's known by his three adult daughters as the "Prince of Anxiety" because he'll text them "Dad Alerts" if it's a windy day or there's ice on the ground? Had he been alive in London in 1940, he admits he probably would have been a "drooling mass of quivering anxiety" at first. But eventually, he says, "I'd like to think I would rise to the occasion. I think one becomes emboldened if one sees people around them being courageous."

Thinking some more about how Churchill taught the British people what Larson refers to as "the art of being fearless"—and how important it is today to come together again, during a global pandemic—he adds another thing:

"I feel courage is infectious."

Larson has found different kinds of courage throughout his life, making decisions both impulsive and risky to go from what he calls a "shiftless, haphazard guy" to an author whose five books before *Splendid* have collectively sold more than nine million copies worldwide.

Undecided about where to go to college, the Long Island native settled on Penn because that's where his girlfriend was going. They broke up soon after arriving on campus, but he had a good time anyway. As a freshman, he was "transfixed" by a Russian history class taught by the late Alexander Riasanovsky, a longtime University faculty member and, notes Larson, "an exiled Russian prince." One night, Larson says, Riasanovsky came to a campus party to "teach us how to drink vodka the Russian way." It was a different time, he laughs, adding, "I will tell you that I've never been drunker in my life."

Riasanovsky turned Larson on to Russian history and literature, which he studied the rest of his time at Penn. He had other great history professors too—so much so that he wanted to become one himself for a while. He also thought that he'd like to become a prosecutor, or maybe a New York City cop. "I went in thinking I was going to do one thing with my life, left thinking I was going to do another, and did neither of those," he says.

Writing, he says, "was always sort of my background thing." When he was 13, he wrote a novella that mirrored the Nancy Drew books he liked to read growing up. At Penn, he kept writing, but not much that was published—mostly short stories and "failed novels" in between schoolwork and vodka drinking lessons. Another memorable Penn course taught him to appreciate Ernest Hemingway, whose writing style—"in terms of clarity and simplicity and the conservation of words"—became a lifelong resource.

After college, he got a job as an editorial assistant at a publishing company in New York, but it was a trip to the movie theater that proved most formative. Upon seeing *All the President's Men,* the 1976 political thriller about the Watergate scandal, he "decided then and there, this is what I wanted to do with my life—I wanted to bring down presidents." His wish to become the next Woodward or Bernstein was short-lived, but it did lead him to the Columbia Graduate School of Journalism, then to the *Bucks County Courier Times* in suburban Philadelphia. "I was not a natural reporter," he says, but he tried his hand at longform investigative features on top of the daily grind of covering cops and laying out the newspaper. After being passed over for a promotion, he shopped his résumé around and in 1980 landed at the Philadelphia bureau of the *Wall Street Journal*.

From Philly, he accepted a transfer to San Francisco, where he sought out light, funny things to write about, "always finding better ones than the rest of us," says Carrie Dolan, a friend and former colleague. Dolan figured Larson would move on to "great glory," but given what she knew about him, "thought he'd write funny stories or mystery novels." Larson wasn't sure about his career trajectory either when, in 1985, the *Journal*'s managing editor offered him the Atlanta bureau chief's job and Larson told him that not only was he declining the promotion, he'd be leaving the paper entirely.

After Larson married a neonatologist named Christine Gleason, whom he had met on a blind date in San Francisco, the couple moved across the country to Baltimore, where she started a new job at Johns Hopkins. There he did some freelance magazine writing, raised his three daughters with his wife, and in 1994 published his first book: *The Naked Consumer: How Our Private Lives Become Public Commodities*. A collection of essays about how companies were spying on individual consumers, "I thought it was going to be a huge bestseller," he says. "And nobody bought or read it. But I did get the bug, and I loved the process. I loved the pace. It suited my personality."

His next book, *Lethal Passage: The Story of a Gun*, was about the country's gun culture, following one model of a handgun and using the life and experiences of a school shooter to frame it. Though not a bestseller, that book did better than the first, and perhaps more importantly, helped him determine that the secret to his success might be rooted more in narrative storytelling than hard journalism.

So he went to the library, took out the *Encyclopedia of Murder*, and went down several rabbit holes in search of the wildest damn stories he could find.

BY the time his sixth or seventh book proposal was rejected, Larson was getting ready to dump his literary agent, David Black. Looking back on it more than 20 years later, the author is glad he didn't. In fact, he credits Black with helping him shape the narrative arc of a story of a hurricane that struck Galveston, Texas, in 1900. The result (after the eighth proposal was finally accepted, and a publisher found) was Larson's 1999 breakthrough book: *Isaac's Storm: A Man, A Time, and the Deadliest Hurricane in History*. "What was clear from the very beginning," recalls Black, still Larson's agent today, "was that he had something really special that he was working on."

Finding the idea for the book wasn't exactly a straight line either. It can be traced back to 1994 when Larson read Caleb Carr's *The Alienist*. Though it was a novel, Larson was fascinated by the real-life characters set in 1890s New York and the serial killer genre. So he thought maybe he'd like to try to write about a real-life murder.

Very quickly in his research digging through *The Encyclopedia of Murder*, he came across serial killer H. H. Holmes, who would go on to become one of the two central characters in his next book, the monster hit *The Devil in the White City*: *Murder, Magic, and Madness at the Fair That Changed America*. But at the time, he says, "I didn't want to do crime porn, and he was too over-the-top bad." Instead, he homed in on the murder of a Texas businessman named William Marsh Rice, which led him to Galveston, where he was amazed to learn of the destruction caused by the hurricane the same year Rice was killed. So he thought: *Forget about the murder for now*.

While digging for information about the storm at the National Oceanic and Atmospheric Administration library, he pulled out a dusty leather binder and found a newspaper article written by the US Weather Bureau meteorologist Isaac Cline, "in which he said that no storm could ever do serious damage to the city of Galveston," shortly before the storm killed as many as 10,000 people in Galveston alone. Just like that, his antihero was born. And *Isaac's Storm*—what he refers to as his first work of narrative nonfiction—was critically well received. (It also remains his wife's favorite, 20 years and five other books later, as hard as he tries to unseat it.) The *New York Times*, in its book review, called it a "richly imagined and prodigiously researched" book that

"pulls readers into the eye of the hurricane, and into everyday lives and state-of-the-art science. It is a gripping account, horridly fascinating to its core, and all the more compelling for being true."

Of all the "horridly fascinating" events and people through history, H. H. Holmes—American's first modern serial killer—would rank high on any list. After *Isaac's Storm* was published, Larson remembered a reference made to the Chicago World's Fair of 1893 in something he had read about Holmes, and was drawn back in. He submitted what Black calls a "stunning" proposal that weaved together two parallel storylines—one on Holmes building his hotel of horrors and the other on the architect Daniel Burnham leading the design of the fairgrounds just blocks away.

Devil in the White City went on to win the Edgar Award for best fact-crime writing, was a finalist for the National Book Award, and is now being developed as a Hulu series with Leonardo DiCaprio and Martin Scorsese attached. But on the night before it was published in 2003, Larson was convinced his career was over. "I thought it was going to crash and burn," he says, unsure of how critics would react to one book with two distinct storylines that rarely intersect.

Instead, many marveled at how a work of nonfiction could feel so much like a novel, and how something like the invention of the Ferris Wheel could be almost as suspenseful as Holmes wooing and torturing his victims. "I knew that was going to be either the biggest thing ever, or people would be like, '*What is this guy thinking?*'" laughs Dolan.

Although *Devil* proved to be a "really amazing thing in terms of my life and my career," Larson notes it didn't make it any easier to find or sell his next book. "Being of Scandinavian origin," he says, "I'm a pessimist at heart." He once again went the dual storyline route for the 2006 book *Thunderstruck*, which is about a criminal chase and the parallel careers of wireless inventor Guglielmo Marconi and serial killer Hawley Harvey Crippen. "Right away, people were assuming, 'Oh, this is Erik's shtick,'" he says.

It wasn't. Following *Thunderstruck*, his next three books—*In the Garden of Beasts: Love, Terror, and an American Family in Hitler's Berlin* (2011), *Dead Wake: The Last Crossing of the Lusitania* (2015), and *Splendid*—didn't rely on dual storylines and were about subjects more widely known. What did remain the same, however, was the novelistic feel of his historical explorations. It's a testament to his writing skills, but the real reason he's able to do that is because of his "extraordinary attention to detail and his extraordinary amount of research," Black says. "We thought we knew about the Lusitania. We didn't. We thought we knew about the coming of the Nazis in 1939. We didn't. We thought we knew everything there was to know about Winston Churchill. We didn't."

For Larson, hunting for new things about old subjects, in far-flung archives and libraries, "is the fun part" of the process—which, aside from more overseas travel, hasn't changed much over the last two decades. That's why he's never employed a research assistant to help.

"I don't know what I'm looking for," he says. "But I know exactly when I find it."

Before deciding to write a book about him, Larson didn't have a "deep abiding interest in Winston Churchill," he admits. "He was actually, believe it or not, an afterthought in the idea process."

The book's roots can be traced to a recent move he and his wife made to Manhattan from Seattle (where they had lived for a couple of decades after Baltimore). Upon arrival, he thought about what 9/11 must have felt like for New Yorkers—the smoke, the sirens, the shock—versus what it was like for him watching the horror unfold on CNN, nearly 3,000 miles away. Then he thought about another major city attacked from the sky—and how The Blitz began with *57* consecutive nights of bombings. Or, as Larson puts it, "57 consecutive 9/11s."

Initially, he thought it could be powerful to follow a typical London family during this time of incessant fear and horror. "Then I thought, *Wait a minute, why don't I do the quintessential London family*?" So that's how one of the most influential historical figures ever became the centerpiece of the story.

Larson had no way of predicting it, but Churchill's World War II leadership would come into sharper focus just as his book was released. As various world leaders struggled to prepare for and respond to the global pandemic, it seemed many people longed for someone known to inspire and motivate in a time of crisis. Yet while Churchill might be best known for his "rousing bits of rhetoric that we're all familiar with," Larson points to his honesty at the beginning of those eloquent speeches as one reason why he was such a steady hand. "What Churchill was very good at doing," the author notes, "was giving a sober assessment of the situation without sugarcoating it, but then following with real grounds for optimism." (For Larson, that presents the most glaring contrast with American political leadership in the age of the coronavirus.)

Churchill's bravery was unmatched, too. Despite increasing fears for his personal safety, "no raid was too fierce to stop him from climbing to the nearest roof to watch," Larson writes in *Splendid*. "Even near misses seemed not to ruffle him." That combination of fearlessness and honesty made his frequent visits to bombing sites to speak directly to English citizens "a very powerful thing for the public," Larson says. "They knew he was with them. They knew he was moved. And they knew he was hellbent on doing something about it."

The book also captures Churchill's delicate diplomatic balancing act in his frequent correspondence with US President Franklin Roosevelt. And it includes chapters from the Nazi perspective, showing how Hitler's brazen confidence in swift English capitulation slowly diminished as the UK's Royal Air Force

(RAF) fought back the Luftwaffe and waged bombing campaigns of their own on German cities. Near the end of The Blitz in May 1941, Larson recounts a diary passage from the Reich Minister of Propaganda Joseph Goebbels that said of Churchill: "This man is a strange mixture of heroism and cunning. If he had come to power in 1933, we would not be where we are today. And I believe he will give us a few more problems yet."

Perhaps the most poignant portions of the book, though, are less about war strategy and more about the daily horrors of ordinary British citizens. Mostly using diaries that had been collected by the Mass-Observation social research organization, which he calls "the most amazing reservoir of compelling material," Larson depicts cinematic details from the ground when The Blitz began on September 7, 1940 (see accompanying excerpt). "For Londoners, it was a night of first experiences and sensations," he writes. The sound of a bomb crashing to the street. The skies glowing red. Billows of dust engulfing the city. "Survivors exiting ruins were coated head to toe as if with gray flour."

The following day was just as dreadful, as people dug through the wreckage and saw corpses for the first time. But as time went on, many learned to live with it. Despite the foreboding of possible Nazi rule, Mary Churchill—who Larson calls "incredibly articulate" and "an astute observer"—still longed for love. In her diary, which Larson notes only he and one other scholar have ever been granted permission to see, "she talked about war events. But she also talked a lot about her personal life and just the normalcy of it and the fun and snogging with RAF pilots." One particularly harrowing chapter recounts her arrival at Café de Paris just after a bomb fell on the club, killing at least 34 people, including the musician Snakehips Johnson.

"The raids generated a paradox: The odds that any one person would die on any one night were slim, but the odds

Illustration by David Hollenbach

On a Quiet Blue Day

Life in London was normal and picturesque—until bombs fell from the sky at teatime.

Excerpt

The Splendid and the Vile
by Erik Larson

The day was warm and still, the sky blue above a rising haze. Temperatures by afternoon were in the nineties, odd for London. People thronged Hyde Park and lounged on chairs set out beside the Serpentine. Shoppers jammed the stores of Oxford Street and Piccadilly. The giant barrage balloons overhead cast lumbering shadows on the streets below. After the August air raid when bombs first fell on London proper, the city had retreated back into a dream of invulnerability, punctuated now and then by false alerts whose once-terrifying novelty was muted by the failure of bombers to appear. The late-summer heat imparted an air of languid complacency. In the city's West End, theaters hosted twenty-four productions, among them the play *Rebecca*, adapted for the stage by Daphne du Maurier from her novel of the same name. Alfred Hitchcock's movie version, starring Laurence Olivier and Joan Fontaine, was also playing in London, as were the films *The Thin Man* and the long-running *Gaslight*.

EXCERPT *continued*

It was a fine day to spend in the cool green of the countryside.

Churchill was at Chequers. Lord Beaverbrook departed for his country home, Cherkley Court, just after lunch, though he would later try to deny it. John Colville had left London the preceding Thursday, to begin a ten-day vacation at his aunt's Yorkshire estate with his mother and brother, shooting partridges, playing tennis, and sampling bottles from his uncle's collection of ancient port, in vintages dating to 1863. Mary Churchill was still at Breccles Hall with her friend and cousin Judy, continuing her reluctant role as country mouse and honoring their commitment to memorize one Shakespeare sonnet every day. That Saturday she chose Sonnet 116—in which love is the "ever-fixed mark"—and recited it to her diary. Then she went swimming. "It was so lovely—joie de vivre overcame vanity."

Throwing caution to the winds, she bathed without a cap.

In Berlin that Saturday morning, Joseph Goebbels prepared his lieutenants for what would occur by day's end. The coming destruction of London, he said, "would probably represent the greatest human catastrophe in history." He hoped to blunt the inevitable world outcry by casting the assault as a deserved response to Britain's bombing of German civilians, but thus far British raids over Germany, including those of the night before, had not produced the levels of death and destruction that would justify such a massive reprisal.

He understood, however, that the Luftwaffe's impending attack on London was necessary and would likely hasten the end of the war. That the English raids had been so puny was an unfortunate thing, but he would manage. He hoped Churchill would produce a worthy raid "as soon as possible."

Every day offered a new challenge, tempered now and then by more pleasant distractions. At one meeting that week, Goebbels heard a report from Hans Hinkel, head of the ministry's Department for Special Cultural Tasks, who'd provided a further update on the status of Jews in Germany and Austria. "In Vienna there are 47,000 Jews left out of 180,000, two-thirds of them women and about 300 men between 20 and 35," Hinkel reported, according to minutes of the meeting. "In spite of the war it has been possible to transport a total of 17,000 Jews to the south-east. Berlin still numbers 71,800 Jews; in future about 500 Jews are to be sent to the south-east each month." Plans were in place, Hinkel reported, to remove 60,000 Jews from Berlin in the first four months after the end of the war, when transportation would again become available. "The remaining 12,000 will likewise have disappeared within a further four weeks."

This pleased Goebbels, though he recognized that Germany's overt anti-Semitism, long evident to the world, itself posed a significant propaganda problem. As to this, he was philosophical. "Since we are being opposed and calumniated throughout the world as enemies of the Jews," he said, "why should we derive only the disadvantages and not also the advantages, i.e. the elimination of the Jews from the theater, the cinema, public life and administration. If we are then still attacked as enemies of the Jews we shall at least be able to say with a clear conscience: It was worth it, we have benefited from it."

The Luftwaffe came at teatime...

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that someone, somewhere in London would die were 100 percent," Larson writes. "Safety was a product of luck alone. One young boy, asked what he wanted to be when he grew up, a fireman or pilot or such, answered: 'Alive.'"

For the vast majority of people, it's likely that the unease felt during a pandemic doesn't compare to what the British had to endure during The Blitz. After all, says Larson, "we're not going to have a bomb fall on us in the middle of the night while we're sleeping." But there are similarities, from minor things like toilet paper shortages to grander ideas like uniting to defeat a common enemy. "In London at that time, everybody had to pull together," Larson says. "We have to pull together now. Everybody has to do this to get this virus to subside, or we're screwed."

If a leader like Churchill were alive today, Larson believes we might have an easier time finding that kind of solidarity—and also, perhaps, do a better job putting the pandemic into historical context. That, Larson notes, was another one of Churchill's greatest strengths. "He was such a student of history," the author says, "that he understood that this was a moment in time that had come and would go, and that it was one moment in this grand epoch of British history. And he helped make people feel like they were part of that epoch."

Like everyone, Larson has been trying to adjust to being part of a new epoch. He's been monitoring his anxiety with his now-retired wife at their place in the Hamptons, working on his next book proposal and doing more livestream interviews. His study of Churchill has helped him. Oreos and red wine have too. And yet, "of course there's always going to be something that shakes your resolve, and you want to just crawl into a closet and whimper," he says.

"But then you've got to dust yourself off and do the Churchill thing and come on back out."

Pierre Brown, *Plate VIII, Nouvelles illustrations de zoologie*. From the Penn Library's online exhibit *The Illustrated Book, 1780-1830*.

Calendar

Penn Museum
penn.museum/collections
Temporarily closed, but collections are viewable online. Visit the website for virtual clubs, classes, and lectures for families and adults.

Penn Libraries
www.library.upenn.edu/collections/online-exhibits
Jews in Modern Islamic Contexts
In Sight: Seeing the People of the Holy Land
A Raging Wit: The Life and Legacy of Jonathan Swift
Ormandy in China: The Historic 1973 Tour
Marian Anderson: A Life in Song
plus dozens more online

Kelly Writers House
writing.upenn.edu/wh/
Temporarily closed, but visit the website for links to virtual events, archived programs, PoemTalk podcasts, and the PennSound poetry collection.

