

A PUBLICATION OF THE STANFORD ALUMNI ASSOCIATION

STANFORD

Winter
2026

THE SCIENCE OF THE SUPERFIT

LEARNING FROM *MARVELS*
TO HELP MERE
MORTALS

SIX STOP-OUT
STORIES

JUST MY
TYPEWRITER

EXTREME
FILMMAKING

Seeking leaders who want to change the world.



Mark Benak
Stanford '87
Harvard '22

The Harvard Advanced Leadership Initiative aims to unleash the potential of experienced leaders to help solve society's most pressing challenges.

Learn more at advancedleadership.harvard.edu or 617-496-5479.



HARVARD
Advanced Leadership Initiative

FEATURES



The Mystery of the MingKwai

The first Chinese typewriter with a keyboard was elegant and innovative; it was also never produced commercially. Then it vanished. How it turned up at Stanford decades later—and why that matters.

44

Pressing Pause

The Vietnam War, the Olympics, Broadway. Start-ups, children, mental health. Thousands of Stanford undergrads have taken time off for all sorts of reasons. Six stop-outs tell their stories.

52

View Finder

From *Chasing Ice* to *The Social Dilemma*, documentarian Jeff Orlowski-Yang, '06, has a knack for breaking through the noisy media landscape by telling simple stories with vast implications.

60

Power Transfer

"Almost everything we know about health comes from studying disease," says Stanford bioengineer Scott Delp, MS '87, PhD '90. The Wu Tsai Human Performance Alliance flips that script, exploring how elite athletes' performance can help the rest of us.

66

- 2** Dialogue
- 4** Editor's Note
- 6** President's Column
- 8** Snow day
- 11** Actor **West Mulholland**, '27
- 14** Barbie in space
- 15** Cooking without gas
- 16** Shark snaps
- 17** Welcome to the slopes
- 20** Biblio File
- 22** Explainer
Your graphical guide to Social Security reform
- 26** Where the Heart Is
Fire-forged community
- 30** Student Voice
Chloe Shannon Wong, '28,
muses on the hero's journey
- 34** Spotlight
Adaptive sports with Dr. O
- 38** Commode Chronicles
New and improved public toilets
- 73** Farewells
- 80** Postscript
Common ground



stanfordmag.org



From our archives:
How to winter



Meet Cute founder
Naomi Shah, '19



Comedian
Lucas Zelnick, MBA '22

Game Plan

An Autumn story profiled Stanford Football general manager Andrew Luck, '12, MA '23, and his work to rebuild the program and its fan base.

I'm a former Stanford football player and team captain. I'm currently in my sixth year in the NFL. While I found the entire piece on Andrew Luck captivating, I especially connected with this passage: "Sport is a shallow partner. It may pretend to love the athlete, engage his or her intellect, reward hard work and devotion with fame and fortune. But in the end, no matter how deep an athlete's love for his sport, no matter the devotion to her craft, the sport throws over the athlete for someone younger."

I've been at somewhat of an inflection point in my NFL career, and I found those words both profound and comforting. They capture the highs and lows of professional athletics and reflect many aspects of my own experience. Thank you for such a meaningful piece. Go Card!

Casey Toohill, '19
Houston, Texas



Yell leader from the Class of oooooohhhhhh6 here. Traditions get passed along easily in times of winning, but they stay constant when you have folks in charge of preserving them. Bring back the yell leaders, and they'll make sure everyone jumps for "All Right Now" and gives 'em the Axe. I'm sure plenty of us old farts can help the program get back on its feet. Let's do this!

Claire Milligan, '06, MA '06
Ventura, California

Happy Camper

A story in the Autumn issue showcased Stanford Pre-Orientation Trips (SPOT), whose leaders offer five-day, outdoor excursions for new undergrads.

This brought back memories of my early years in graduate school, when I hooked up with hiking and backpacking friends who have remained close for more than 50 years. I became enthusiastic and became a Sierra Club leader, hiking and backpacking with a wide variety of people. Simply getting away from

a stressful, crowded, multitasking environment is worth it—but a positive adventure with a variety of new friends is beyond price. Please keep up (and expand) the good work.
Paul Worden, MS '69, PhD '76
Redwood City, California

Missing: A Moment in the Sun

I just got the Autumn issue and was looking forward to seeing an article and photos

about the Class of '25 Commencement. This was the new president's first commencement address (which I thought was excellent!) and there was a popular alumna speaker, Katie Ledecy, '20. But nothing. Not even one photo.