Annenberg Center
annenbergcenter.org
See website for schedule changes and Annenberg Center@Home events.

Arthur Ross Gallery
arthurrossgallery.org
Temporarily closed

ICA
icaphila.org
Temporarily closed

Slought
slought.org
Temporarily closed

World Café Live
worldcafelive.com
Schedule in flux; see website for up-to-date information.

Extreme Makeover: Locust Walk Edition

Minecraft meets Quaker Pride.

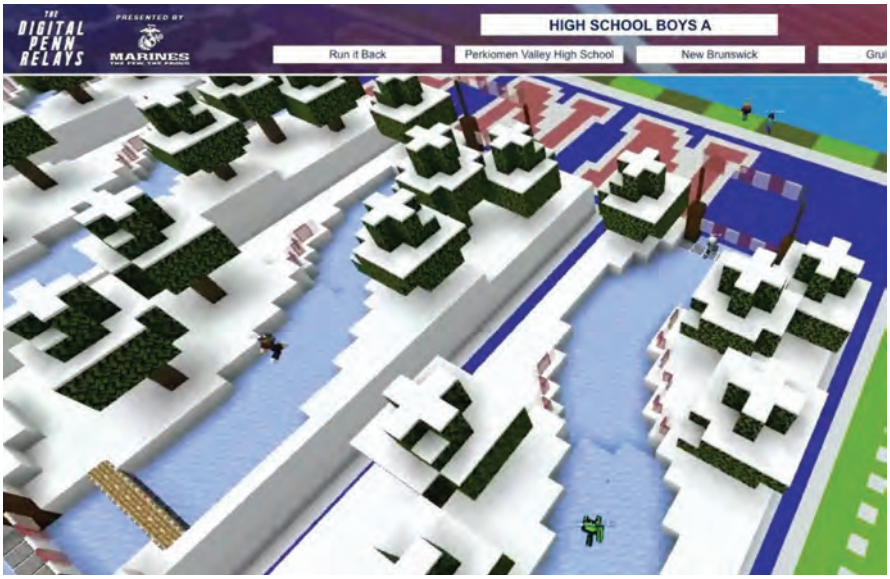
It's April 24th, the first and only day of the "2020 Digital Penn Relays," and Andrew Guo C'21 is trying his hand at color commentary. It's an odd affair. For starters, Guo is patching in from his home in Chicago. Then there are the contests unfolding on "Franklin Field," where Minecraft avatars compete in four distinct events: Hurdles, Ice, Lava, and a US Marines-style gauntlet. When a virtual contestant opts to swim the latter course rather than leap from ledge to ledge as intended, Guo dips into a register that would strike Bob Costas speechless. "I think he just galaxy-brained that!" the math major exclaims, mimicking an internet meme. "That's 400 IQ!"

The Digital Penn Relays was born out of Penncraft, a project Guo launched in March, just before the University sent students home for the semester under the threat of COVID-19 (and the actual track meet was cancelled for the first time in 125 years). Dozens of classmates quickly joined the effort: building a virtual replica of Penn's campus using Minecraft, the digital block-building game that over the past decade has become the bestselling video game of all time.

"I got involved more or less on the first day when Andrew Guo made that Discord link," says Makarios Chung EAS'20 GEng'21. Chung initially hoped to help administer the dedicated server where this world would take shape, but quickly took to construction around campus. Make that two campuses: one meant to mirror the physical campus as closely as possible, and another for playing Minecraft with other Penn students. "A university is made up of a community and a campus," Chung explains. "One server's the campus and the other server is the community."

Chung helped build Lauder College House, King's Court, and the Towne Building before turning toward the Wistar Institute. Guo has been working on

Screenshots courtesy Penncraft



Fisher Fine Arts Library built by Michael Willhoit GFA'23, College Hall built by Andrew Roberts C'20, Hill College House built by Darrion Chen EAS'23.

the Annenberg Center, and is soon looking to build Tangen Hall, a planned hub for student entrepreneurship that's under construction in the real world. He may have it done before the physical building itself is completed.

Working remotely presents its challenges. Nobody can just go into a building and measure its dimensions, so the virtual architects have to work largely from memory, Google Maps, photographs, and—if they're very lucky—floor plans available online or supplied by fans of the project. Minecraft displays its environment in 8-bit cubes, which means that little details get lost, so students focus on capturing the feel of a place rather than absolute similitude.

Builders also have to deal with "griefing," when a malicious actor logs onto the server and causes wanton damage—like covering the campus in watermelons or lava, or creating an orange-and-black phallus in the sky bearing the name *PRINCETON*. If the damage is extensive, the administrators can revert to a backed-up older version, but that risks losing progress made.

Penncraft began as a lighthearted lark, only to expand beyond what Guo intended. The project got nationwide attention with articles in *Business Insider* and the *Philadelphia Inquirer*, and similar projects have cropped up at Brown and Columbia—probably through parallel thinking rather than copycats. Some Drexel students have begun to add their campus next to Penn's, widening the scope of University City, and Chung says there's been talk of collaborating with other Ivy League Minecraft groups to stage a *Hunger Games*-style battle. Guo had been

planning a virtual Hey Day earlier in the year, complete with red shirts and a Minecraft "Note Block" programmed to play "The Red and Blue," but postponed it due to finals. He was also mulling the idea of contacting President Amy Gutmann to deliver an in-world speech.

Many students have used the space to reminisce over their lost campus, to reconnect with friends they are separated from, or make new friends, as Chung has done with his fellow builders.

"By giving us this little corner of the internet where we can all hang out and make friends with each other," he says, "it's done a large part, at least for me, and I'm pretty sure for others as well, in reducing the isolation a lot of us are feeling right now."

To join the effort, or simply take a tour, point your browser to creative.upenncraft.com. *—Sam Kesler C'20*

Screenshots courtesy Penncraft

Drawing Blood

Arlene Heyman's long-gestating first novel dissects the trials and traumas of a woman of a certain era.

By Julia M. Klein

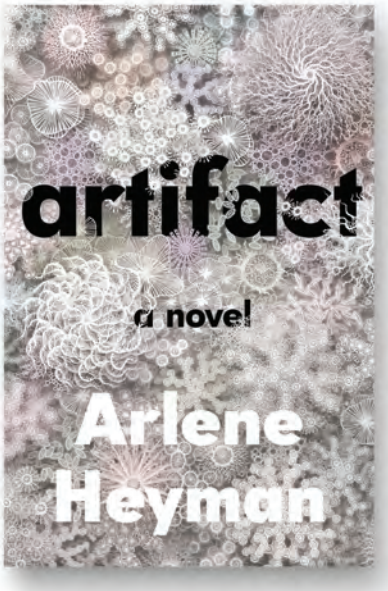
If Lottie, the rat-dissecting researcher of *Artifact,* seems familiar, it's because we've encountered her before: she was the protagonist of the identically titled short story in Arlene Heyman M'73's fine debut collection, *Scary Old Sex* (Bloomsbury USA, 2016).

Lottie's complaints may seem familiar as well. She is an aspiring scientist with a history of righteous grievances, both academic and personal. In her first published novel, Heyman gives Lottie a complicated, engrossing backstory, including a rambunctious adolescence, a failed marriage to her high school sweetheart, a sexual assault, three children (plus an obstreperous stepdaughter), and years of professional frustration.

Heyman's own backstory ["Arts," Jul|Aug 2016] is at least as interesting. Before becoming a Manhattan-based psychiatrist, she studied with the poet Delmore Schwartz and the novelist Bernard Malamud, who became a mentor, lover, and friend. After some early literary success, Heyman turned her focus to medicine. *Scary Old Sex,* a gritty look at imperfect relationships and old-age sexuality, seemed to burst out of nowhere, and received rapturous reviews.

Like the short stories, *Artifact*, which once clocked in at 793 pages, has been in the works for decades. In her acknowledgments, Heyman says Malamud critiqued her 1980 manuscript. She has since manicured the book to a more manageable length and set it firmly in the 20th century, beginning the narrative in 1984 and then flashing back to Lottie's earlier life.

As a result, Lottie's professional tribulations—including graduate school classmates who alternatively mock or ignore her—make sense in context. How powerfully they resonate with contemporary readers may be an individual matter. While sexism and misogyny persist, in the sciences as elsewhere, they are arguably not quite so unvarnished.



Artifact: A Novel
By Arlene Heyman
Bloomsbury Publishing, 288 pages, $27

What is most modern in *Artifact*—as in the short stories—is Heyman's unsparingly direct descriptions of human sexuality, as well as gory laboratory procedures. Here, for example, is Lottie in her lab, slaughtering rats to study their salivary glands:

> She raised the paper cutter blade and positioned the animal's head on the platform, his squirming body just off the edge. His pink feet kicked the air. He began defecating black pellets, urinating in spasms on her glove. She brought the blade down crunching through the bottom of his neck. The head lay on the platform.

At this point in the narrative, Lottie is seething at a rejection by a microscopy journal, which takes her to task for her research methods. One critic has suggested that her submitted paper contains "accidental and random findings … no more than a collection of artifacts."

After the opening scenes, Heyman returns us to Lottie's Michigan childhood, with an emotionally absent, literary mother, who named her for Charlotte Brontë, and a stern, patriarchal father. We learn little about her three siblings and are left to ponder whether her memory of a baby brother given up for adoption is accurate.

The adolescent Lottie finds love and acceptance in a precocious sexual relationship with a popular classmate, Charlie Hart, a star running back. "She admired him with her future anatomist's eye," Heyman writes. They couple early and often, beginning when Lottie is just 14. Heyman describes their erotic adventures, apparently observed by a voyeuristic classmate, with undisguised relish.

For Lottie, though, pleasure leads to sorrow and pain. At 16, pregnant, she faces first her father's wrath, then a miscarriage. Later, at the University of Michigan, Charlie's brilliant football career is cut short by an injury. Despite this unpromising start, the couple—"an uneasy, off-kilter twosome"—marry and move to Texas, where Charlie desultorily studies economics in graduate school, and Lottie, bored at home, takes a job as a lab tech.

That their marriage, after producing a daughter, falters is not a surprise. Heyman never makes clear exactly why Charlie withdraws from Lottie, but his frequent nights out suggest an affair.

Meanwhile, Lottie, too, finds another love interest: a kind-hearted, Armenian American pediatric resident, George Kenadjian, who, on first meeting, teaches her how to draw blood. There's a mutual attraction, or so it seems. But even after leaving her increasingly absent husband, Lottie can't quite act on it. Instead, she drives off to graduate school at the University of Wisconsin, her daughter in tow, and the good doctor disappears entirely from the story.

It is there that the novel's most startling incident occurs: an initially consensual sexual encounter with an old acquaintance, who inhabits the territory between cluelessness and sociopathy, devolves into rape. Heyman takes us into the room and Lottie's psyche as her desire turns to terror. Grabbing a bread knife, Lottie manages to draw her assailant's blood—the drawing of blood is one of the novel's motifs—and to throw him out. But he never really pays for his act—an outcome that, however true to life, may be hard for readers to accept.

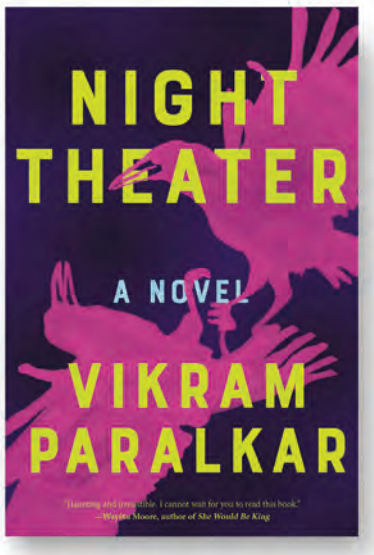
Like many women of an earlier generation, Lottie chooses to deal with the profound psychological impacts of sexual violence largely on her own. In time, her trauma fades. Heyman allows her to plunge into a new life, in New York, with a medical school professorship and a fulfilling marriage. Until, as in the short story, Lottie's obsessive focus on work leads to near-disaster.

Artifact itself is at once absorbing and episodic. Heyman piles up incidents, keeping the narrative moving and the reader involved. Not every plot twist makes sense; not every loose end is tied up. Despite its author's day job, *Artifact* is less psychological novel than contemporary picaresque, with an imperfect heroine who flails her way, sometimes gracelessly, through obstacles, but manages to be standing, and modestly triumphant, at the end.

Julia M. Klein is a frequent contributor to the *Gazette*.

Illness as Metaphor

In *Night Theater*, Penn oncologist Vikram Paralkar merges magical realism and the macabre.



In rural India, a village surgeon waits testily for the arrivals of a promised vaccine shipment, a new sterilization machine, and a nurse to assist him. His pharmacist, meanwhile, armed with an ill-fitting mask, assumes the duties of the absent nurse, along with tackling everything else from cockroach-proofing to electrical repairs. Vikram Paralkar's new novel, *Night Theater*, might at first put the reader in mind of the desperation faced by hospital personnel around the world during this spring's coronavirus pandemic. But the fictional set-up is a jumping-off point for an imaginative medical story that merges magical realism and the macabre while touching on questions of morality and humanity.

A physician-scientist who specializes in leukemia at the Perelman School of Medicine, the Mumbai-born Paralkar began writing fiction a few years back while completing a fellowship at Philadelphia's Temple University. "I began to realize that the more we learn about science, about the body, about treatment, the more our knowledge falls into gradations," he says. "There are many things we do in medical practice where the certainties and uncertainties—about diagnoses, clinical paths—go hand in hand. We saw that with the unfolding of coronavirus and COVID-19. Yet the doctor is often not allowed to be just another imperfect being."

Night Theater presents its protagonist with the greatest challenge imaginable to his presumed expertise: bringing back to life a family that has been brutally murdered. It's an absurd premise, of course, but after allowing the surgeon and his assistant to express understandable fright and astonishment at the sight of this pregnant wife, her husband, and their eight-year-old son—each sporting gaping wounds that expose their innards, each walking and talking despite having lost all their blood—Paralkar moves on to the surgeon's strained attempts to accommodate this bizarre request. "The dead seemed to think him a magician, with mystical devices and superhuman powers," Paralkar writes. "How many disappointments was he destined to inflict on them? And what agonies? Would they feel pain?"

Paralkar, 39, came to the United States after completing his medical training in India. He grew up in a book-loving household with a surgeon father and gynecologist mother. "Both of my parents were fairly avid readers," he recalls, "and we were always going to book fairs and coming back with bags of books. As a kid, a lot of what I read was along the lines of Agatha Christie and P. G. Wodehouse. It

wasn't until my late teens that I started reading my way systematically through the classics and came to love authors like Dostoevsky and [Jose] Saramago.

"Underlying every major literary novel—whether it's about identity, relationships, belonging, or what have you—are human bodies made up of bone and sinews and organs and blood," he points out. "Those components have to function or not in order for the book's themes to unfold. These characters have language, they invent, love, and mourn—but there's no escaping that they are housed in bodies that need nutrition and are susceptible to decay."

All literature, Paralkar says, proceeds from "human bodies made up of bone and sinews and organs and blood."

Living above the store, so to speak—his parents ran their own hospital, complete with an operating room and patient beds, on the first floor of the building where the family lived—Paralkar also gained an early immersion into the daily stuff of doctoring. "There are so many aspects of day-to-day medicine that are second nature to those practicing the profession," he says. "But if you look at the enterprise from the outside, there are peculiarities: the obsession with classification, the nitpicking of diagnoses, the vagaries of prognoses, the debates about treatment."

In his first work of fiction, 2014's *The Afflictions*, Paralkar considered those facets and "assembled them into a volume of imaginary illnesses where each one is a distortion of some of the elements that make us human," he says. So, in this series of phantasmagorical microfictions, we learn about *Amnesia inversa,* where instead of growing removed from and forgetful of loved ones, the sufferer is forgotten by more and more people, from the most distant and casual acquaintance to those nearest and dearest. The ailment *Lingua fracta* similarly turns the idea of *lingua franca* on its head, depicting a state where native speakers only retain a few words of their language and the resulting jumble has been merged "into a single dissonant, bristling tongue that is capable of almost a full range of expression."

While *Night Theater* is tinged with the nightmarish qualities of Kafka and Poe, *The Afflictions* revels in clever language and gentle observations on human nature. Those plagued by Libertine's Disease are said to have been treated (unsuccessfully) with "chasteberry and rue," which sound like inventive jokes but according to Google are real medieval medicines. Akin to but different from truth serum, the effects of *Erysifia* poisoning cause those afflicted to see the absolute, unvarnished truth. In especially severe cases, it "turns the victim's gaze upon himself, making him witness to the horrors of his own soul." No wonder we soon learn that the "only recorded deaths from *Erysifia* are suicides." The afflictions, says Paralkar, "take pieces from a real disease and turn them into something larger that connects to society and the human condition."

In between running his lab and treating his patients, Paralkar has begun writing his third novel. (It concerns a maker of prosthetic eyes who, as he looks into the good eye of his clients, is able to view their past and future.) This trio of endeavors share one trait, he says: curiosity. "In medicine, we are trying to discover what's ailing our patients so we can help them. And in science, we are investigating the body or its cells. In writing, we are digging deeper into understanding what it means to be a human being."

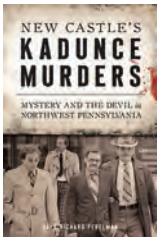
—JoAnn Greco

Briefly Noted

THE THANK-YOU PROJECT: Cultivating Happiness One Letter of Gratitude at a Time *by Nancy Davis Kho W'88* (Running Press, 2019, $22.00) Part memoir and part how-to guide, this book tells the story of the year Kho wrote 50 letters to the people, places, and pastimes that positively impacted her life. Using her experience as a template, she offers practical advice on how readers can organize their own gratitude letter project, and shares evidence for how it can lead to greater happiness.

A DAY SO GRAY *by Marie Busterna Lamba C'84 and Alea Marley (*Clarion Books, 2019, $17.99) This delightful picture book teaches children (and adults) the power of changing one's perspective. A discontented girl at first sees only a dull winter landscape with gray skies and brown fields. But with the help of a friend, she starts to notice tiny orange berries, vibrant blue water, and a fresh way of seeing her surroundings.

PLEASED TO MEET ME: Genes, Germs, and the Curious Forces That Make Us Who We Are *by Bill Sullivan G'94 Gr'97* (National Geographic Books, 2019, $26.00) Why are you a morning person? Why do you vote the way you do? Using straightforward language, Sullivan, a geneticist and infectious disease expert, shares how our personalities and actions are shaped by genetics, epigenetics, microbiology, and psychology.



NEW CASTLE'S KADUNCE MURDERS: Mystery and the Devil in Northwest Pennsylvania *by Dale Richard Perelman WG'65* (The History Press, 2019, $23.99) Using historical records and contemporary interviews, Perelman recreates the summer of 1978 when a double murder took place in the quiet town of New Castle, Pennsylvania. The saga intermingles a serial killer, a Satanist, multiple suicides, and three courtroom trials.

Visit thepenngazette.com for more *Briefly Noted*.

Text Message

For composer James Primosch, it's all about the words.

It's been a slow build over the last 20 years, but this past May, with two new albums out and a recent award added to his bio, music professor James Primosch G'80 realized just how much his work now centers on vocal music.

In fact, he may be realizing it at this exact moment, on the phone, stuck at home due to the coronavirus pandemic. Asked to name highlights from the four decades he's been a professional composer, starting when he got a master's in music from Penn and continuing through 32 years (and counting) on the music department faculty, he begins naming specific pieces. Then he pauses.

"It's funny," he says, "now that I say those things, I'm realizing the first three career highlights that come to mind all happen to be vocal. So there you go."

The first half of 2020 is further proof. In February, Primosch won the Virgil Thomson Award for Vocal Music from the American Academy of Arts and Letters. Then in May, two albums with his music came out: *Descent/Return* features several of his songs for soprano and piano; *Carthage* is an all-Primosch album, performed by the Grammy-winning chamber choir (and Annenberg Center ensemble-in-residence) The Crossing.

Carthage's first track, "Journey," opens with soft, monasterial tones. The text comes from an actual 13th-century monk's works: "There is a journey you must take," The Crossing's male members chant, low and enigmatic. "It is a journey without destination. / There is no map. / Your soul will lead you. / And you can take nothing with you."

For the album's title track, "Carthage," Primosch sets to music an excerpt from Marilynne Robinson's novel *Housekeeping*. That piece, along with the album's centerpiece, "Mass for the Day of St. Thomas Didymus," are the compositions that Primosch submitted to land his vocal music award in February.

The five-part "Didymus" makes up about half of the album. In it, Primosch interweaves the standard mass text, in Latin, with a set of poems by Denise Levertov that reflect on those same texts. "She's coming from a place that's a combination of doubt and faith," he says.

For "Didymus," Primosch divides The Crossing into two groups: a set of four soloists who sing the original Latin, and the rest of the choir, which sings Levertov's

Photo by Deborah Boardman

words. The result is a back-and-forth, call-and-response, push-and-pull feeling throughout, though by the end the voices have joined together in striking unison.

The pieces on *Carthage* are all unaccompanied—meaning its music comes solely from human voices, not musical instruments—"so there's a certain starkness to it," Primosch says. "But it also makes you appreciate the richness that a group of voices affords. With a cappella choir, there's kind of a high-wire danger at play there, with a certain self-reliance necessary."

His compositions on the other new album, *Descent/Return,* are for solo voice accompanied by piano. There's a riskiness and vulnerability in that too, Primosch notes, since the singer is alone at the microphone rather than behind an instrument or beside fellow choristers. "There's also an authority: we're attending to this particular person at a moment," he says. "We're there to hear what she or he has to say."

Something that both albums share—as do all of Primosch's vocal pieces, for that matter—is reliance on a source text. In 1999, when the Grammy-winning soprano Dawn Upshaw asked Primosch to write a song cycle that she could perform, he drew on texts from several writers, including poet Susan Stewart Gr'78 CGS'03, who was then teaching in the English department at Penn. Since then, all of Primosch's vocal compositions have set others' words into his music.

In that first song cycle for Upshaw, titled *Holy the Firm*, Stewart's poem "Cinder" supplied the text for what would become "kind of my greatest hit," Primosch says—a vocal piece with piano accompaniment that Upshaw brought on tour, and that Primosch has since arranged for both choral and chamber ensembles to perform. In a style that lives somewhere between sultry jazz club tune and operatic aria, "Cinder" opens with these words: "We needed fire to make / the tongs and tongs to hold us / from the flame" and closes with "Tell me, ravaged singer, / how the cinder bears the seed."

"With a cappella choir, there's kind of a high-wire danger at play there, with a certain self-reliance necessary."

"Things kind of built off of that," Primosch says of his *Holy the Firm* song cycle, and especially "Cinder." "Projects that turned out to be vocal continued to come my way"—including two commissions for the Chicago Symphony Orchestra in 2001 and 2009. "It isn't so much a conscious choice as good fortune," he adds.

He's set both poetry and prose over the years, drawing from writers ranging from Walt Whitman to E.E. Cummings, along with less familiar names. Today Primosch keeps a running file of potential texts to set. "It's an intuitive, love-at-first sight kind of thing," he says.

With a text selected, "the large-scale form of the piece will be suggested by the shape—the dramatic arc of the poem or prose," he says. "The small details, too: the rhythm of a melody will be suggested by the accentuation of the text. I use a naturalistic approach to text-setting—I don't fragment the text, usually, or write against it. What I'm writing is springing from the text."

Some questions he ponders are basic: *Do these particular words suggest slow or fast music? Should this be the loud part?* But while a text's dramatic arc "may seem like it's helpful" in composing, Primosch says, "you have to satisfy musical concerns as well.

"Sometimes you hear pieces where the music didn't add anything," he continues. "We could have just had somebody recite the poem and that would have been just as interesting as what this composer has done with it."

In the 40 years since he graduated from Penn, Primosch has had work performed throughout the US and Europe by ensembles including the Los Angeles Philharmonic, the Chicago Symphony, and the St. Paul Chamber Orchestra. On top of his vocal music, he's written dozens of pieces for non-singers, too, from solo piano to wind ensemble to electronic music. At the same time, he's taught generations of Penn students music theory, musicianship, and music analysis.

Weeks before the country ground to a halt, Primosch enjoyed a first in his career: a Penn student ensemble performed one of his pieces. The Penn Orchestra played his "Variations on a Hymn Tune" at their February 22 concert—and Primosch was on-hand at both a rehearsal and for the actual performance.

Now all the upcoming concert dates on his well-tended website carry the same addendum: *postponed due to the coronavirus crisis.* "Of course it's weird," he says of these pandemic-afflicted times, in which live performance is thought to be one of the last bits of normal life to resume. "But you keep going. You keep writing. There's music to be made, one way or another."

—Molly Petrilla C'06

Passion and Pain in Puglia

An Italian hotelier known for his opulent properties leapt into action when the COVID-19 pandemic ravaged his country.

Illustration by Chris Sharp

When the Italian government announced a nationwide lockdown on March 9, Aldo Melpignano WG'05 went straight from his home in London to Borgo Egnazia, the hotel that he owns in Puglia in the country's south.

Situated on 250 acres and designed to look like an early Renaissance Apulian village, it wasn't a terrible place to shelter in a global pandemic. You could get lost wandering the stone alleys, secret gardens, and limestone-roofed villas. The hotel grows some of its own food, and every day during isolation, he and his family picked vegetables from the garden to cook for dinner.

But that wasn't why Melpignano was there.

As one of Italy's leading hoteliers, he wanted to be on the scene to make sure his company could survive as his hotels were closed. Then he knew he had to start thinking about how to reinvent tourism for Italy as a whole. "I've never been this busy, considering I'm not making a penny," he said in early April.

Melpignano's five properties—managed by his company SD Hotels—are known for their remarkable locations, mainly in Puglia. Masseria San Domenico, for example, is a five-star resort located in a 15th-century watchtower once used by the Knights of Malta. Masseria Le Carrube, a smaller hotel, is in a farmhouse with white stone walls.

During their stays, hotel guests are encouraged to interact with local people and traditions. Visitors are paired with a local advisor who recommends activities and invites them home for dinner. In April 2019, Maria Pasquale, a Rome-based food and travel writer, was surprised to find a big Apulian celebration raging at Borgo Egnazia during her stay. There was street food, folk music, and artists making ceramics. "We felt as though we had walked onto a film set," she said.

The hotels are also known for their focus on wellness, offering healthy food, spa treatments, mindfulness sessions, and exercise programs that are both interesting and innovative—like Apulian folk dance classes in 400-year-old olive groves, or workshops on how to laugh more. "We focus on getting people to move more, come together, and be happy," Melpignano said. "Those are the pillars of longevity."

Melpignano was fortunate to experience this kind of happiness growing up. For holidays and summers, he traveled from Rome to Puglia, where his family owned a manor house surrounded by farmland that produced olive oil, fruits, and vegetables. "My cousins and I would play along the coast, on the rocks," he said. "I would look for octopus and sea urchins. During harvest we would press grapes at my grandparents' house."

In 1996 his mother decided to turn the house into a luxury resort. "We weren't really using this big property, and it was a pretty costly place to run," he explained. "She had seen places in Scotland, big castles that were converted into high-end hospitality, and she thought we could do the same." It is now Masseria San Domenico, the most exclusive property in the SD Hotels portfolio.

When Melpignano was 18, he put his education on hold to help run it. The only member of his family to speak English, he met with travel agents and operators to drum up business and recruit staff.

"We think there is an opportunity to set up our properties as remote homes for people."

After attending City, University of London's Cass Business School and working for a few years at an investment bank, he headed to Wharton to get an MBA. He loved it from the second he visited as a prospective student and his future classmates took him to a pub. During his tenure, he was copresident of the European Club and played hockey and soccer recreationally. "I didn't have time to study," he said. "I did well in the classes I liked and survived in everything else."

After Penn, he stayed in the US to work at Morgans Hotel Group, before moving back home after his father acquired a plot of land in a picturesque part of Puglia along the Adriatic Sea. The family had opened two more hotels

Photo courtesy SD Hotels

while he was away, one in London and one in Puglia, but he convinced his dad to let him use this plot of land to experiment. "My mom's hotel was very specific. It catered to a high-end crowd, but it wasn't for families or large groups," he said. "I thought there was an opportunity to be a bit more contemporary and create a place for people looking for action."

His vision became Borgo Egnazia, now SD Hotel's 185-room flagship property representing 80 percent of the company's business in terms of size and revenue. It opened in 2010 and is still innovating at its 10th anniversary. Next year the hotel has plans to open a school where traditional artisans can teach their crafts as well as a museum to show off Puglia's culture.

Before Italy became one of the countries hardest hit by the coronavirus outbreak, Melpignano was in the process of opening two new properties, to "compete with the big players." At least for now, that's on the back burner as he focuses on more pressing concerns.

Since his hotels are well capitalized, he said he has no plans to close any permanently. In fact, he wanted them to open the minute the Italian government reopened the country. Before that, he kept full-time employees on standby by paying 80 to 100 percent of their salaries. He also purchased a ventilator and made plans to set up an emergency room at Borgo Egnazia in case of an immediate medical need.

While his hotels used to attract a high-flying crowd from around the world, Melpignano is now focused on gaining a broader domestic audience, at least in the short term. "I think people will be looking for local experiences at first," he said. "They will be looking for secluded places."

He's put together long-term packages for families who want somewhere else to isolate for months, not weeks. "Because the schools will be closed until September, and people are comfortable working from home," he said, "we think there is an opportunity to set up our properties as remote homes for people." Long-term stays could also help promote more sustainable travel practices: if people travel fewer places but for longer, they'll leave a smaller carbon footprint and may become more respectful of local environments.

He's also been working with the Italian government on how to attract international travelers back to Italy in the future. "We are working on a promotional campaign and also supporting travelers who come to Italy with tax breaks. It's all in the making."

He doesn't think it will be too difficult, considering the quarantine shed a light on the beautiful parts of Italy's culture—just as his hotels do. "You could see our national unity, of people singing to one another out the window," he said. "We showed our values to the entire world."

—Alyson Krueger C'07

Photo courtesy Samantha Vinograd

Actionable Intelligence

Meet the CNN analyst who makes sense of global uncertainty for her viewers and clients.

Samantha Vinograd C'05 was just two years out of college when she began serving as deputy US treasury attaché to Iraq. It was 2007, President Bush had just ordered 20,000 additional troops to Baghdad, and the 24-year-old suddenly found herself in the middle of the fray.

"I thought it was all really exciting at the time," Vinograd says. "But it also got really scary at other times. They didn't have a great support system for civilians, both in terms of preparing you before you go as well as dealing with everything associated with losing friends and getting rocketed multiple times a day."

As daunting as that experience was, it launched Vinograd's entire career.

From 2009 to 2013, she served on President Obama's

National Security Council as the director for Iraq, director for international economics, and senior advisor to the national security advisor.

Most recently, Vinograd has been a national security analyst for CNN, offering what she calls "glimpses of the kind of intelligence assessments that are likely to come across the desk of the President of the United States." In her TV appearances and online columns, Vinograd dissects the typical

"Even though coronavirus is super-important, it's not the only thing shaping the world right now."

threats from well-known American adversaries, as well as some that might not be as apparent to those without the relevant expertise—like the ramifications of the COVID-19 pandemic crisis for national security.

In a mid-April column for cnn.com, Vinograd noted that while the US government has been scrambling to protect its personnel from the pandemic, there is no "pause button" for threats posed by Russia, China, North Korea, and others. So while restricting the number of people who physically show up to work may reduce health risks, it also means that national security personnel don't have the same access to classified information because, for the most part, they can't receive classified content at home.

To prepare for her analyses, Vinograd sticks to a daily routine of consuming information from a broad range of trusted sources—from journalists to politicians to various think tanks. "I'm also paying close attention to what's happening with the presidential race," she says, "while at the same time keeping in mind that there's a whole world out there during this coronavirus outbreak.

"So my weekly segment for CNN has also included Afghanistan, Iraq, Iran, and North Korea—because even though coronavirus is super-important, it's not the only thing shaping the world right now."

Vinograd's interest in global issues goes back to her first year in college. She was in the middle of her Penn orientation when the September 11 attacks happened. "I immediately decided I wanted to study the Middle East after that," she says. "And Penn is really the reason I am where I am today."

Most of her studies focused on "historical and religious" aspects of the Middle East, but the "Penn community really supported me in trying to learn more about current events."

After graduating with a degree in Asian and Middle Eastern Studies, she got her master's in Security Studies from Georgetown while interning at the US State Department. From there, she was recruited to work at the Treasury Department, which landed her in Iraq.

Vinograd later worked with Goldman Sachs on building public-private sector partnerships across a broad range of policy and business issues, and at Stripe, a tech company in the payment processor industry, where she led global public policy.

In 2018, Vinograd cofounded Global Opportunity (GO) Advisors to provide consulting services on geopolitical risk, policy, and regulatory changes for corporations and other organizations.

She started GO Advisors with her best friend, Morgan Ortagus, who is currently serving in the Trump administration as spokesperson for the State Department.

"Morgan and I met in Baghdad in 2007," Vinograd says. "She's a Republican, I'm a Democrat, and the goal was to bring a bipartisan lens to the issues—everything from election security to trying to make sense of national security events that factor into business planning."

GO Advisors remains a work in progress, though, because most of Vinograd's time is spent preparing for her weekly CNN segments, while her business partner is consumed with her duties in the State Department.

"One of the things I miss about having my best friend in the administration," Vinograd says, "is that I don't get to hear the more right-of-center views on particular issues from her."

What little free time Vinograd does have is mostly devoted to social impact work with a focus on children. As a Jewish kid in France during World War II, her father survived the Holocaust, "and as I thought about what issues matter to me, I was just really drawn to child refugee issues."

Currently she's an advisor to the Next Generation board of the US Holocaust Museum, a board member for the Paradise Fund (a disaster relief organization), and an advisor for Friends of the American University of Afghanistan, World of Children, Concordia Summit, and UNICEF.

Vinograd finds that now that she has a much bigger platform, sharing information and getting people to pay attention to a cause is a great way to help the organizations she supports.

Yet of all of the things Vinograd has accomplished, she's most proud of her work in government. And she's "deeply hopeful that I will be back in government sooner rather than later—hopefully in 2021.

"But," she adds, "I just do what I love, and it has always led somewhere really interesting." —*Steve Neumann*

Early Stage

Meet the four alumni entrepreneurs who, in response to COVID-19, paused their own ventures to mass produce PPE for local hospitals. Visit thepenngazette.com/shielding-the-frontlines to read their story.

NBAE via Getty Images

Grizzly Cub

A student project in West Philly and a timely internship helped launch an NBA head coaching career.

As he neared the end of his first job after college, Taylor Jenkins W'07 could see his future paths diverging.

He had spent the summers before and after graduation interning in the front office of the San Antonio Spurs, sitting in on trade talks and draft war rooms with a staff that would spawn nearly a half-dozen NBA general managers.

But after watching legendary head coach Gregg Popovich work practices and lead the Spurs to the 2007 NBA title, Jenkins felt like his calling might be on the bench instead of an executive suite.

"That love of coaching just kept building up inside, and my skin would crawl when I was watching Coach Pop run practices," Jenkins says. "The hairs would stand up. I was like, *Man this is awesome, I want to be on the floor sweating with the guys*."

So when his internship ended, Jenkins approached Spurs general manager R. C. Buford and asked if he could divert from the executive track to follow his heart in coaching—a conversation that landed Jenkins an assistant coaching gig with the club's developmental league affiliate in Austin, at the hip of Quin Snyder (now the head coach of the Utah Jazz).

It wouldn't be the last unconventional turn in Jenkins' road to becoming the second-youngest head coach in the NBA, hired last year by the Memphis Grizzlies after assistant coaching stints with the Atlanta Hawks and Milwaukee Bucks.

Whereas many NBA coaches claim professional playing experience and almost all played at least college basketball, the 35-year-old Jenkins is the only one who lists "Penn Intramural" in that column of his résumé.

Yet his most formative basketball experience came elsewhere at Penn. He and his friends ran a league for kids at Sayre High School, at 58th and Walnut streets, called the Penn-West Philadelphia Basketball League (PWBL).

"When I think back to it and people ask about my college experiences, the friends, the education, the curriculum, the degree, I say that the true No. 1 highlight was working at PWBL," Jenkins says. "Some of my best friends were there. I didn't join a fraternity, so my fraternity life and experience were with all the members of the PWBL."