Graduation marks the culmination of years of involvement and dedication to studies, not to mention the creation of a new group of Stanford readers. I believe this deserves at least a page of recognition.

Michelle Griglione, '91
Orlando, Florida



Falling for Campus

The Autumn issue included a sweater-weather photo of The Falcon, located in the Law School's Cooley Courtyard.

Thank you so much for the delight of the two-page spread featuring Alexander Calder's sculpture set against trees ablaze with red foliage. Holding that beautiful image in print took me back to the many treasures of our campus more generally, where one could so easily take a break from studies and immerse oneself in outdoor artwork or natural beauty, or often both at the same time.

Victor Seidel, PhD '06
Needham, Massachusetts

Words of Wisdom

The Autumn issue included a story on two books written for incoming frosh. We asked what advice you would give to a new student.

From someone who was a professor for 43 years: First, you've come to Stanford for an education, not for job training. Second, get to know your professors. Go to their office hours to chat. If they're good, they'll enjoy it, and they'll remember you.

Anthony Chambers, MA '68
San Diego, California

I suggest four-person study groups in brightly lit breakfast restaurants—preferably with a buffet. People don't notice the chaos, the coffee keeps coming, and snacking improves memorization and prevents fatigue. We can't note everything we hear in class, but four sets of notes with four different perspectives increase knowledge and understanding.

Kim Johnson
Pasadena, Texas



Write to Us

dialogue@alumni.stanford.edu

Letters may be edited for length, clarity, and civility, and may appear in print, online, or both.



“LOVE IS THE ONLY THING WORTH EVERYTHING.”

Barbie Adler
Founder

As the nation's leading matchmaking firm for over 25 years, Selective Search caters to discerning individuals who expect the extraordinary. Our clients demand excellence, and we deliver.

SELECTIVE **25** SEARCH[®]
LUXURY MATCHMAKING years of love



ATHENA PHEROMONES[™] INCREASE AFFECTION



Created by
Winnifred Cutler, Ph.D.
in biology from U. Penn, post-doctoral work at Stanford.
Co-discovered human pheromones in 1986

Effective for 74% in two 8-week studies and 68% in a 3rd study.

PROVEN EFFECTIVE IN 3 PUBLISHED STUDIES



Unscented Fragrance Additives

INCREASE YOUR ATTRACTIVENESS
Vial of 1/6 oz. lasts 4-6 months
Athena 10X[™] For Men \$99.50
10:13[™] For Women \$98.50
Cosmetics 2+ vials ship free to US

♥ **Katherine (FL)** “Thanks to your 10:13 pheromones, I’m getting married! They are amazing. I just had men more attracted to me... they have made an enormous difference!”

♥ **Gary (VA)** “I love your 10X. I am married. I put it in my cologne; there does seem to be a **noticeable difference in my wife’s attitude.** Friskiness, I would say.”

Not in stores 610-827-2200
Athenainstitute.com



Athena Institute, 1211 Braefield Rd., Chester Spgs, PA 19425 STF

Judging a Book

We've got to go beyond the cover.
And that's where you come in.

IT IS WELL established—at least, in my family—that Jessie Willcox Smith anticipated my existence 66 years before I was born. Whenever a relative came across a copy of her illustration of a girl reading by a window for the 1905 edition of *A Child's Garden of Verses*, they'd remark on the resemblance—which, for the record, was uncanny in both aspect and activity. I still have the oversized postcard my grandma sent me on which she exclaims over her find. I didn't have the heart to tell her that my parents had already bought me a set of bookplates featuring the image.

I got the chance to step into that little girl's buckle shoes once more as we redesigned our books section, Biblio File, page 20. Word for word, I'm not sure there are two more labor-intensive pages to produce in the entire magazine. For each issue, we gather and evaluate about 75 books by Stanford authors to curate a set we think is likely to appeal to our broad audience of alumni. Not every book is going to be a hit with each reader, so we strive for the same outcome as we do throughout the magazine: providing something for everyone. In our redesigned Biblio File, you'll find the staples—fiction and non-fiction—as well as deeper dives into a few subgenres that emerged as we sorted through this quarter's books: memoir, biography, children's, and self-help. Those genres will ebb and flow as the books do.



I loved being surrounded by piles of books. (I daresay my colleagues Georgia Allen, '28, Sidney Suh, '26, Summer Moore Batte, '99, and Jill Patton, '03, MA '04, did too.) I experienced delight as I paged through advance review copies and frustration at the inability to flip back and forth or access visual memory while evaluating e-galleys. (I was reminded of the reasons our ancestors chose the codex over the papyrus scroll, and why some of us today—take history professor Tom Mullaney, page 44—remain fascinated by typewriters.) I threatened to retire so I could make the books section the centerpiece of my life. (Alas, the work of economics scholars

Andrew Biggs and John Shoven, page 22, suggests that it might be best to shore up Social Security first.)

While we had a great time making the new Biblio File, we could use some help selecting books. If you've been nodding your head while reading along—if books, to you, are second only to food—we invite you to express your interest in our pilot volunteer

program using the QR code on this page. We anticipate having several local and a few virtual tasks available. And you don't have to resemble the subject of a turn-of-the-20th-century illustration to raise your hand. ■

Email Kathy at kathyz@stanford.edu.



Interested in
volunteering?
ALU.MS/BOOKTEAM

STANFORD

Winter 2026, Volume 55, Number 1

EDITOR Kathy Zonana, '93, JD '96

DEPUTY AND DIGITAL EDITOR
Summer Moore Batte, '99

CREATIVE DIRECTOR Erin Sonnenschein

EDITORIAL

SENIOR EDITOR Jill Patton, '03, MA '04

SENIOR WRITERS Sam Scott; Tracie White

STAFF WRITER Kali Shiloh

PRODUCTION MANAGER Pam Gorelow

CONTRIBUTING EDITORS Nancy King, MA '97;
Evan Peng, '22, MA '23

INTERNS Georgia Allen, '28; Sidney Suh, '26

CREATIVE

ART DIRECTOR Georgia Virgili

ASSOCIATE ART DIRECTOR Bambi Nicklen

DIGITAL ART DIRECTOR Michele McCammon

VIDEO PRODUCER Erin Attkisson

CLASS NOTES

SENIOR MANAGER Pauline Steinhoffer, '91

EDITOR Travis Kinsey

INTERNS Grace Lee, '26; Kaelyn Ong, '23;
Addie Rahmlow, '28; Hannah Walton, '22, MS '23

ADVERTISING

ADVERTISING MANAGER
Kara Page, mag.ads@alumni.stanford.edu

**IVY LEAGUE MAGAZINE NETWORK
DIRECTOR OF OPERATIONS**
Heather Wedlake, (617) 319-0995

STANFORD ALUMNI ASSOCIATION

CHAIR, SAA BOARD OF DIRECTORS
David Hornik, '90

**VICE PRESIDENT FOR ALUMNI AFFAIRS
AND PRESIDENT, STANFORD ALUMNI
ASSOCIATION** Howard E. Wolf, '80

SEND ADDRESS CHANGES TO:
Development Services
485 Broadway St.
Redwood City, CA 94063-3136
(650) 725-4360 (option #3)
alumni.information@stanford.edu

CONTACT THE MAGAZINE:
STANFORD magazine
Frances C. Arrillaga Alumni Center
326 Galvez St., Stanford, CA 94305-6105
Editorial: (650) 725-0672
stanford.magazine@stanford.edu
Advertising: mag.ads@alumni.stanford.edu
Stanfordmag.org

STANFORD (ISSN 1063-2778), Copyright © 2026 by the Board of Trustees of the Leland Stanford Junior University, is published quarterly by the Stanford Alumni Association, Frances C. Arrillaga Alumni Center, 326 Galvez Street, Stanford, California 94305-6105. Business and Editorial Offices: STANFORD magazine, Frances C. Arrillaga Alumni Center, 326 Galvez Street, Stanford, California 94305-6105, Accounting and Circulation Offices: STANFORD magazine, Frances C. Arrillaga Alumni Center, 326 Galvez Street, Stanford, California 94305-6105. Call (650) 725-0672 to subscribe. Periodicals postage is paid at Palo Alto, California.
POSTMASTER: Send address changes to Stanford University, Development Services, 485 Broadway Street, Redwood City, California 94063-3136.



PRINTED ON RECYCLED PAPER.



321 Speakers, 193 Sessions, One Unforgettable week.

At the Aspen Ideas Festival, the world's most influential minds — across business, technology, finance, media, science and public policy — gather for bold conversation and uncommon access.