The idea germinated from a core group of intramural teammates. Matt Impink C'07 GEd'09 ran open gyms at Sayre when he noticed a problem: the kids were always in the gym, but they lacked an organized league. So Impink started one, and Jenkins latched on to help.

From the start, Impink and company decided that the league would be serious. Students from ages nine to 13, boys and girls, were drafted into eight teams. Each squad had one practice per week and played games during a Saturday quadruple-header. They had jerseys and playoffs, scoreboards and uniformed referees. Jenkins and the other coaches wore suits on the sidelines, diagramming plays on whiteboards and taping games for film study.

"We thought, 'Hey if we're going to put on a league as a bunch of college kids, we need to make it look as professional and serious as possible, so the kids take it seriously,'" Impink says.

It worked for five years, even after Impink and Jenkins graduated, and Impink remains in contact with players from the league. Some, like Joel Culbreath, who went on to get two degrees in social work from Temple, returned to coach in it. "It was inspiring," Culbreath says. "They were passionate about every single game. They were passionate about coaching."

The league went beyond basketball. PWBL offered tutoring and homework help, and Jenkins recalls trips from Sayre to Penn's campus to show kids college life, from the dining halls to the dorms. The Penn students got to know members of the West Philly community, especially

family members who filled the gym on weekends.

"We knew the impact that our experience in the PWBL had on us," Jenkins says, "so we wanted to return that, not just on the court but show them some life experiences as well."

The experience unlocked something within Jenkins. Deep down, he felt called to teaching, figuring it would come later in life as a second career. His embrace of the PWBL squares with how NBA colleagues now describe him: someone with boundless enthusiasm who focuses on teaching and relationships.

Milwaukee Bucks head coach Mike Budenholzer told USA Today Network he'll be "forever, ever grateful" to his former assistant coach for his "incredible work ethic, attention to detail, and feel for the game." In an interview with NBA.com, Popovich, still with the Spurs, praised Jenkins' "ability to deal with people and create relationships."

Jenkins' emphasis on relationships is the through line that tracks from 58th and Walnut to Beale Street. While front-office executives often tend to distill players to measurable characteristics, Jenkins favors a more personal touch, a pillar of Popovich's philosophy. It showed during the Grizzlies' February stop in Philly to play the 76ers, not just in a staff outing to Dalessandro's for cheesesteaks, but in a group singalong of "Happy Birthday" to a member of the traveling staff after morning shootaround.

Jenkins had previously drawn praise as Budenholzer's assistant in Atlanta for five seasons and then one year in Milwaukee, where he helped Giannis Antetokounmpo become the NBA MVP.

Memphis brought in Jenkins to oversee a multiyear rebuild around No. 2 draft pick Ja Morant, but the young coach has the Grizz ahead of schedule. When the NBA season was suspended on March 11 due to the coronavirus outbreak, Memphis was the surprise occupant of the final playoff spot in the Western Conference. Jenkins was named the West's Coach of the Month in January, the youngest to win the award in 15 years.

While the basketball concepts have certainly evolved from when he was a 20-year-old in a suit in West Philly, the PWBL remains an important touchstone in his journey. Snyder, one of his best friends and mentors in the business, has made sure he'll never forget that.

"I sat down with Coach Snyder and asked him if I could be an assistant with him [in Austin], after my front-office internships," Jenkins recalls. "He basically said, 'Don't ever discount the experience you had coaching 10- to 13-year-olds. The teaching that you did is valuable and makes a difference, and it's something that's required of all us coaches.'"

—Matthew De George

Penn Alumni Regional Clubs

Extending Penn's Reach Across the World

Over 120 Penn Alumni Regional Clubs around the world serve to bring the spirit of the University to their regions. Wherever you are, you're never far from another Penn alumnus or a Penn Club. In connecting the Penn community across the globe, clubs offer opportunities for fun and socializing, networking, learning, and collaborative initiatives that impact the people and communities where they live.

CC MICHAEL DUNN

Portland

The Penn Club of Portland actively engages nearly 300 Penn alumni, reaching not only the immediate Portland metropolitan area but across southern Washington and the state of Oregon. Though we may be smaller in size, we have a wonderfully active community partaking in a variety of experiences and connection opportunities throughout the year. We love to gather for some of our favorite Penn celebrations such as Ben Franklin's birthday, First September happy hours, and of course the pinnacle event of the year—our New Student Summer Send-Off Picnic.

In between these cornerstone events, we offer club members the chance to engage in giving back to the Portland metro community with volunteer opportunities such as sorting goods at the Oregon Food Bank and assisting in forest trail clean-ups. We also get together for quintessential Portland fun, spending time socializing at the best breweries in town, uniting for family-friendly fun at the bowling alley, attending our very own club members' comedy shows, and coming together to root on our beloved Portland Trail Blazers at the Moda Center.

We also provide educational occasions such as local and University-assisted speaker series and luncheons; some of our favorites having been the honor to host The Power of Penn as well as University Executive Vice President Craig Carnaroli these last two years.

Our club is active on Facebook (Penn Club of Portland) and we welcome all those who are interested in getting more involved. We are always seeking additional engagement on our volunteer board, whether it be helping to drive event planning, social media and web support, or general club leadership opportunities. If you're interested please reach out to pennclubofpdx@gmail.com.

"I hope the country can return to normal health and economics soon, maybe by the time this is printed."

—Dr. Claude Springer D'54

1942

Howard C. Story Jr. W'42 turned 100 years old on April 1. To the newly admitted Class of 2024, he writes, "I hope your memories of Penn are as precious to you when you are my age. Congratulations! Hurrah, hurrah, dear Pennsylvania!"

1950

Dr. George Kurz C'50 M'54 GM'55, a retired ophthalmologist, has written *Something in Return: Memoirs of a Life in Medicine*. As described in the press release, the book "recounts vignettes from his 37 years in ophthalmology. Some are surprising or humorous while others are inspiring, and a few are tragic."

1952

Dr. Herbert Kean C'52 writes, "My grandson Joseph Kean enrolled in the College, Class of 2023. He is the seventh of the Kean family to enroll within the last 100 years. He joins his sister Jeannette Kean, Class of 2021."

1953

Shirley Magitson Grallnick Ed'53 shares this poem she wrote, titled "Social Distancing": "Read the Daily News / But it creates the Blues / The radio—not great fare / Full of medical despair / Left the house / To take a walk / See some folks / And get some talk / Communicate—at a distance / Put up no resistance / It's still a fact / The need to interact / Sat on a bench / Near the glistening lake / Enjoy whirling sounds / The crows do make / We've retreated / To our homes / Read and cook and / Use the phone / Recall the apocalyptic / Books we've read / That was fantasy / Now it's real instead / We're all in / For a bumpy ride / It's the black hole / On the unknown side / Sometimes I recall / A Biblical psalm / To raise my spirits / And stay calm / I can write a poem / Release my heart / Drop paint on my palette / Create some art / Peer at the sky / Where the sun still shines / Pray this virus retreats / And the world is fine."

1954

Dr. Claude Springer D'54 writes, "I retired from my general dental practice in Little Neck, New York, 25 years ago and am now 90 and thankfully in good health—I walk 25 minutes every day and lift weights twice a week. My wife died 14 years ago, and I now have a lady friend. I have four children and five grandchildren, play bridge during normal times, sing in a chorus, and attend a writing class. I have written 2–3,000 poems, some published. I hope the country can return to normal health and economics soon, maybe by the time this is printed."

1960

Dr. S. Perry Brickman GD'60 writes, "I'm pleased to announce the publication of my new book, *Extracted: Rampant Antisemitism in America's Higher Education*. Described as 'equal parts autobiography and the sleuthing of a history detective,' *Extracted* exposes a nationwide conspiracy to curtail Jewish students from entering the dental profession. It identifies the perpetrators and those who enabled them." Perry received Emory University's Maker of History Award for exposing religious discrimination at Emory's dental school where 65 percent of the Jewish students were failed over a 10-year period. He received the Anti-Defamation League Centennial Award "for the courage to speak up, the perseverance to make a difference, the commitment to building a world without hate."

1965

Barry Moore GAr'65 writes, "I have been honored by the University of Houston's Gerald D. Hines College of Architecture by the

Events

UTAH

The Penn Club of Utah is proud to cohost the 9th annual Penn Wharton Sundance Schmooze, a gathering of entertainment industry professionals and friends of film, at the 2021 Sundance Film Festival in Park City, Utah. This complimentary event features a panel discussion with noted alumni in the industry, moderated by Penn Cinema Studies Professor Peter Decherney, followed by a catered cocktail party. Cohosted by Penn Film and Media Pioneers, Penntertainment, the Penn/Wharton Club of Los Angeles, PennNYC, and the Penn Club of Westchester and Rockland Counties, the event will take place the weekend of January 23, 2021, with exact details forthcoming. For updates, follow our website (bit.ly/PennUtah) or email Jesse Tendler EAS'03 W'03 at jesse@penn.nyc.

VIRTUAL

In light of ongoing global health concerns, visit www.alumni.upenn.edu/clubs to find the latest information on Regional Club events in your area. And be sure to check out www.alumni.upenn.edu/govirtual for an abundance of virtual events and digital resources available for alumni.

creation of the Barry Moore Endowed Professorship in Historic Preservation. In my 24-year engagement as an adjunct professor, I started the preservation studies program and was proud to see the work of my students in Texas and Mexico recognized locally, statewide, and nationally by the profession."

Rick Williams C'65 writes, "I live outside of Boston and am using my 'at home time' to finish a book, entitled *Create the Future—For Your Company and Yourself*. The book is a how-to field guide for leaders who want to think creatively about where to take their organizations. It will have leadership team exercises to define the problem, create solutions, and choose the future. The book builds on my experiences as a management consultant and company founder, and I am hoping to bring the planning and decision-making tools used by strategy consulting firms to companies who must rely on their own resources. I expect the book to be published in the fall."

1967

Evelynn Snyder Caterson CW'67, an attorney, has been reappointed to her fourth term as commissioner on the Atlantic County (NJ) Board of Elections. She was also re-elected as chair of the board, a position she has held since 2015.

David Kaplan C'67 writes, "I'm in my 49th year of medical practice, and life continues to be good and meaningful. During my career, I've worked in primary care, with group homes for autistic adults, multiple handicapped folk, geriatric patients, and drug addicts. There have been some dark sides in my life, as well—poor decision-making, faulty judgment, and a rather nasty cancer from which I've recovered. But what an honor it has been to be allowed to do this work. I've received so much from practicing medicine—mostly from being a stranger invited into the intimacy of people's lives, the satisfaction of being able to successfully treat people, and the ability to have a positive impact in the lives of others. This is quite humbling. It has been especially satisfying to know the many elderly people whom I treat and from whom I continue to learn. Additionally, I've had the joy of five children who have now reached adulthood. They have clear moral compasses, communicate well with others, support themselves in these turbulent times, and have not been drawn into the black hole of drugs, alcohol, or crime. And their children seem to be on that course as well. So the joy of my life comes somewhat from my education but mostly by learning from others, belonging to a wonderful family, and by having friends whom I care for and who care for me."

Dr. Marc Rosenberg C'67 V'71 shares this commentary that he wrote before the COVID-19 pandemic erupted: "I can't believe that after all these many decades I still don't understand how to say hello to my friends. When I was a kid, 'Hey, how you doin'?' was my greeting. As a teen, a high-five was often added. As a middle-aged adult, I gave my male friends a firm handshake and female friends a two-handed shake and an occasional peck on the cheek. Now, as a member of the senior set, I have to steel myself for the upcoming greetings. The women approach with a hug and a small kiss. Not wanting to be standoffish, I reciprocate. But at that moment all I can think of is the fear of my hands hugging too low, too high, or god forbid not hugging at all. No sooner have I regained my personal space than one of my guy friends approaches with an outstretched hand, quickly pulling me in for a short tap on his chest. For guys like me, who really don't like to be touched (except by my wife and children), there is perpetual greeting anxiety. I like and respect my friends. I know they would understand that—even if I didn't hug, kiss, and chest-thump them. This way personal space stays intact, health and hygiene are reinforced, and a truly affectionate verbal exchange can be appreciated. So, if you are out and about and you see me, 'Hey, Marc how you doin'?' are the words that really warm my heart."

1970

Ronald H. Bayor Gr'70, professor emeritus of history at Georgia Tech, has been presented with a Lifetime Achievement Award from the Immigration and Ethnic History Society for his intellectual influence and leadership in the field of immigration and ethnic history.

We Want to Hear from You

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Please include your school and year, along with your address and a daytime telephone number. We include email addresses only when requested or obviously implied.

Please note, due to the COVID-19 pandemic, Gazette offices are closed until further notice and we cannot retrieve postal mail at this time.

DEADLINES 7/15 for the Sep|Oct issue; 9/15 for Nov|Dec; 11/15 for Jan|Feb; 1/15 for Mar|Apr; 3/15 for May|Jun; and 5/15 for Jul|Aug.

Len Gaffga WG'70 has written a new book, *Following on Seas of Glory*. This Navy military memoir recounts his family's maritime background spanning generations, from his grandfather's 1901 invention and patent of a marine engine to his son's current uniformed service.

1971

Marian Sandmaier CW'71 has won a 2020 Writing Award in the category of First-Person Essays from the American Society of Journalists and Authors. Marian writes, "It's a particular pleasure to share the news here, because the article that won the award, 'Still Life with Dick Van Dyke,' was published right here in the *Pennsylvania Gazette* [May|Jun 2019]. The piece explores my experience getting, and then conducting, an interview with the actor back in 1974, when I was a very shy, 26-year-old writer and terrified to meet him. He turned out to be even shier than me, and I ended up learning something from him about busting through self-limiting personal beliefs."

Stephen Tocknell C'71 has been named to the College of Fellows of the American Institute of Certified Planners (AICP), the highest honor of AICP, given to urban and regional planners who have provided outstanding contributions to their profession. Stephen has written extensively about traffic sheds, an innovative growth management tool for rural and exurban areas facing high levels of unanticipated new development, and he worked to secure dedicated funding for new bicycle and pedestrian facilities in Jacksonville, Florida. Coming from a long line of Quakers, he is the

father of **Cathleen Tocknell C'05**, son of **Elizabeth Kochersperger Tocknell CCC'40**, and grandson of **Stephen Morris Kochersperger C1894**. Stephen also serves on the board of the First Coast Penn Alumni Club, and he is past chair and current member of its alumni interview committee.

1972

Robert Goldman W'72 writes, "Facing COVID-19 and after a nine-year engagement, Miriam Alfonso and I got married at the Marin County (CA) Clerk's office on March 4. She has legally changed her last name to mine; we are now Robert and Miriam Goldman. And her daughter Evelyn is changing her name, too. Evey grew up with me and my daughters Becca and Lily, so I now have three daughters in their 20s. The ceremony was attended by the county clerk (presiding), our accountant, our lawyer, and a psychiatrist (friend). Beautiful location, a Frank Lloyd Wright building. We wanted to demonstrate our commitment to the world while we still can."

Randy Abramson Steiner CW'72 writes, "In mid-February I received thrilling news that my submittal to become a fellow in the American Institute of Architects was approved! I am one of the two architects in Maryland to receive the honor and the first professor/chairperson of an architecture program in a community college (Montgomery College in Maryland) to receive the award. I created a nonprofit organization, the Coalition of Community College Architecture Programs, in 2012. Our mission is to share/promote our 150+ programs, to establish transfer relationships with accredited schools of architecture and to expand the equity and diversity within our profession. I am proud of my start at Penn and my urban planning class with Edmond Bacon but especially proud to be a woman architect who pushed the envelope and is working to still 'widen the pathway.'"

1973

Robert Henry CE'73 GCE'74 Gr'80 was named Engineer of the Year in New Hampshire for 2020 by the New Hampshire Society of Professional Engineers. He writes, "I recently purchased a house in the Raleigh, North Carolina, area and will be moving there soon with my wife, **Nancy Carlisle Henry W'75**."

Hazel Ann Lee CW'73 has published *The Astronaut's Window: Collection of Poems and Short Stories Celebrating Nature*. In the book's preface, Hazel writes, "When I was 10 years old, I watched the historic event of astronaut John Glenn traveling into outer space in the Friendship 7 spacecraft. I saw this momentous occurrence on my family's old black-and-white RCA television set. Prior to this experience, I was always fascinated by science and scientists. I especially enjoyed learning about animals, nature, and how scientists heal people. *The Astronaut's Window* is a book I wrote to acknowledge contributions of astronauts and scientists to humanity and the world."

1974

Tim Smith C'74 of Richmond, Virginia, writes, "This March, our family partnered to build a new 'Opportunity Zone' mid-rise housing project overlooking the historic James River. My entrepreneurial son, Tyler, a Vanderbilt and Stanford alum, held the ceremonial shovel with me. Tyler planted one foot in real estate, and very wisely, has another foot in the healthcare business. Would love to hear from my classmates." Tim's email address is timothydunhamsmith@gmail.com.

Gretchen L. Temeles CW'74 has been promoted to special counsel at Duane Morris LLP in the Intellectual Property Practice Group.

1975

Art Gertel C'75 writes, "I noted in the May|Jun issue of the *Pennsylvania Gazette*, that my freshman-year roommate, **Brad Borkan C'75 G'79**, recently visited Antarctica. Coincidentally—and this is not the first for the two of us, having found ourselves at a conference in Oslo, Norway, after more than 40 years of no contact—I also visited the White Continent (my seventh) in March. I, too, gave an onboard lecture on Shackleton's ghostwriter and, on a hike retracing Shackleton's trek over the mountain on South Georgia Island, I was honored by being asked to read associated passages from his journal, describing looking out from the pinnacle over the Greenlandic whaling station at Stromness Harbour. Certainly, a voyage of a lifetime. On more mundane topics, I have been busy during these dystopian times, working on COVID-19 studies, publishing on bioethics issues, and collaborating on numerous projects focused on improving the research and development process to bring new medicines, vaccines, and diagnostics to patients in need."

Gary L. Greenberg C'75 was recently featured in the *Chambers USA 2020 Guide*, a publication ranking the leading lawyers and law firms across the US. Gary is a principal in the Cincinnati office of Jackson Lewis PC, specializing in workplace legal issues.

Nancy Carlisle Henry W'75 see **Robert Henry CE'73 GCE'74 Gr'80**.