On our 40-acre campus in the Rocky Mountains, heads of state engage with startup founders, cultural icons meet scientific pioneers, and global decision-makers exchange ideas that shape what's next. No green rooms. No velvet ropes. Just one-of-a-kind proximity to the thinkers and leaders defining this moment.



3.5 DAYS, 300+ SPEAKERS, 150+ SESSIONS | **Festival 1:** June 25-28 | **Festival 2:** June 28-July 1

Use Discount Code: **STANFORD26** by 2/15/26 for special offer.

Limited public passes are available: aspenideas.org/STANFORD | (970) 544-7960

All About AI

How it's affecting teaching, learning, employment, research, and more.



STANFORD: How is AI affecting teaching and learning here?

Jon Levin: We're in the early stages of adapting to AI tools. We've given faculty freedom to experiment. Some are requiring students to use AI for research, coding, or presentations. Some want to emphasize thinking and writing without AI, so there's a trend back to oral exams and blue books. I think it'll take time to find the right mix—ultimately we want students to use AI not as a substitute for deep thought, but as a way to augment their knowledge and skills.

There's also a big question about what students need to learn in the age of AI. For instance, do they need more technical skills? I think it's more likely that AI will reward the general skills—how to think critically, pose questions, communicate effectively—associated with a broad liberal education.

If I'm graduating from Stanford and need a job, how should I be thinking about AI?

There is a lot of speculation about how AI will impact entry-level jobs, especially in fields like finance, consulting, and technology, although it's very early days. I have to believe that AI eventually will affect most jobs, just like computing, so it will reward people with complementary abilities: technical skills to use AI and humanistic skills that can't easily be automated.

It's important to keep in mind that a Stanford education isn't meant to prepare students for their first job—although it should do that. The goal is to prepare students for

productive and fulfilling careers and lives. I often reflect that my Stanford math major was the foundation for my career in economics, but nowadays I appreciate my English major because it was such good preparation for communicating, empathy, and leadership.

Can you describe AI-related research at Stanford?

Stanford has been at the forefront of research into AI since computer science professor John McCarthy set up the Stanford AI Lab in 1963. Today, we have students and faculty working in pretty much every area of AI—they're doing open research that's intended for publication and creating tools that can be adopted by companies or other researchers. And the application of AI to scientific discovery is one of the most exciting things going on across campus, whether it's neuroscience, molecular medicine, or the social sciences. Even compared with companies that are investing billions in AI, Stanford has an unmatched ability to bring together talented

'I often reflect that my Stanford math major was the foundation for my career in economics, but nowadays I appreciate my English major because it was such good preparation for communicating, empathy, and leadership.'

researchers across different domains and generate new ideas.

Every major advance in technology also needs to be incorporated in a way that improves human well-being, and that requires an ethical and societal perspective as well as a technological one. Stanford's Institute for Human-Centered AI and Data Science is our intellectual hub to connect faculty and students thinking about AI and scientific discovery, AI and education, and how AI will affect labor markets, political institutions, and human interactions. We aspire to be the leading place in the world for these discussions.

Do you use AI in your own work?

I use it all the time. Not so much for writing—I need to write myself to formulate ideas, put them into a logical structure, and be precise. But if I'm going to talk to a group of faculty about quantum sensing, I'll ask an LLM to teach me about it as if I were in third grade. That's kind of magical. ■



Do you have
a question for a
future column?
ALU.MS/ASKLEVIN



Advancing knowledge, improving lives.

Our world is constantly changing. And every day, Stanford Medicine advances our understanding. Our world-class school of medicine and adult and children's health care systems work together, expanding what we know and sharing what we discover, to make breakthroughs happen faster and reach wider.

Discover more at stanfordmedicine.org



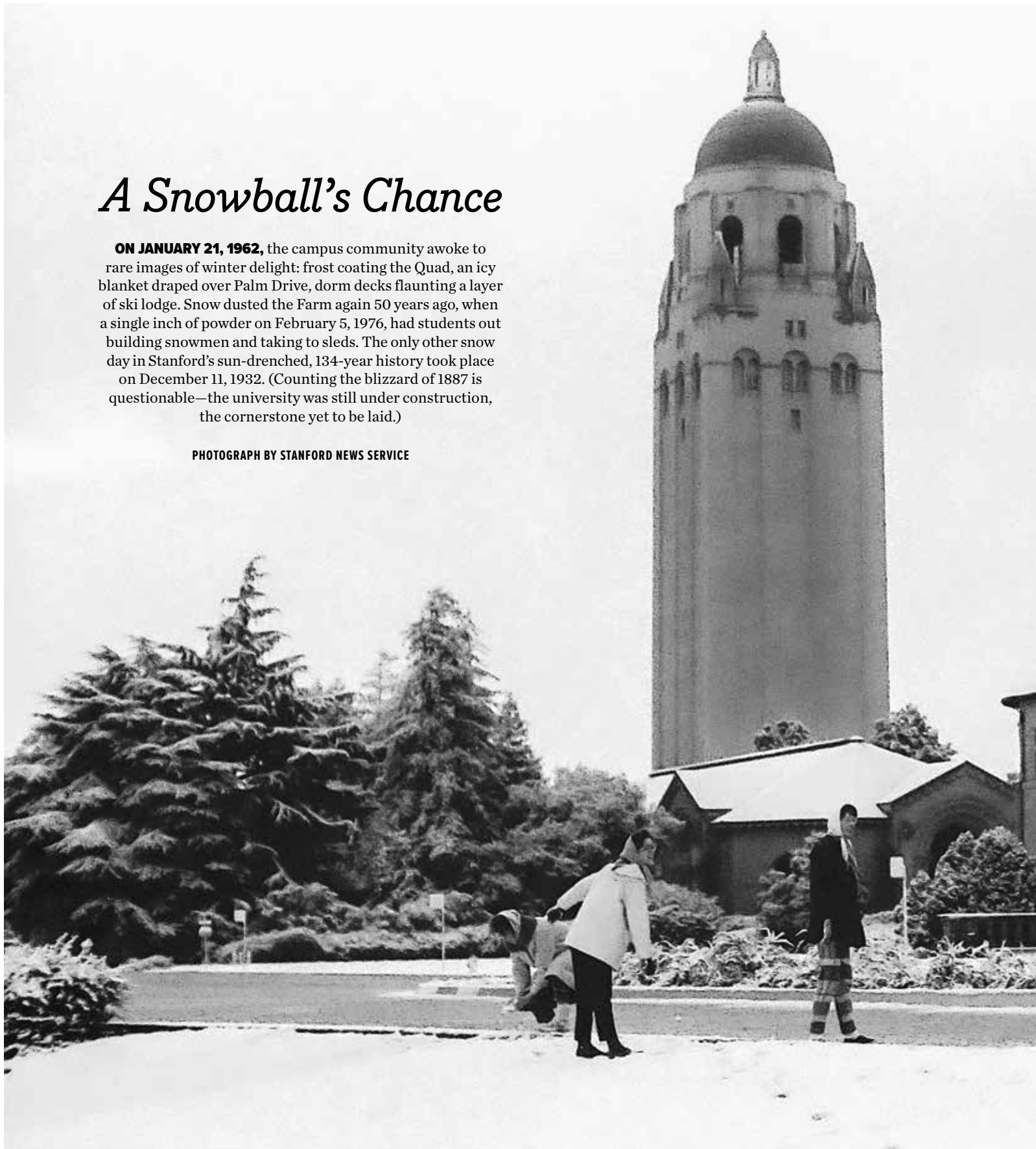
Stanford
MEDICINE

Children's Health
School of Medicine
Health Care

A Snowball's Chance

ON JANUARY 21, 1962, the campus community awoke to rare images of winter delight: frost coating the Quad, an icy blanket draped over Palm Drive, dorm decks flaunting a layer of ski lodge. Snow dusted the Farm again 50 years ago, when a single inch of powder on February 5, 1976, had students out building snowmen and taking to sleds. The only other snow day in Stanford's sun-drenched, 134-year history took place on December 11, 1932. (Counting the blizzard of 1887 is questionable—the university was still under construction, the cornerstone yet to be laid.)

PHOTOGRAPH BY STANFORD NEWS SERVICE







WINTER 2026

Explore **130+** online &
on-campus courses.
Enroll today!

Featured Courses



Outlandish Life: Peter Paul Rubens and the Baroque

Alexander Nemerov, *Carl and Marilyn Thoma Provostial Professor in the Arts and Humanities, Stanford*



The Cold War and Its Legacies

David M. Kennedy, *Donald J. McLachlan Professor of History, Emeritus, Stanford*



James Sheehan, *Dickason Professor in the Humanities and Professor of Modern European History, Emeritus, Stanford*



Mastering Financial Decision-Making

Annamaria Lusardi, *Senior Fellow, Stanford Institute for Economic Policy Research and Professor, by courtesy, of Finance, Stanford Graduate School of Business*



The Science and Practice of Joyful Living

Kelly McGonigal, *Lecturer, Stanford Graduate School of Business*

Winter classes start soon. SAA discount available.

continuingstudies.stanford.edu

WHO WE ARE

Meet West Mulholland

The budding actor is a menace and a scholar.