Dr. Peter Kowey M'75 is a retired chief of cardiology at Lankenau Hospital and author of five mystery novels. His latest is *Death by Your Own Device.* Peter is currently the William Wikoff Smith Chair in Cardiovascular Research at Lankenau Hospital and Medical Research Center, and also Professor of Medicine and Clinical Pharmacology at Jefferson Medical College. He writes, "I live with my wife, **Dorothy Freal Kowey CW'71**, in Bryn Mawr, and we have three daughters, all attorneys—Susan Kealy, Jaime Shean, and Olivia Kowey—and six grandchildren."

1976

Dr. Robert M. Fleisher GD'76 writes, "I'm happy to announce the publication of my new thriller novel, *The American Strangler*, by Black Rose Writing. The title has a dual meaning: the legal system is strangling America, and now a serial killer is strangling the legal system. We all know how lots of people have disdain for lawyers, especially if they have ever been sued. Even William Shakespeare had something to say about the legal profession: 'The first thing we do, let's kill all the lawyers.' (Dick the Butcher, *Henry VI*, Part 2, Act IV, Scene 2.) Ron Rellick loses everything, including his sanity, to a malpractice claim and goes homicidal, becom-

ing the hunter to avenge what he sees as the scales of justice fractured and out of balance. Get inside the mind of a good man turned violent. See how the evil of corrupt lawyers leads to unforgiving vengeance." Robert is a lifetime member of International Thriller Writers and is currently working on his next novel.

Michael P. Malloy L'76 helped organize and cohost the 7th Annual International Conference on Business, Law, and Economics, sponsored by the Athens Institute for Education and Research, held virtually from May 4 to 5. He writes, "I offered welcoming remarks and participated in online discussions of several paper presentations. Selected papers will be published by the Athens Institute in an anthology I am editing. Later, on May 13, I attended a virtual session of the steering committee of the UN Housing 2030 Initiative, based at the UN offices in Geneva. The committee is in the planning stages of a study on housing affordability. As one of the principal drafters of the newly revised Policy Framework for Sustainable Real Estate Markets, I was invited to participate as a member of the Real Estate Markets Advisory Group of the UN Economic Commission for Europe. Also this year, Wolters Kluwer published the third of five supplements for my three-volume treatise *Banking Law and Regulation*."

1977

Michael Neuman ChE'77 GCP'86 GFA'86 writes, "In January 2017, I was appointed professor of sustainable urbanism at the University of Westminster in London. It's a pleasure to announce my new book, *Engendering Cities: Designing Sustainable Urban Spaces for All*, published by Routledge and coedited with Inés Sánchez de Madariaga, professor and UNESCO chair of gender equality policies at the Polytechnic University of Madrid and currently visiting professor at UCLA. Soon to be published is another book, *The Routledge Handbook of Regional Design*, which I edited with Wil Zonneveld, and which has many contributions from current and former Penn faculty. My research team and I have just completed two research projects, with reports titled *London Soundings: London Creative Communities Towards Sustainability* and *The East West Arc: Re-thinking Growth in the London Region*. In addition, I have produced numerous articles, book chapters, and conference keynotes since arriving in London."

1978

Marjorie Harness Goodwin Gr'78 writes, "In November 2019, at the American Anthropological Association annual meeting, the Edward Sapir book prize was awarded to *Co-Operative Action*, a book by my late partner, **Charles Goodwin Gr'77**. The Sapir prize (offered biennially) recognizes a book that makes the most significant contribution to our understanding of language in society. At the heart of the book is 'an integrated vision of human capacities in their full linguistic, social, material, biological, cognitive, and historical intertwining, which sits at the root of anthropology's original, radical vision of what it is to be human' (pp 477–78). The celebration was bittersweet, since Charles passed away shortly after the official release of his book in March 2018. I accepted the prize on his behalf. The absolute joy that Chuck Goodwin took in exchanging ideas with colleagues was evident in a short video clip filmed at a surprise party for him a month before his death and shown at the meeting. The video vividly showed him thanking his colleagues for 'a lifetime of shared love of thinking about human interaction and data and that leading to my warmest friends who share my deepest feelings with me.'"

1979

Thomas Connell L'79 writes, "I spent my entire legal career litigating, arbitrating, and mediating cases at WilmerHale (and its predecessor firm) in Washington, DC, and in London, England. Since retiring in 2012, I've travelled the world, often on foot for great distances. After trekking 1,100 miles on two ancient pilgrimage routes in northern Spain, I published a comprehensive journal/photo book, called *Shadow of a Pilgrim: An Apostate Walks Two Caminos in Spain*. It is available on Amazon and is described in detail at www.shadowofapilgrim.com."

1980

Hon. Marc H. Morial C'80, president of the National Urban League, the nation's largest historic civil rights and urban advocacy organization, has published his second book, *The Gumbo Coalition: 10 Leadership Lessons That Help You Inspire, Unite, and Achieve*. He writes, "Published by Harper Collins, it contains lessons from my career as an entrepreneur, lawyer, legislator, mayor, and civil rights activist." Marc was recently a visiting fellow at the University's Robert A. Fox Leadership Program.

1982

Mark Banash C'82 writes, "I thought I would take time while I had the time to let my Penn friends know that I have celebrated my first year running my own nanotechnology consultancy, Neotericon. I really enjoy being able to focus on the scientific and technical issues with nanomaterials as well as having the time to write the odd patent application or two. While it is always challenging to look for the next client as well as to look for investor money to develop those patents, I would not want to go back to my former corporate management position, attending weekly executive team meetings and writing performance reviews. I am instead able to do what my Penn faculty mentor, chemistry professor Eugene Nixon, taught me to do—sit at my desk in my office and write out my ideas longhand with a good fountain pen in a real lab notebook. It makes you think."

1983

Marcia Geller Sawyer C'83 and **Sandy Mayer C'83** have cowritten *Betsy's Philadelphia Adventure: From the Betsy Ross House to the University of Pennsylvania*. Marcia writes, "The book features the University of Pennsylvania, popular Philly food, activities, and tourist destinations. We teamed up with the Penn Bookstore to arrange a book signing event during Alumni Weekend, but, understandably, that was postponed. You may still order the book or its companion coloring/activity book on Amazon if you need a 'dose' of Penn, a special graduation present, or an all-occasion gift. Enjoy and be well!"

1984

Larry Lebowitz C'84 is an immigration lawyer and shareholder with the Pittsburgh law firm of Dentons Cohen & Grigsby, where he has worked for 33 years. He is also a professor of practice at the University of Pittsburgh School of Law, where he teaches immigration law and other classes. He writes, "My wife, Lynn, and I have three children: one in New York, one in Pittsburgh, and the other at UW Madison. I get together with my 312 South 40th Street buddies at least once a year, and we just celebrated our 35-year reunion last summer with a weekend of golf."

Frank Luntz C'84 see **Lisa Nass Grabelle C'93 L'96** and **Kiera Reilly C'93**.

1986

John K. Fiorillo W'86 is a commercial litigator at Unruh Turner Burke and Frees, whose practice is focused on creditor's rights, business litigation, and real estate tax assessments. John was interviewed on how the assessment process works on a new TV show on MLTV-Main Line Network, *Legal Talk with Stacy Clark*. John discussed key deadlines, key paperwork, and how the entire real estate tax assessment process works. The show can be viewed at youtu.be/CgDoZAaC5-o.

Rod J. Rosenstein W'86 writes, "After serving in the United States Department of Justice for almost three decades, I joined King & Spalding, one of the nation's oldest and largest law firms, as a partner based in Washington, DC. You can find me at www.kslaw.com. My practice focuses on helping clients resolve complex regulatory and litigation challenges, including government investigations, crisis management, internal investigations, national security, compliance, and monitoring. My wife, Lisa, and I have two daughters, a college sophomore and a high school senior."

1987

Raymond Pitetti EAS'87 has been appointed director of pediatric emergency medicine in the Department of Pediatrics at the University of Pittsburgh School of Medicine and UPMC Children's Hospital of Pittsburgh.

1988

Joe Leibrandt C'88 writes, "My spouse and I are developing a refrigerator that will allow craft beer enthusiasts to store and age their beer under ideal conditions. We have patented our technology and are now pursuing licensing agreements with refrigerator manufacturers. I invite alumni contact at josephleibrandt@alumni.upenn.edu. Drink a craft beer and be jolly. Here's a toast to dear old Penn!"

1989

Vicki Rothbardt Oswald GEd'89 writes, "I have been scouring the *Gazette*s, looking for any news from my START cohorts, GSE, in the semester that began in September of 1988. Nothing in 20 years! Lisa, Maria Lee, Ralph, Andrea, Anne, Silvijia, Stephanie, Robin, Angie, Chris, Jennifer, Christine, Richard, Mary Lu, Sharon, Delia, Penny, and Tuesday! Where are you and what are you doing in life? I will start with myself. I have been retired from working life for about 12 years. I turned 63 in May. I live in Wyncote, Pennsylvania, in a 100-year-old house with my husband of almost 30 years. I taught for 10 years in inner-city Philadelphia. I had to quit from the violence and the horrible relationships with unsupportive administrators. I am still in touch with four former students. My three-year-old is now 35. He has a one-year old and I am Nana! I got certified in Swedish massage therapy, and studied psychoanalysis and counseling at Arcadia. Dystonia ended that. I was diagnosed bipolar I in 1985. Lithium allowed me to have a normal life until I developed dry eye, blepharitis, and chronic kidney disease (CKD). The CKD came as a result of not cutting back on the lithium years ago. Sounds bad but I'm OK. Working on a memoir, and I have a collection of poems I'd like to publish. Had a few meals with Ryda and went to Jim Larkin's funeral. I have a few choice words about my experiences at Penn. My email address is vickioswald4@gmail.com. I would love to hear from my former GSE classmates!"

1990

Dr. Christopher A. Troianos GM'90, professor and chair of the Anesthesiology Institute at the Cleveland Clinic, delivered the Arthur E. Weyman keynote lecture at the Society of Cardiovascular Anesthesiologists' (SCA) Echo Week Conference on February 20 in Atlanta. The selected lecturer of this series "must have demonstrated sustained excellence in echocardiography or cardiovascular ultrasound, and be a widely recognized individual whose career has served to promote and improve the field of perioperative echocardiography." Christopher's lecture was entitled "Celebrating Our Past and Securing Our Future." He is the immediate past-president of the SCA.

1991

Dr. Mikkael A. Sekeres C'91 GM'96 M'96 has written *When Blood Breaks Down: Life Lessons from Leukemia*. From the book's press materials: "He tells the compelling stories of three people who receive diagnoses of adult leukemia within hours of each other. ... We join the intimacy of the conversations Sekeres has with his patients and watch as he teaches trainees. Along the way, Sekeres also explores leukemia in its different forms and the development of drugs to treat it."

1992

Elizabeth Alexander Gr'92, an essayist, poet, and president of the Andrew W. Mellon Foundation, has been elected into the American Philosophical Society.

Gregory Ulmer C'92, a partner at Baker-Hostetler, has been elected to the firm's policy committee, which is its governing body. Greg also leads the firm's national product liability and toxic tort team. He works out of Baker-Hostetler's Houston office as a trial lawyer, and his practice consists of civil defense litigation with an emphasis on defending products, product manufacturers and distributors, as well as premises owners, in areas of product liability, premise liability, wrongful death, catastrophic injury, and toxic exposure.

Nancy Yang W'92 *see* **Angela Duckworth G'03 Gr'06.**

1993

Jeff Blander W'93 has coauthored a children's picture book, *Maisha and the Rainbow Tree*. He was recently interviewed about it for a segment on his local *ABC News* channel, which can be viewed at bit.ly/2ZimfaG. He writes, "It is a project I have been working on with my daughter, her friends, and neighbors for Earth Day. Catalyzed by actual events—when a group of friends staged a protest at a six-year old's birthday party to prevent a tree from being taken down—the journey to complete this book has been magical. Personally, it has provided closure and is a full circle moment with my mom, who went to heaven when I was a young boy. She had started but never finished a beloved children's book project for me. Completing a similar project many years later with my daughter is truly extraordinary and a healing experience. At a time when it can be very difficult to find the rainbows amongst the many storm clouds, I hope that this project can bring some joy, kindness, and smiles to others."

Lisa Nass Grabelle C'93 L'96 and **Kiera Reilly C'93** write, "We'd like to thank our wonderful classmates for signing on and streaming our weekly Zoom calls during stay-at-home orders. What started as a virtual happy hour turned into vibrant weekly calls with different themes—tips for working from home, favorite apps we discovered, everyone is a comedian, everyone has a story, favorite Penn memories, favorite sports memories, politics in the time of coronavirus, and crazy things we've done during quarantine. Thank you to our VP of data and technology, **Eli Faskha EAS'93 W'93**, for facilitating our calls. We were thrilled that in addition to our US-based classmates, we had classmates join us from Singapore, Australia, Peru, Panama, the United Kingdom, and Saudia Arabia. Thank you **Monica Muzzi Moore Nu'93 GNu'97, Stacey Wruble Seewald C'93 W'93, Zach Conen C'93, Jackie Einstein Astrof C'93, Caren Lissner C'93, Jennifer Jarett C'93, Ed Gold W'93, Marc Stern W'93, Kysha Harris W'93, Lesley Wolff C'93, Alysa Mendolson Graf C'93, Frank Caccuro EAS'93 GEng'96 WMP'99, Bill Knapp C'93, Mark Sullivan C'93, Jonathan Mayo C'93, Josh Astrof C'93 W'93, Andy Roth C'93, Doug Glanville EAS'93, Jef Pollock C'93,** and **Frank Luntz C'84** for being a guest speaker or cohosting one of our sessions. We have found the silver lining in staying at home during a pandemic, and it is connecting with the awesome Class of 1993!"

Chrissy Bass Hofbeck C'93 writes, "My motivational business book, *Winning Conditions: How to Achieve the Professional Success You Deserve by Managing the Details That Matter*, will be published in September by Viva Editions/Simon & Schuster, and it is available now for preorder everywhere books are sold. It's about becoming extraordinary by delivering your work and ideas in a winning way. I write about our Penn days in the introduction—including how carrying the Penn flag at our graduation kicked off a lifetime of exploration about winning conditions. I'd love you to give it a read!" In 2017, Christine competed on the television show *Survivor*.

Nancy Oliver C'93 was recently featured in the *Chambers USA 2020 Guide*, a publication ranking lawyers and law firms across the US. Nancy is an associate in the Portsmouth, New Hampshire, office of Jackson Lewis PC. She represents employers in litigation matters before the state and federal courts and the New Hampshire Commission for Human Rights, the Equal Employment Opportunity Commission, the New Hampshire Department of Labor, and the Massachusetts Commission Against Discrimination.

1997

Jennifer Satz Enslin C'97 is cofounder of Ashlyn Lee, a subscription menstrual pad and tampon business for teens and adults.

1999

Kimberly Y. Erwin GEd'99 has written a children's book, *"There's Only 1 RACE—The HUMAN One," Says Me!—A Children's Book: ENDING RACISM!* Find more information on her website www.oneuniversalmedia.com, Instagram @kimberly.erwin, and Facebook @kimberlyyerwinauthor.

Jacqueline Berkell Friedland C'99 L'00 released her second novel on April 14, titled *That's Not a Thing*. Jackie writes, "The book is contemporary fiction about what happens when the one that got away ... comes back." In its review of the novel, *Publisher's Weekly* wrote, "This tender, introspective romance from Friedland hangs on the difficult choice between new and old lovers. ... Fans of sensitively handled love triangles should snap this one up."

2000

Kendra Brodin SW'00 is chief attorney development officer at Taft, Stettinius & Hollister LLP, where she is responsible for attorney development and well-being. She received the 2019 Hennepin County Bar Association (HCBA) Excellence Award for Service to the Association and serves as chairperson of the HCBA Institute for Leadership in the Legal Profession signature program. She writes, "After I graduated with my MSW from Penn, I attended law school at the University of Min-

nesota. Since that time, my career trajectory has been focused on the personal and professional development of attorneys. Every day, I draw on my social work and law degrees and training as I bring both 'head and the heart' to my position, my firm, and those I serve."

2002

Dr. Jill M. Baren CGS'02 Gr'06 has been named provost and vice president of academic affairs at University of the Sciences in Philadelphia. Most recently, she served as professor of emergency medicine, pediatrics, and medical ethics at the Perelman School of Medicine.

2003

Angela Duckworth G'03 Gr'06, a psychology professor at Penn, is the inaugural recipient of the Rosa Lee and Egbert Chang Professorship. This appointment is thanks to the generous support of **Nancy Yang W'92**, in honor of her parents. The professorship supports a dual appointment at the Wharton School and School of Arts and Sciences' Department of Psychology.

Nathan J. Jun G'03 has been promoted to professor of philosophy at Midwestern State University in Wichita Falls, Texas.

Garrett Kennedy C'03 L'08 has been promoted to partner at the law firm DLA Piper. Garrett is based in the firm's New York office in the employment practice.

2004

Hannah Megacz Pop Nu'04 has graduated from Rush University in Chicago with a doctorate of nursing practice. Her doctoral project, which focused on patient fall prevention in the emergency department, has been published in the *Journal of Emergency Nursing*. She works in the NorthShore University HealthSystem as a critical care nurse practitioner.

Tommy Richards C'04 GEd'06, a history teacher at Springside Chestnut Hill Academy, has published *Breakaway Americas: The Unmanifest Future of the Jacksonian United States* (Johns Hopkins University Press, 2020). He writes, "I am a historian of the early United States, and this book is about the precariousness of US westward expansion in the 1830s and 1840s."

2005

Clayton S. Rose G'05 Gr'07 has been elected chair of the trustees of the Howard Hughes Medical Institute (HHMI). Rose joined HHMI as a trustee in 2009 and has been president of Bowdoin College since 2015.

2007

Maura Kelley Travers C'07 and **Patrick Travers C'07** write, "We welcomed our second son, Liam, on April 7 in Boston. Three-year old Cullen is excited to be a big brother and to show Liam around campus soon!"

2008

Stephanie Guy Hutch C'08 was honored at an AFCEA International conference held in San Diego earlier this year. According to the release, "Stephanie received the AFCEA International Women's Appreciation Award, which recognizes and honors AFCEA members who have gone above and beyond to further the careers of women. AFCEA is a nonprofit association serving the military, government, industry, and academia as an ethical forum for advancing professional knowledge and relationships."

2009

Monica Chen C'09, Laura Gao W'18, and Christina Ha, a student in Penn Engineering's master of computer and information technology program, have joined MyMask Movement. Monica writes, "MyMask Movement is a volunteer-run nonprofit combatting the COVID-19 PPE shortage crisis. The project was founded by Jesse Chang, Stanley Liu, and Cole Hershkowitz, who developed an iPhone app which uses Apple's Face ID depth-sensing tech to create personalized masks engineered to fit an individual's unique face shape. MyMask Movement partners with industrial grade 3D print shops across the globe to provide free custom masks to front line medical workers. I work in marketing, Laura was instrumental in early stage programming, and Chrissy runs product management. Learn more at www.mymaskmovement.org and download the MyMask app from the Apple App Store."

2010

Annie Jean-Baptiste C'10, head of product inclusion at Google and intrapreneur-in-residence for the School of Education's master's program in education entrepreneurship, has published a new book, *Building for Everyone: Expand Your Market with Design Practices from Google's Product Inclusion Team*. Annie writes, "Establishing diverse and inclusive organizations is an economic imperative for every industry. Any business that isn't reaching a diverse market is missing out on enormous revenue potential and the opportunity to build products that suit their users' core needs. This book makes publicly available for the first time the same inclusive design process used at Google to create user-centric, award-winning, and profitable products."

Andrew Sommers LPS'10 has published *Engaged: A Citizen's Perspective on the Future of Civic Life*. He writes, "It is my first book on civic engagement, politics and public service."

2012

Emily Brennan LPS'12 started a new role as digital experience manager at Cisco Webex in January.

2018

Laura Gao W'18 see **Monica Chen C'09**.

2020

William Rosa Gr'20 has been awarded the Public Health Service Award from the American Nurses Association. This award recognizes the outstanding contribution by an individual to public health. William is a nurse practitioner in Supportive Care Service at Memorial Sloan Kettering Cancer Center in New York.

1938

Nancy Kester Cantrell CW'38, Westminster, CO, a retired kindergarten teacher; March 8, at 103. At Penn, she was a member of Kappa Kappa Gamma sorority.

1939

Grace Cole Jones CW'39, Greenwich, CT, a volunteer at the Norwalk Hospital (CT) for 55 years; April 1, at 103. At Penn, she was a member of Kappa Delta sorority. Her son is Rev. Keith E. Jones W'64, and her daughter is Grace Jones Vineyard CW'66. Two grandchildren are Sarah E. Jones Nu'95 WEv'12 GNu'13 and Scott W. Vineyard W'96.

1941

John R. Kleiser C'41 G'42 Gr'53, Lancaster, PA, retired head of the psychology department at the Woods School for special education; March 15, at 100. He served in the US Navy during World War II. At Penn, he was a member of Alpha Tau Omega fraternity, the *Daily Pennsylvanian*, Glee Club, chorus, Friars, and the fencing, rowing, and swimming teams. One grandson is Grant R. Kleiser C'17.

1942

Leonore Ingber Toll Ed'42, Warminster, PA, a retired teacher; Jan. 11, at 99. At Penn, she was a member of Delta Phi Epsilon sorority and the chorus.

1943

David A. Dinkin Ed'43 GEd'47, Pittsburgh, retired executive director of the Tree of Life synagogue; March 14. He later taught adult education classes at the Jewish Community Center of Greater Pittsburgh. He served in the US Army during World War II.

David E. Pinsky C'43 L'50, Washington, DC, a retired attorney; Dec. 31. He was one of the 10 NAACP Attorneys of Counsel on the landmark 1954 Brown v. Board of Education school desegregation case. For much of his career he was a housing attorney at the US Department of Housing and Urban Development. He served in the US Army during World War II. At Penn, he was a member of the Philomathean Society and the debate team. One son is Ross G. Pinsky C'78.

1944

Richard E. B. Parker ME'44, Doylestown, PA, a retired mechanical engineer; Dec. 16, 2018. At Penn, he was a member of the V-12 Navy College Training Program and the lightweight rowing team. One daughter is Nancy L. Parker EE'85.

1945

Naomi Rittenberg Barsky Ed'45 GEd'46, Rutledge, PA, Jan. 29. At Penn, she was a member of Sigma Delta Tau sorority and the swimming team.

Dr. Robert W. Keeler M'45, Yarmouth Port, MA, a retired pediatrician; April 5, at 99.

1946

Suzanne Weinstein Diamond CW'46, Bala Cynwyd, PA, Feb. 1, 2019. Her daughter is Thea D. Howey G'83 Gr'04.

1947

William Dodies C'47 GEd'49, Ambler, PA, Feb. 10, 2019. At Penn, he was a member of Alpha Epsilon Pi fraternity.

Frances Rafferty CW'47, Townsend, MA, a former director of procurement at an army base; Feb. 26. At Penn, she was a member of Penn Players.

1948

Dr. Wilmer A. Abbott Jr. C'48 D'51, Ventnor City, NJ, a retired dentist; April 23. He served in the US Navy during World War II. At Penn, he was a member of the swimming team.

E. Lee Barnett W'48, Sedalia, MO, a retired manager at General Motors; April 20. He served in the US Navy during World War II.

Betty Tucker Hendrickson G'48, Newtown Square, PA, a retired librarian; Feb. 17.

Barbara Brunton Kime Ed'48, Vonore, TN, a retired first-grade teacher; March 28.

Josephine Condello Yerger CW'48, Gwynedd Valley, PA, July 20, 2019.

1949

Donald D. Baker W'49, Malvern, PA, a retired manager in the cost accounting department at what is now GlaxoSmithKline; April 23. He later started a kitchen design consultancy.

Notifications

Please send notifications of deaths of alumni directly to: Alumni Records, University of Pennsylvania, Suite 300, 2929 Walnut Street, Phila., PA 19104

EMAIL record@ben.dev.upenn.edu

Newspaper obits are appreciated.

1950

Milton Silver EE'50 WG'52, Huntingdon Valley, PA, a professor of management and entrepreneurship at Drexel University; April 8. His daughter is Susan Silver Miller C'78 W'78, and one son is Carlton I. Silver EAS'84. One grandchild is Jodi L. Miller C'14 GEd'15.

Richard D. Wood WG'50, Indianapolis, retired chairman, president, and CEO of Eli Lily, a pharmaceutical company; April 16. At Penn, he was a member of Sigma Nu fraternity.

1951

Eric H. Cocklin C'51 G'59, Pleasant Gap, PA, a former lab technician at the Children's Hospital of Philadelphia who later worked on his family farm; April 20. He was a veteran of the Korean War.

Roy A. Fetterman Jr. ME'51, Fort Washington, PA, a retired engineer, inventor, and owner of a textile business; Feb. 8. He served in the US Navy during World War II.

Oliver F. Green Jr. L'51, Newport Beach, CA, a retired attorney; Feb. 25. He served in the US Navy during World War II.

Edward Gabriel Janosik Gr'51, Springfield, MO, a retired political science professor at SUNY Geneseo; March 7, at 102. He served in the US Army during World War II.

Colman I. Kaplan L'51, Elkins Park, PA, a retired attorney; Sept. 24, 2018.

Patricia Wolf King CW'51, Lafayette, CA, Jan. 1, 2019.

Ernest "Ernie" J. Prudente Ed'51 GEd'62, Wallingford, PA, a former football, basketball, and baseball coach at Haverford and Swarthmore colleges; April 14. He served in the US Navy during World War II. At Penn, he was a member of Sigma Phi Epsilon fraternity, and the football, basketball, and baseball teams. He remained an active member of the "Mungermen," returning to Frankiln Field often to visit with old football team-

mates who, like him, played under famed coach George Munger Ed'33. His son is Ernie L. Prudente EAS'89.

Robert L. Stern WG'51, Rye, NY, a former partner at a brokerage firm who later opened a wine and liquor store; April 14. He served in the US Navy during World War II.

Edward A. Weil Jr. W'51, Sun Valley, ID, a retired stockbroker; March 18. He served in the US Army during the Korean War.

1952

Natalie Reilly Anderson DH'52, Clearwater, FL, Feb. 13.

Jeanne Thomson Castillo CW'52, Vero Beach, FL, April 23. At Penn, she was a member of Delta Delta Delta sorority. Her husband is Arthur T. Castillo W'53, and one sister is Joanne Thomson Welsh CW'52.

Myron I. Dworken W'52, Fairfield, CT, a retired CPA; April 20. He served in the US Navy during the Korean War. At Penn, he was a member of Phi Epsilon Pi fraternity.

Charles W. Grassel C'52 GEd'61, Levittown, PA, a retired professor of geography and history at West Chester University; March 4. He served in the US Marines during the Korean War and was awarded the Navy Cross.

Donald R. Haws C'52 L'55, Jacksonville, FL, a retired attorney; March 19. At Penn, he was a member of Phi Sigma Kappa fraternity and WXPN. One son is Robert S. Haws W'79.

William H. Knoll Jr. C'52, Whitehall, PA, a retired employee at AT&T who worked in international sales; April 23. He served in the US Army during the Korean War.

Bernard J. Korman W'52 L'55, Miami, former chairman of a real estate investment trust company; Feb. 22. At Penn, he was a member of Beta Sigma Rho fraternity and the rowing team. One son is Charles H. Korman C'79 WG'86 CGS'98, and one grandson is Jonathan F. Korman C'05 L'08.

Richard A. Mulford ME'52 GME'57, Malvern, PA, a retired engineer for the Philadelphia Electric Company (now PECO), where he worked for nearly 40 years; Feb. 19.

Rachel "Phyllis" Ostrolenk Soffen Ed'52, Princeton, NJ, a retired nursery school teacher; Feb. 29. At Penn, she was a member of Phi Sigma Sigma sorority and WXPN.

Mary Bratton Stewart DH'52, Palm City, FL, a retired dental hygienist; April 8. Her husband is George H. Stewart W'53, and one daughter is Linda N. Stewart W'77.

Dr. Royall Whitaker C'52 Gr'65, Arnold, MD, professor emeritus of economics at the US Naval Academy; Aug. 26.

Dr. Saul Winegrad C'52 M'56, Philadelphia, professor emeritus of physiology at Penn's Perelman School of Medicine; March 13. He joined the Penn faculty as assistant professor of physiology and medicine in 1962. In 1969, he became a full professor. He founded and organized the Biomedical Graduate Studies program, which oversees all Perelman School of Medicine graduate groups. He was recognized internationally for his research in cardiac muscle physiology and was a Fulbright Fellow, National Science Foundation Fellow, Guggenheim Fellow, and Fogarty-CNRS International Fellow. The Saul Winegrad Award for Outstanding Dissertation was established for the graduate groups upon his retirement. As a student at Penn, he was a member of Sigma Alpha Mu fraternity. His wife is Dilys V. Winegrad Gr'70. His daughters are Naomi Winegrad Usher C'88 and Gwyneth N. Galbraith C'90. One granddaughter is Amelia L. Galbraith C'21.

Norman P. Zarwin C'52 L'55, Bala Cynwyd, PA, a retired founding partner of a law firm; March 6. At Penn, he was a member of Pi Lambda Phi fraternity.

1953

Nathaniel A. Barbera L'53, Somerset, PA, founder of a law firm; March 10.

Marjorie L. Blake-Myers Ed'53, Danville, CA, a retired real estate agent; March 22. At Penn, she was a member of Kappa Alpha Theta sorority and the lacrosse team.

Joan Mitchell Goldburgh Ed'53, Bala Cynwyd, PA, a retired elementary school teacher; March 25. At Penn, she was a member of Delta Phi Epsilon sorority, WXPN, the chorus, and the fencing, swimming, and tennis teams.

Dr. H. Alan Hume M'53 GM'57, Sidney, ME, a retired surgeon and a physician and a teacher at Colby College; Feb. 20. He served in the US Navy during World War II. His brother is Dr. John M. Hume M'55 GM'59.

John Patrick Mullen G'53, King of Prussia, PA, an English professor at Saint Joseph's University for 51 years; Feb. 25. He served in the US Army during World War II, earning a Bronze Star.

Harold Weisman C'53, Pelham, NY, an attorney; March 24. He served in the US Army during the Korean War. At Penn, he was a member of Tau Epsilon Phi fraternity and the Penn Band. His daughter is Diane F. Calderon C'81 GEd'82.

1954

Duncan A. Bruce W'54, New York, a retired stock trader and author of books on Scottish history; Nov. 22. At Penn, he was a member of Alpha Tau Omega fraternity, Friars, Mask & Wig, and Penn Players.

Dr. Thomas T. Doran D'54, New London, NH, a retired dentist who maintained a practice in Huntington, NY, for 30 years; Feb. 26.

Dr. Stanley "Shep" Goren GM'54, Jenkintown, PA, a retired physician; Feb. 12, 2019.

Dr. Gifford Grimm M'54 GM'58, Little Silver, NJ, a retired obstetrician-gynecologist at Monmouth County Associates for more than 50 years; Jan. 16. He served as a MASH surgeon in the US Army.

Robert G. Hoffman WG'54, Forest Hills, NY, a retired financial advisor; Sept. 12, 2019.

Newton N. Levine Ar'54, Milford, NJ, a retired architect and graphic arts professor at Ramapo College of New Jersey; Feb. 23. At Penn, he was a member of Kappa Nu fraternity and Mask & Wig.

Leroy R. Loewenstern C'54 G'57, Elkins Park, PA, a high school physics teacher and an adjunct professor at Drexel University; March 31. Two sons are Daniel A. Loewenstern W'84 L'87 and Mark A. Loewenstern C'90.

C. Stetson Thomas Jr. W'54, Middleboro, MA, former president of an insurance agency; March 6. He later owned and operated a travel service with his daughter. At Penn, he was a member of Beta Theta Pi fraternity.

James D. B. Weiss Jr. W'54, Philadelphia, a teacher in the Philadelphia School District; March 30. He served in the US Army during World War II and remained in the reserves for many years. At Penn, he was a member of Alpha Tau Omega fraternity.

1955

Edward M. Callahan W'55, Naples, FL, an entrepreneur; April 2. At Penn he was a member of Phi Gamma Delta fraternity. His daughter is Mary Anne Callahan WG'89.

Joseph D'Angelo Jr. WEv'55, North Wales, PA, a retired sales executive at a conveyor systems manufacturer; March 9. He served in the US Army during the Korean War.

Ruth Hagenlocher Tori Ed'55, Tampa, FL, Feb. 8.

Dr. John T. Ziegler D'55, Carlisle, PA, a retired dentist; March 12. He served in the US Army.

1956

George W. Ahl Jr. EF'56, Trumbull, CT, retired director of the Connecticut Small Business Development Center, a nonprofit consultancy; April 1. He served in the US Navy during World War II. At Penn, he was a member of Phi Kappa Sigma fraternity.

Dr. Frank H. Barranco M'56 GM'60, Solvang, CA, a retired physician; March 14. He was also a clinical instructor at UCLA. He served in the US Army.

Evan S. Kranzley L'56, North Coventry Township, PA, a retired attorney and real estate agent; Feb. 24. He served in the US Air Force.

Vincent M. Love WG'56, New York, retired executive of a hotel; April 16. He served in the US Army.

1957

Madlyn Kornberg Abramson Ed'57 GEd'60, Blue Bell, PA, emeritus trustee of the University of Pennsylvania whose donation with her husband established Penn Medicine's Abramson Cancer Center; April 15. She was a teacher in the Philadelphia School District and a cancer survivor committed to research to ease the psychological and physiological suffering of cancer patients. In 1997, she and her husband, Leonard, the CEO of US Healthcare, made a $100 million gift to establish the Abramson Family Cancer Research Institute to integrate research, education, and comprehensive patient care at what was then known as Penn's Comprehensive Cancer Center. Today it is called Penn Medicine's Abramson Cancer Center. In 1997, she became a Penn trustee and served on the Executive, External Affairs, and Student Life Committees. She served on the boards of Penn Medicine, the School of Medicine, and the Hospital of the University of Pennsylvania. She was a member of the Trustees' Council of Penn Women and an overseer of the Graduate School of Education. The Abramsons also created the Pediatric Research Center of Children's Hospital of Philadelphia, which opened in 1995 and more than doubled the space available for scientific projects. Gifts from the Abramsons established the Abramson Family Professorship in Sarcoma Care Excellence, as well as the Madlyn and Leonard Abramson Professorship in Clinical Oncology. Earlier this year, the couple gave $1 million to support Abramson Cancer Center research related to COVID-19. As a student at Penn, she was a member of Sigma Delta Tau sorority. Two grandchildren are Samantha J. Felgoise C'20 and David Z. Wolfson L'20 WG'20.

Dr. George I. Baxter D'57, Silver Spring, MD, a retired dentist; March 12. He was also a professor of endodontia and periodontia at Georgetown University Dental School. He served in the US Air Force.

Francis J. Blee Sr. W'57, Absecon, NJ, a retired corporate economist at GlaxoSmithKline; April 1. He later worked as an addictions counselor in Atlantic City. He served in the US Army during the Korean War.

Philip W. Brandt G'57, Bronx, NY, professor emeritus of pathology and cell biology at Columbia University; Feb. 17.

James C. DeCesare Jr. WG'57, Burden, KS, retired president and chief operating officer at Boehringer Ingelheim Animal Health, a pharmaceutical company; April 4. He served in the US Army during the Korean War.

Dr. Albert Eichen D'57 GD'58, Teaneck, NJ, a retired dentist; March 26. He also taught physiology and clinical dentistry at New York University's Dental School. He served in the US Army Dental Corps. His wife is Hon. Naomi Gerber Eichen Ed'59, and one grandson is Benjamin S. Epstein C'21.

Robert E. Shapiro W'57, Newton, MA, a retired professor at Seton Hall University School of Business; April 4. One son is Brad Eric Shapiro C'91.

Pacey L. Wohlner W'57, Kansas City, MO, a lawyer; April 16. At Penn, he was a member of Sigma Alpha Mu fraternity and the Beta Gamma Sigma honor society.

1958

Dr. Edward J. Bajorek GM'58, Erie, PA, a retired surgeon; Jan. 8. He served in World War II on the surgical staff of hospitals in France and Germany.

Linda Downum Byrum FA'58, The Villages, FL, a professional portrait artist; March 30.