“When I’m on set, if I’m not acting, I’m trying to get the director to let me be a grip or be a part of the camera department, because I just want to learn.”

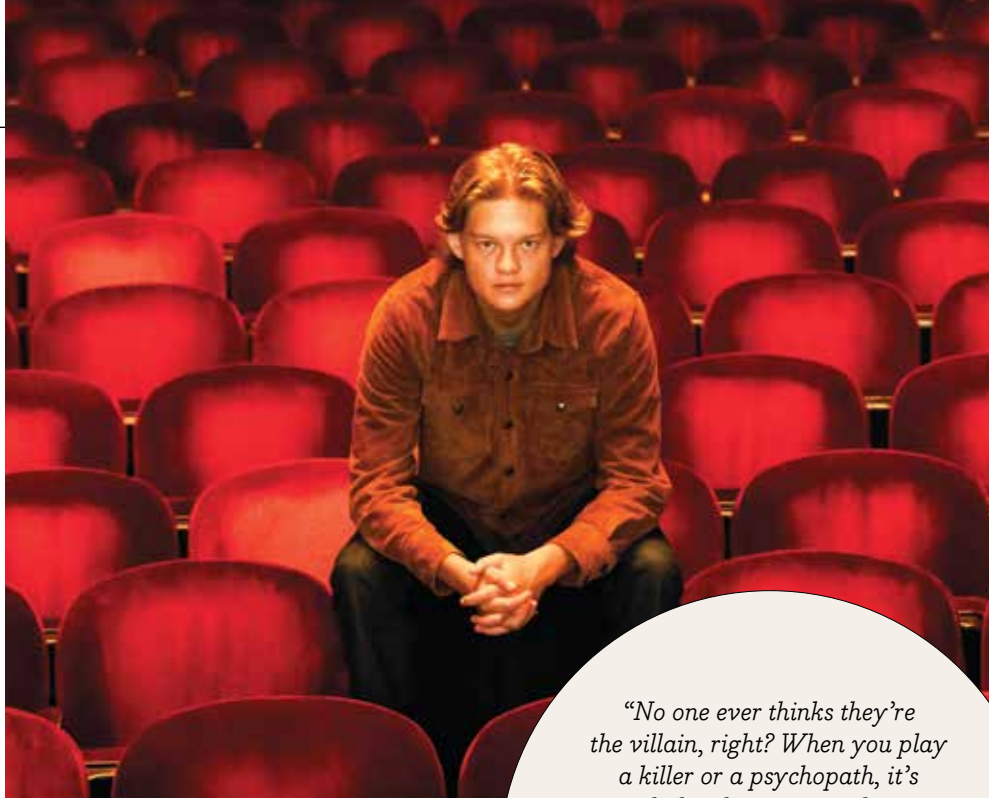
JUNIOR WEST MULHOLLAND began his career as a bully, a psychopath, and a murderer. “It started because I was a little bit taller,” he says. At 13, the young actor was cast as a social outcast, Stripes, in his first television role, on the ABC sitcom *Fresh Off the Boat*. He’s since played a slew of villainous parts on TV and in film, including the violent antagonist in Steven Soderbergh’s drama-thriller *Presence*, which premiered at the 2024 Sundance Film Festival.

The stories he grew up hearing were much less ominous. Throughout his childhood, his mother, Bridget, an English professor, read him to sleep, and his dreams often reminded him of Dr. Seuss stories. Soon enough, he began to tell his own, filming Lego stop-motion movies and creating elaborate imaginary worlds with his younger cousins. Storytelling, he says, is “like an itch or a craving,” and he’s integrated his courses into that process. “I’m able to model my classes around what I want to do creatively,” he says. Last year, after researching Japanese incarceration camps in California for an American studies course, he used a film class assignment to conduct archival research about the children in the Manzanar camp (where one of his great-uncles was incarcerated), and his findings sparked a short story for a creative writing course. With ambitions to write and direct movies, Mulholland is hoping to turn the story into his first feature-length script.