Sander R. Gorberg L'58, Wynnewood, PA, a retired personal injury attorney; Jan. 31. He served in the US Army.

Robert S. Kadis W'58, Raleigh, NC, owner of a commercial real estate property management company; April 6. He served in the US Air Force. At Penn, he was a member of Zeta Beta Tau fraternity.

Philip H. Osborne L'58, Pennington, NJ, a retired tax attorney and a photographer; April 16. At Penn, he was a member of the *Law Review*. One sister is Elizabeth Osborne FA'59.

Irwin Rosenbaum C'58, New York, a retired high school English teacher; April 5. He served in the US Army. At Penn, he was a member of the Glee Club. His daughter is Rachel Rosenbaum Mandell C'99, who is married to Matthew Mandell C'99.

Helen F. Sharkey G'58, Bryn Mawr, PA, Dec. 8.

1959

Dr. C. Theodore Blaisdell M'59 GM'62, New Tripoli, PA, a retired anesthesiologist; April 3. He served in the US. Air Force during the Korean War.

Robert N. Burrows Gr'59, Whitewater, WI, a retired professor of American and British literature at the University of Wisconsin; April 14. He served in the US Marine Corps during World War II.

Lester Eber W'59, Rochester, NY, president of a wine and spirits distribution business; April 5. At Penn, he was a member of Pi Lambda Phi fraternity.

Jane Krumrine CW'59, Newtown Square, PA, retired vice president of communications at an insurance brokerage firm;

April 17. At Penn, she was a member of Kappa Alpha Theta sorority.

Dr. Donald G. Lovejoy D'59, Keuka Lake, NY, a retired dentist; April 3. He served in the US Army.

Dr. Edward L. Reid II M'59, Coral Gables, FL, a physician and professor of endocrinology at Florida International University Medical School; April 7. He served in the US Army Medical Corps.

Nancy J. Woods SW'59, Danville, PA, retired director of a social work department at a medical center; April 13.

Linda Gureasko Yang Ar'59, New York, a retired journalist; April 20. Early in her career, she worked for the noted architect Edward Durell Stone before becoming a garden columnist for the *New York Times*. At Penn, she was a member of the chorus. Her son is David Yang C'89 GAr'92.

Dr. Leslie M. Zatz GM'59, Palo Alto, CA, professor emeritus of radiology at Stanford University; Feb. 21. He served in the US Air Force.

1960

David C. Auten C'60 L'63, Philadelphia, a retired lawyer and University of Pennsylvania Trustee; May 9. He served on Penn's board of trustees from 1977 to 1988, as a member of the board for UPHS (now Penn Medicine), as an overseer of the School of Arts and Sciences, president of the General Alumni Society, chair of Annual Giving, and president of the Interfraternity Alumni Council. In 1977, he received honorary membership in the Friars Senior Society. He also received the Penn Alumni Award of Merit in 1981 and the Hospital Hero Award of Penn Presbyterian Medical Center in 2011. He spent 50 years in the legal field, including serving as the managing partner of the Philadelphia office of Reed Smith LLP for 16 years, focusing on real estate, banking, healthcare, and international law. As a student at Penn, he was a member of Theta Xi fraternity, Mask & Wig, Phi Beta Kappa honor society, and the *Law Review*. His daughters are Anne C. Auten C'92 and Meredith Auten C'96 L'99. His brother is Donald R. Auten C'68 L'71, who is married to Dr. Judith W. Auten M'66.

Barbara Babcock CW'60, Stanford, CA, professor emerita of law at Stanford University; April 18. She was the first female faculty member at Stanford Law and served as the head of the Justice Department's civil division under President Jimmy Carter, where she lobbied successfully for women and minorities on the federal bench. At Penn, she was a member of Kappa Alpha Theta sorority, Phi Beta Kappa honor society, and Mortar Board senior society.

Ross L. Campbell C'60, Ambler, PA, retired senior vice president at Janney Montgomery Scott, a financial services company; March 24. He served in the US Army.

Dr. Peter B. Gregory D'60, Morris, NY, a retired dentist; March 12. He also worked as a banker and was a partner at an antiques store.

Joel A. Rose WG'60, Cherry Hill, NJ, head of a management consulting firm; Feb. 13.

Dr. Harold P. Wittman D'60, Rockville, MD, a retired orthodontist; Nov. 26, 2018. One granddaughter is Jessica W. Schwartz EAS'18 GEng'19.

1961

Dr. Frederick C. Braun GM'61, Vero Beach, FL, a pediatrician specializing in hematology oncology; Feb. 28. He served in the US Navy Medical Corps and the US Marine Corps.

Ira S. Einhorn C'61, Somerset, PA, a former counterculturist who rose to infamy as the "Unicorn Killer" and fugitive; April 3. In the 1960s and '70s he was a sought-after speaker on issues of peace, love, and environmentalism. In 1979, he was charged with the murder of his former girlfriend, Holly Maddux, and fled to Europe. He was later discovered in France and extradited after long negotiations in 2001. He was convicted and sentenced to life in prison without parole ["Alumni Profiles," Jan|Feb 2003].

Barbara Faix HUP'61, Ephrata, PA, Oct. 2, 2018.

M. Louis Goodman Ar'61, New York, a professor of architecture at the Pratt Institute; April 11.

Henry F. Guckes EE'61 GEE'73, West Chester, PA, a former senior consultant with Allied InfoSecurity, a security services firm; March 21. At Penn, he was a member of Sigma Phi Epsilon fraternity. One daughter is Stacey Guckes Helmers G'89 GFA'90.

Dr. Eugene M. Kern C'61 M'65, Roslyn, NY, a retired physician; March 5. He served in the US Army during the Vietnam War. One son is Joshua H. Kern C'96.

Martin Kobak W'61, Upper Gwynedd, PA, a retired senior executive at a large financial institution; Sept. 9. At Penn, he was a member of Pi Lambda Phi fraternity.

James E. Mahoney W'61, Weymouth, MA, an attorney; March 17. At Penn, he was a member of Pi Kappa Alpha fraternity.

Ivan M. Popkin W'61, Elkins Park, PA, a partner at a commercial construction company; March 29. At Penn, he was a member of Phi Epsilon Pi fraternity. His wife is Susan Alexander Popkin CW'62 G'80.

David L. Robinson W'61 L'64, Greensburg, PA, an attorney and owner of a restaurant; March 15. He rowed internationally and competed four times at the US Olympic Trials. At Penn, he was a member of Delta Tau Delta fraternity and the heavyweight rowing team. He served in the Pennsylvania National Guard.

David Segal GCP'61, Philadelphia, a member of the Philadelphia City Planning Commission, where he specialized in the preparation and publication of population and housing data; March 12. He served in the US Army Reserve.

Sandra Segal Stein Ed'61, Beverly Hills, CA, an attorney who was one of the leading asset recovery experts at the law firm Robbins Geller Rudman & Dowd LLP; Feb. 25. She also served on the Senate Judiciary Staff of US Senator Arlen Specter of Pennsylvania and championed many Jewish causes. At Penn, she was a member of Phi Sigma Sigma sorority. Her daughters are Laura S. Stein C'92 L'95 and Leigh D. Stein C'96.

1962

Patricia Conway Diehl Nu'62, Wilmington, DE, a retired nurse; April 10.

Dr. Eric Papineau Gall C'62 M'66 GM'70, Tuscon, AZ, chief of rheumatology at the University of Arizona and cofounder and director of the school's Arthritis Center; Feb. 26. He served in the US Army during the Vietnam War, earning a Bronze Star and Army Commendation Medal. At Penn, he was a member of Sigma Phi Epsilon fraternity.

Raymond H. Kraftson C'62, West Chester, PA, an attorney and businessman who

founded Ariane Capital Partners, growing it into a top 10 private fund placement agent; Feb. 21. He was also a skilled mechanic and race car driver. One daughter is Marguerite Kraftson Kelly C'95, and his son is Donald W. Kraftson WG'96. His brother is Timothy A. Kraftson WG'68, and his sister is Constance Kraftson McDowell WG'75.

Lawrence J. Little WG'62, Ormond Beach, FL, a retired CPA and comptroller for a number of firms; Feb. 26. He served in the US Army.

Jeffrey M. Milwe C'62, Westport, CT, a partner at a law firm; March 7. At Penn, he was a member of Phi Sigma Delta fraternity. His wife is Judith Cohen Milwe W'63.

Carol Hill Rizzo CW'62, Scotch Plains, NJ, a Confraternity of Christian Doctrine teacher; April 11. At Penn, she was a member of Kappa Delta sorority and Penn Singers. Her daughter is Elizabeth M. Rizzo C'86, and her son is Louis Robert Rizzo III W'93.

1963

Robert J. Aresty W'63, Princeton, NJ, owner and president of a solar energy company; March 21. At Penn, he was a member of Sigma Alpha Mu fraternity and the soccer team. His sister is Jane Aresty Silverman GCP'70.

Hon. A. Richard Caputo L'63, Wilkes Barre, PA, a judge on the US District Court for the Middle District of Pennsylvania; March 11. He served as a federal judge for the last 22 years after previously working as a trial lawyer. He served in the US Air Force.

Dr. Antonio Castro GD'63, St. Petersburg, FL, a retired oral surgeon; Dec. 1. He was a former team doctor for the NHL's Tampa Bay Lightning. He served in the US Air Force.

Dr. David K. Kanter D'63, Pittsfield, MA, a retired dentist; March 18. He taught dentistry at Fairleigh Dickinson University and was on the board of directors for Volunteers in Medicine, where he provided free dental care to low-income adults. He served in the US Army Dental Corps during the Vietnam War.

Clifford F. Miller Ed'63, Allentown, PA, professor emeritus of mechanical technology at Lehigh Carbon Community College; April 19. He served in the US Army during World War II.

Peter M. Ryan L'63, Darien, CT, a lawyer; March 24.

Dr. John T. Sidener Jr. GAr'63 GCP'63 GFA'63, Kirkland, WA, Feb. 1.

Seldon V. Whitaker Jr. GEd'63, Pittsburgh, a superintendent of school districts in Massachusetts and Pennsylvania; April 7. He was also an adjunct professor of education at Penn State.

1964

Lawrence J. Delaney GEd'64 GrEd'66, Pennsauken, NJ, professor emeritus of physics and engineering at Rowan University; April 4. He served in the US Marine Corps and the US Navy.

John G. Fairey GFA'64, Houston, TX, a professor of architecture at Texas A&M University; March 17. He is also founder of the John Fairey Garden, a 39-acre property in Hempstead, Texas, that is a repository of rare and unusual plants from the US, Mexico, and Asia.

B. Scott Gillam G'64, Rancho Palos Verdes, CA, a writer and editor; March 23. He served in the Peace Corps in Kenya from 1966 to 1968.

Julia C. Kyner CGS'64, Yorktown Heights, NY, a high school French teacher who also owned a show geese farm with her husband; March 7, at 105.

1965

Roselyn Goldberg Eisenberg Gr'65, Davis, CA, professor emerita of pathobiology at Penn's School of Veterinary Medicine; March 14. She was hired in 1968 as a lecturer in the School of Dental Medicine. She became assistant professor the following year. She was one of several women in the early days of the women's movement who filed a lawsuit against the University over discrimination based on sex, related to denial of tenure; the case was settled, and she was given a seven-year tenure probationary period. In 1978, she joined the School of Veterinary Medicine as an assistant professor in pathobiology. She went on to become an associate professor, and then in 1985 she was promoted to professor. While a professor and head of a microbiology and immunology laboratory in the Vet School, she collaborated on a vaccine to counter the ill effects of vaccinia virus and confer additional protection against smallpox. She also filed a patent application for herpes simplex vaccine, collaborating with Gary Cohen in Penn's Dental School, and later received funding from the NIH for this research. She was a fellow of the American Association for the Advancement of Science and won multiple University Research Foundation Awards. She also earned a Penn Professional Women's Award and the Lenore Rowe Williams Award. She retired in 2018. Her daughter is Ruth Anne Eisenberg Robbins C'88, who is married to Steven C. Robbins W'88.

Susan Salek Holland HUP'65 Nu'69, Westfield, MA, a nurse; April 2. She worked as a psychiatric nurse, a school nurse, and a nurse at a senior home.

Dr. Thomas D. Mull M'65 GM'74, West Chester, PA, chief of anesthesiology at Bryn Mawr Hospital; Feb. 20. He served in the US Army during the Vietnam War.

Dr. Samuel H. Rosalsky D'65, The Villages, FL, a dentist; March 18.

1966

Peter Batchelor GAr'66 GCP'66 GFA'66, Raleigh, NC, professor emeritus of architecture and urban design at North Carolina State University; April 15.

Dr. Jan A. Bergeron V'66, The Villages, FL, March 8.

A. Richard Casavant Jr. WG'66, Atlanta, retired dean of the College of Business at the University of Tennessee at Chattanooga; March 31. He served in the US Air Force Medical Service Corps.

Eliott Klein L'66, Philadelphia, former chief counsel of the Pennsylvania Securities Commission; April 8. He co-drafted the Pennsylvania Securities Act of 1972

William F. Matlack Gr'66, Cranberry Township, PA, professor emeritus at the University of Pittsburgh in the Graduate School of Public and International Affairs; March 17. He served in the US Air Force during the Korean War.

Robert Rescorla Gr'66, Austin, TX, professor emeritus of psychology at Penn; March 24. He joined Penn as professor of psychology in 1981 and was named the James M. Skinner Professor of Science (1986–2000) and later the Christopher H. Browne Distinguished Professor of Psychology (2000–2009). He served as

chair of psychology from 1985 to 1988 and dean of the College of Arts and Sciences from 1994 to 1997. In 1985, he was elected to the National Academy of Sciences, and in 2008 he was elected as a member of the American Academy of Arts and Sciences, among other accomplishments. He retired in 2009.

William M. Stellenwerf WG'66, Mahwah, NJ, a former partner at an accounting firm; Feb. 26.

1967

Dr. Paul M. Allen M'67, Inglewood, CA, a retired obstetrician-gynecologist; March 16. He served in the US Public Health Service during the Vietnam War.

Dr. Michael Baten C'67, Santa Fe, NM, a neurologist and sleep medicine expert; Feb. 29.

Sherry Helfant Malone CW'67, Naples, FL, Feb. 25.

1968

Edward H. Applebaum WG'68, Mt. Lebanon, PA, president of a hardware store; March 19.

Dr. Samuel E. Lippincott D'68, Moorestown, NJ, former assistant professor of restorative dentistry at Penn's School of Dental Medicine; April 6. He also taught dentistry at Temple University.

1969

Jud Q. Little W'69, Ardmore, OK, president and CEO of the Quintin Little Company, a family-owned oil company; March 25. He was also a quarter horse breeder and cattle rancher. At Penn, he was a member of Sigma Alpha Epsilon fraternity.

Letty Orlofsky Roth Piper Nu'69 GNu'76, Gwynedd, PA, former lecturer in the department of biobehavioral and health sciences in the School of Nursing; March 7. One son is Stephen Rogers Piper C'88.

1970

Dr. G. Leigh Cook D'70, Wilmington, DE, a retired dentist; March 19. He served in the US Air Force as a dentist during the Vietnam War. His brother is Jeffrey L. Cook D'76.

Dr. Howard Freeman GrD'70, West Chester, PA, Dec. 18.

Dorothy M. Klecka Nu'70, Fort Worth, TX, a retired lieutenant colonel in the US Air Force Nurse Corps; Feb. 23.

Michael G. Walsh C'70, Whispering Pines, NC, a lawyer and professor of business law at Villanova University; March 21. At Penn, he was a member of the Penn Band.

1971

Pauline A. Bigby GEd'71, Wilmington, DE, a teacher who instructed students from elementary to graduate school; March 24.

Janice Ruth Kane Nu'71, Phoenixville, PA, a psychiatric nurse at a Veterans Affairs medical center; July 12, 2018. She served in the US Army and the US Army Reserve.

Mark D. Paster ChE'71, Annapolis, MD, a chemical engineer who worked on biodegradable plastics and hydrogen fuel cell research; April 7. At Penn, he was a member of Theta Rho fraternity and the ice hockey and sailing teams.

David F. Phillips L'71, San Francisco, a retired lawyer who later became a heraldry scholar; March 26.

1972

Mark J. Blum C'72, New York, an actor and producer; March 25. Best known for his roles in *Crocodile Dundee* and *Desperately Seeking Susan*, he most recently appeared as a supporting actor in HBO's *Succession* and the Netflix series *You*. At Penn, he was a member of Penn Players.

Dr. Jerome F. Odlum D'72, West Simsbury, CT, a retired dentist; Feb. 27.

Jane Culver Rouse CW'72, Saint Louis, a volunteer for a number of nonprofits helping women, children, and deaf people in her community; March 24.

Dr. William B. Solomon C'72, New York, a professor of hematology and oncology at Downstate Medical School and attending physician at a hospital; April 8. He earned a gene therapy patent for his research in iron deficiency. At Penn, he was a member of WXPN.

1973

Eleonora Karpinicz Adams Gr'73, Buckingham, PA, head of the arts division at Penn State, Abington; March 19. She also worked as an interpreter for the US State Department and was a professor of German, Russian, and English. Born in Ukraine, she spent six years in the Lyssenko Displaced Persons Camp in Germany after World War II before immigrating to the US with her family.

Dr. Eric C. Bergman M'73, Washington, DC, former chief psychiatrist at George Washington University Student Health Service who also had a private practice; Feb. 15. His sons are Daniel Bergman WG'10 and Jed B. Bergman C'11.

1974

Dr. George C. Farnbach V'74 Gr'77, Cherry Hill, NJ, former assistant professor of neurology at Penn's School of Veterinary Medicine; April 26. He also worked as a senior web developer at Independence Blue Cross in Philadelphia for 20 years. He served in the US Army during the Vietnam War. One daughter is Ingrid M. Farnbach C'93.

1975

Richard L. Brunker Gr'75, Riverton, NJ, an environmental toxicologist for the EPA and a professor at Drexel University; March 30. He served in the US military and the Peace Corps.

Amy S. Levin OT'75, Philadelphia, a retired occupational therapist at the Children's Hospital of Philadelphia; Jan. 1. Her sister is Naomi Levin Breman WG'73.

Michele Beulieu Magnotta DH'75, Wilmington, DE, a retired dental hygienist; March 11.

James "Scoots" Marcinkus C'75, Rockledge, PA, a fleet outfitting division director for the US Department of Defense; Feb. 27.

1977

Dr. Richard F. Garnet Jr. GM'77, Richmond, IN, a pathologist; Feb. 18. He served in the US Air Force.

1978

David A. Stasko C'78, Hudson, OH, March 3. At Penn, he was a member of Alpha Epsilon Pi fraternity.

1979

Lorenz J. Bauer II C'79, Schaumburg, IL, a former senior research technologist at Signal

Research Group; April 11, 2019. At Penn, he was a member of Phi Delta Theta fraternity. His daughter is Rebecca N. Bauer C'09.

Dr. William G. DeLong Jr. GM'79 GM'83, Haddonfield, NJ, an orthopedic surgeon; March 13. He was a former team physician for the NHL's Philadelphia Flyers. His wife is Virginia D. DeLong SW'00.

Dr. Morrie E. Kricun GM'79, Audubon, PA, professor emeritus of radiology at the Perelman School of Medicine; April 4. He joined Penn as a lecturer in radiology in 1981. He was appointed an associate professor of radiology at the Hospital of the University of Pennsylvania in 1982, and he became a standing faculty-clinician educator in radiology in 1988. He was promoted to professor in 1990. He received a University Research Foundation Grant for "Radiology-Paleopathology of the Skeletal Remains of Prehistoric Australian Aborigines." He also authored a book on Elvis Presley. He retired in 2002. He served in the US Air Force. His wife is Virginia Brawner Kricun CGS'04.

Dr. Ethel M. Weinberg GM'79, Philadelphia, a trailblazing physician, leader in academic medical education, and advocate for women in medicine; Mar. 4. She helped create the specialty of emergency medicine by championing the idea of creating an acute care medicine internship.

1981

P. Bradford Blauer-Jones C'81, Wayne, PA, April 9, 2018. His father is M. William Jones W'50. One sister is Carol Adaire Jones CW'73, and one brother is Myron W. Jones III C'76 GEd'78 Gr'83.

Michael V. Ciliberti C'81, Philadelphia, April 15.

Kenneth C. Citrino C'81, Philadelphia, an attorney; May 18, 2019.

Diane J. Cornell L'81, Washington, DC, retired special counsel to the chairman at the Federal Communications Commission; Jan. 7.

Edward J. Nolan Gr'81, Jenkintown, PA, professor emeritus of mathematics at La Salle University; April 10. He was also the former head of the re-entry systems department at General Electric. He served in the US Navy Reserves.

School Abbreviations

Ar	Architecture
ASC	Annenberg
C	College (bachelor's)
CCC	College Collateral Courses
CE	Civil Engineering
CGS	College of General Studies (till 2008)
Ch	Chemistry
ChE	Chemical Engineering
CW	College for Women (till 1975)
D	Dental Medicine
DH	Dental Hygiene
EAS	Engineering and Applied Science (bachelor's)
Ed	Education
EE	Electrical Engineering
FA	Fine Arts
G	master's, Arts and Sciences
GAr	master's, Architecture
GCE	master's, Civil Engineering
GCh	master's, Chemical Engineering
GCP	master's, City Planning
GD	Dental, post-degree
GEd	master's, Education
GEE	master's, Electrical Engineering
GEng	master's, Engineering and Applied Science
GEx	master's, Engineering Executive
GFA	master's, Fine Arts
GGS	master's, College of General Studies
GL	master's, Law
GLA	master's, Landscape Architecture
GME	master's, Mechanical Engineering
GM	Medicine, post-degree
GMt	master's, Metallurgical Engineering
GNu	master's, Nursing
GPU	master's, Governmental Administration
Gr	doctorate
GrC	doctorate, Civil Engineering
GrE	doctorate, Electrical Engineering
GrEd	doctorate, Education
GrL	doctorate, Law
GrN	doctorate, Nursing
GRP	master's, Regional Planning
GrS	doctorate, Social Work
GrW	doctorate, Wharton
GV	Veterinary, post-degree
Hon	Honorary
HUP	Nurse training (till 1978)
L	Law
LAr	Landscape Architecture
LPS	Liberal and Professional Studies
M	Medicine
ME	Mechanical Engineering
MT	Medical Technology
MtE	Metallurgical Engineering
Mu	Music
NEd	Certificate in Nursing
Nu	Nursing (bachelor's)
OT	Occupational Therapy
PSW	Pennsylvania School of Social Work
PT	Physical Therapy
SAMP	School of Allied Medical Professions
SPP	Social Policy and Practice (master's)
SW	Social Work (master's) (till 2005)
V	Veterinary Medicine
W	Wharton (bachelor's)
WAM	Wharton Advanced Management
WEF	Wharton Extension Finance
WEv	Wharton Evening School
WG	master's, Wharton
WMP	Wharton Management Program

1983

Dr. Frank C. Praeger Gr'83, Houghton, MI, a researcher in cell aging; May 26, 2019.

1984

Katherine Mullin Berman WG'84, Minneapolis, executive director of think2perform, a business development service; April 8. She also worked as a marketing executive at JP Morgan Chase. Her husband is Arthur H. Berman WG'80.

Donald N. Ford WEv'84 WEv'85, Bensalem, PA, March 18. At Penn, he was a member of Omega Psi Phi fraternity.

Alan T. Ortiz G'84 Gr'86, Manila, Philippines; a foreign policy expert; March 23. He was president of the Philippine Council for Foreign Relations and an executive at a power company. His spouse is M. F. Del Rosario-Ortiz Gr'94.

Dr. Lawrence J. Solin GM'84, Haverford, PA, emeritus professor clinician-educator in radiation oncology at the Perelman School of Medicine who also spent many years with Penn's Abramson Cancer Center; March 3. He joined Penn in 1984 as an assistant professor on the clinician-educator (CE) track in radiation therapy (which later became radiation oncology). He went on to be promoted to associate and then full professor CE in 1994. He retired and earned emeritus status in 2008. He went on to serve as department chair in radiation oncology at Einstein Hospital.

1987

Gail A. Robinson L'87, Bethesda, MD, an attorney; July 1, 2019. At Penn, she was a member of the *Law Review*.

1988

Janet Mummey Fogg GNu'88, Harrisburg, PA, a neonatal critical care nurse; March 22. She was also an assistant professor of nursing at Penn State.

John S. Lombardo W'88, Baldwinsville, NY, a senior portfolio manager at an investment firm; April 11.

1993

Dr. Lauren P. Flato V'93, Sunnyvale, CA, a small-animal veterinarian and owner of a dog training service; July 21.

1995

Donald "Buddy" Rosenthal WG'95, Denver, a former technology executive at AOL, Yahoo, and RealNetworks; Feb. 21.

1999

Michael E. Rothlein SW'99, Boca Raton, FL, April 7, 2018.

2004

Lisa T. Felix CGS'04, Warsaw, NY, an immigration attorney; April 1. She had also worked as a foreign student advisor at Penn.

2007

Kathleen J. Clawson GEd'07, Horsham, PA, a middle school psychologist; March 2, 2019.

Leonard Eveley CGS'07, Philadelphia, Jan. 2, 2019. His wife is Helen S. Eveley CGS'07.

2008

Dr. Constance Keefe Gr'08, Blue Bell, PA, a retired senior software manager for the global information technology company Unisys; March 2.

2017

Dr. Gurpal Singh Sandhu WG'17, Marina del Rey, CA, a physical medicine and rehabilitation specialist; Feb. 20.

2018

Jerome Ian Urbano GNu'18, New York, March 18.

Faculty & Staff

Madlyn Kornberg Abramson. *See Class of 1957.*

David C. Auten. *See Class of 1960.*

Roselyn Goldberg Eisenberg. *See Class of 1965.*

Dr. George C. Farnbach V'74 Gr'77. *See Class of 1974.*

Donald D. Fitts, Gladwyne, PA, professor emeritus of chemistry and former associate dean for graduate studies at the Penn; March 25. He joined the faculty in 1959 as an assistant professor, and also served as an assistant professor in the Laboratory for Research on the Structure of Matter for several years. From 1978 to 1994, he served as the associate dean for graduate studies for the School of Arts and Sciences. He was a NATO Senior Science Fellow, an academic visitor at the University of Oxford, and a visiting fellow at Corpus Christi College, Cambridge. He retired in 2011. His sons are Dr. Robert K. Fitts C'87 and William R. Fitts C'92 G'93 Gr'02.

Frederick "Fred" W. Frey, Haverford, PA, professor emeritus of political science; March 26. He joined Penn in 1974 as a professor in political science. He was also the director of Penn's Anspach Institute of Diplomacy and Foreign Affairs. He was chairman of the Graduate Group in International Relations, and he served as one of the principals in evaluating the proposal for a contract between Penn and the Arab Development Institute in Tripoli. He also served on the University Council Committee on Recreation and Intercollegiate Athletics. He retired in 1998. He served in the US Army during the Korean War. His wife is Cecile Parris Frey CW'60 GEd'62 GrEd'75.

Dr. Morrie E. Kricun. *See Class of 1979.*

Dr. Samuel E. Lippincott. *See Class of 1968.*

Dr. Calvin F. Nodine, Hershey, PA, professor emeritus of radiology in Penn's Perelman School of Medicine; March 19. He began his career at Penn as a research associate in the School of Medicine's department of radiology. In 1993 he became a research professor. His published works in the field of eye movement research benefited the medical imaging community as well as the development of military camouflage. He retired in 2003. He served in the US Army.

Tomoko Ohnishi, Radnor, PA, professor of biochemistry and biophysics who taught at the University for more than 52 years; March 17. She joined Penn in 1967 as a visiting assistant professor in biophysics and to work as a postdoctoral fellow within the Johnson Research Foundation under the guidance of director Britton Chance Ch'35 Gr'40 Hon'85, founder of what is now the department of biochemistry and biophysics. She stayed at Penn's Perelman School of Medicine, becoming a full professor in the department of biochemistry and biophysics in 1996. Her daughter is Noriko Ohnishi Lovasz C'92.

Letty Orlofsky Roth Piper. *See Class of 1969.*

Dr. George Preti, Philadelphia, a former adjunct professor in Penn's department of dermatology who also worked in the department of obstetrics and gynecology at Penn's Perelman School of Medicine; March 3. In 1971, he took on appointments at Penn's chemistry department as a lecturer, as well as the Monell Chemical Senses Center in Philadelphia, as a research associate. At Penn, he went on to serve as a research assistant professor, then adjunct assistant, and then associate professor, all in obstetrics and gynecology. During the 1990s, he was an adjunct professor in dermatology. He also served on the mass spectrometry advisory board in the department of metabolic diseases at the Children's Hospital of Philadelphia. He studied human body odors and their meaning, using a diagnostic tool to detect early-stage ovarian cancer using odor biomarkers in blood. He was part of a collaborative team with Penn's Working Dog Center to train dogs to "sniff out" the cancer in patient blood samples. In 2002, the American Chemical Society recognized him for promoting chemistry to the general public through the media.

Robert Rescorla. *See Class of 1966.*

Gene Shay, Wynnewood, PA, longtime radio host of WXPN's Sunday night "Folk Show" and cofounder of the Philadelphia Folk Festival; April 17. He got on-air experience on Armed Forces Radio in Germany in the 1950s, later working at a local TV news station as a jazz and folk music show host. In 1962, he cofounded the Philadelphia Folk Festival. In 1963, he and his wife, Gloria, brought Bob Dylan to Philadelphia for the first time, for a sparsely attended gig at the Ethical Society on Rittenhouse Square. In 1967, Joni Mitchell, whom he called "the most creative person I ever met," played "Both Sides Now" for the first time on his show. He was involved with Penn's WXPN from 1995 to 2015, hosting the weekly "Folk Show." In 2013, he was inducted into the Philadelphia Music Alliance Walk of Fame. A plaque bearing his name is located on the Avenue of the Arts.

Dr. Lawrence J. Solin. *See Class of 1984.*

Hans Stoll, Nashville, TN, former associate professor at the Wharton School; March 20. He joined the faculty at Penn in 1966 as an assistant professor of finance at Wharton. In 1971, he became an associate professor. A few years later, he also took on the role of assistant director of the Wharton PhD program. While at Penn, he spent a year with the Board of Governors of the Federal Reserve System. The following year he participated in a high-priority study of securities markets for the Securities and Exchange Commission. In 1980, he received a grant from the Center for the Study of Future Markets at Columbia University. He left Penn in 1980 to join the faculty at Vanderbilt's Owen School and founded the Financial Markets Research Center.

Dr. Saul Winegrad. *See Class of 1952.*

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Friendships Renewed

One hundred years ago last month, approximately 2,000 alumni descended on the Quadrangle for Alumni Day. "It was the largest turnout in the history of the General Alumni Society," wrote the *Gazette* in its June 25, 1920, issue. (Last year's Alumni Weekend celebrations brought over 13,000 alumni and guests to campus.)

It was also the first Alumni Day since the Treaty of Versailles was signed, formally ending World War I, and several classes held memorial services to honor classmates who had lost their lives. Perhaps because of this, a letter sent to class secretaries prior to the event urged conviviality: "Nobody wants to see a lot of glooms marching around the [Franklin] Field. Show that you are as young as you used to be on this day at least and produce a little gaiety and color."

The image on this page shows the schedule for Alumni Day, on the weekend of June 12, 1920, which the *Gazette* judged "more interesting than ever before."

The parade of classes started sharply at 2:30 p.m., and 40 classes marched from the Quad to Franklin Field. The Medical School Class of 1900 wore "high hats and whiskers," while the Class of 1912 were "attired in overalls, large straw hats, bandanas and handkerchiefs." The Class of 1918 arrived in "hats with red and blue bands, dark shirts and white trousers." The oldest alumnus representing his class was Enoch Hollingshead M1867, a 76-year-old doctor. "As each class passed the box of Provost [Edgar Fahs] Smith, the retiring Provost was given the University and class yells."

Once they were settled in the stands, a crowd of 8,000 alumni and students watched Penn's final baseball game of the season—a "disastrous" 8–3 loss to the University of California—before gathering back in the Quad for a special treat. "Cromie's Circus and Carnival" was "the first time that the undergraduates had undertaken to entertain the returning alumni, and in spite of many handicaps, they did it in splendid fashion."

Although the Class of 1919 did not hold a formal one-year reunion, 43 members participated in the parade. It was their first time together since the end of the war, where they lost 28 members of their class in active duty.

"Many friendships were renewed," the *Gazette* reported. —*NP*

COMMENCEMENT WEEK PROGRAM.

Friday, June 11.

7.00 P. M. Collation and Annual Meeting College Alumni Society. Houston Club.
8.00 P. M. Annual Meeting Engineering Society. Engineering Building.

Saturday, June 12, Alumni Day.

12.30 P. M. Mass-meeting in Triangle, addressed by speaker of national prominence.
1.00 P. M. Luncheon in Triangle.
2.00 P. M. Classes form in Quadrangle.
2.30 P. M. Parade Starts.
3.00 P. M. Baseball, Franklin Field—Pennsylvania vs. California, Champions of the Pacific Coast. (Admission free.)
5.00 P. M. Parade to Quadrangle, where "Cromie's Circus and Carnival" will be in full swing by the undergraduates.
6.30 P. M. Collation in Triangle.
7.30 P. M. Performances by the Combined Musical Clubs and the Mask and Wig Club in the Triangle.
9.30 P. M. Dance in Weightman Hall.

Sunday, June 13.

11.00 A. M. Baccalaureate Sermon. At Old Christ Church, Second and Market streets. By the Rector, the Rev. Dr. Louis C. Washburn.

Monday, June 14, 3.30 P. M.

3.30 P. M. Meeting of the Board of Trustees of the University.

Tuesday, June 15, Class Day.

2.30 P. M. Class Day exercises in the Dormitory Triangle.

Wednesday, June 16.

10.30 A. M. Commencement Exercises at Metropolitan Opera House, Broad and Poplar streets. Address and Charge to class by Provost Edgar F. Smith.

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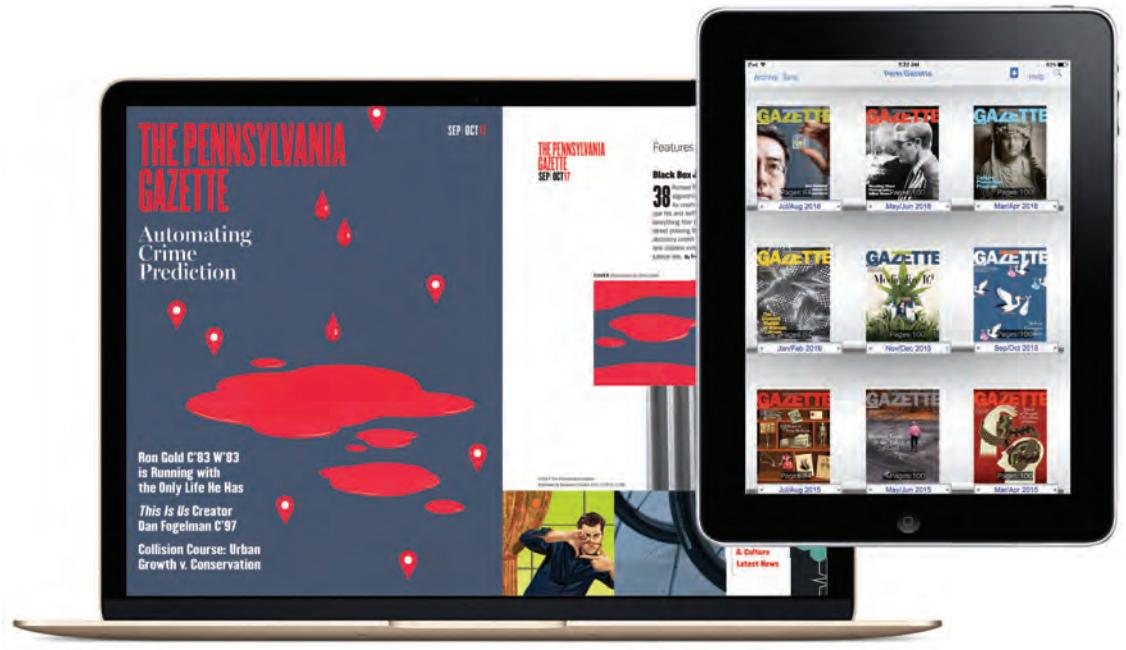

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