For now, though, he’s still thrilled to be in front of the camera. “My favorite place in the world to be is on set because it’s just magic,” he says. “We’re all working together to create one beautiful story.” ■



SEE MULHOLLAND ON VIDEO AT
ALU.MS/WESTMULHOLLAND



“

“I liked acting because it was the first thing that I was really good at. I had tried every single sport, and I was really bad at a lot of them. It’s funny, because now I play an athlete in a lot of these projects, but they’ve always got to get a double for when I’m throwing the football or something, so I’m working on it. I’ve gotten better. I’ve gotten a lot better.”



“No one ever thinks they’re the villain, right? When you play a killer or a psychopath, it’s extremely hard to tap into that, so my way in is finding their pain. Kind of like seeing, OK, how can I justify why this character thinks this is right in their mind? Although it’s a hard journey—one that’s really complex—I think it’s made me so much more emotionally intelligent.”

“Sometimes when I forget a line, those are the best, most real moments, because it means that I’m just listening. When that happens, and when I totally embody the character, those are some of my favorite moments as an actor.”

“On one of my latest films, I spent a whole day wrapping wires. That’s what makes a good director—if you understand every part of the process.”

“My second-favorite place in the world is the ocean. I’m a part of the surf club at Stanford. I love teaching the beginner surf days, and I love surfing down in Santa Cruz. I have a French bulldog, Epic, and I taught him how to surf, too, one summer.”

”



MEMOIRGHOSTWRITING
.COM

Helping Busy People Tell Meaningful Stories

Dear Stanford Alum,

No matter how long ago you left Stanford, you've certainly led a fascinating life since. A memoir is the perfect way to preserve your life story forever or promote your story widely now. We'll help you write your memoir or nonfiction book: From ideation and outlining to writing and editing, capturing your story is quick and easy.

I'm Luke Palder, a 2009 graduate of Yale College and the founder of MemoirGhostwriting.com. It's my pleasure to offer the expert writing services of my team to fascinating individuals like you. Potential memoirists generally fall into two groups: those who want to elegantly record treasured memories for loved ones and those who want to promote their story or ideas as widely as possible. We're experts in supporting both.

Immortalize your life with a full-length memoir or a book of transcribed interviews.

Writing a memoir is a deeply personal way to influence future generations. In **only 3 months**, we'll capture your insights, memories, and experiences in a book for your family to enjoy for centuries to come.

Alternatively, we can chronicle your story in a book of 6–12 transcribed interviews (or a single daylong interview) with you and your loved ones, beautifully bound for posterity. The process takes **only 3–4 weeks**. Your confidential conversations with your interviewer will also be available for secure download.

It's not just about the past. Amplify your reach with a best-selling nonfiction book.

Do you want to increase your visibility, which can lead to prestigious consulting and speaking engagements? Writing a best-selling memoir, business book, or self-help manual is a fast and effective way to forever increase your credibility. After **only 9 months** of writing, we'll zealously market your book to up to 5,000,000 readers, whose *real* purchases will rocket it onto a bestseller list of a leading online retailer or an influential global newspaper—guaranteed or the marketing portion of your payment back.

Capturing your story forever starts with a free Vision Meeting.

In under an hour, I'll help you think through your life's work to date and your writing goals, themes, and more. Our team of world-class interviewers, writers, editors, designers, and other experts will then skillfully craft your book (with your periodic review) so that you can tell your story, immortalize your life, and share your knowledge *exactly* as you see fit. Email **Luke@MemoirGhostwriting.com** today to join others on a journey to immortality, one that has been called "rewarding," "a breeze," "unexpectedly cathartic," and "deeply meaningful."

All the best,

Luke Palder, Yale College Class of 2009
Founder, MemoirGhostwriting.com

P.S. To share the secrets of your success privately with loved ones or widely with the public, contact me for your free Vision Meeting and to see client-approved samples.

Luke@MemoirGhostwriting.com | 1-888-MEMGHOST

On Wednesdays, We Wear Space Suits

A new star in the Barbie universe.

SINCE 1959, Barbie has aimed to help girls imagine future voyages. As of September, they can step into the (flat, thank you) astronaut boots of **Ellen Ochoa**, MS '81, PhD '85, whose doll is the latest launch in Mattel's Inspiring Women series. In 1993, Ochoa became the first Latina in space, ultimately logging nearly 1,000 hours across four NASA missions.

But when the former director of NASA's Johnson Space Center and author of bilingual English-Spanish science board books discovered an invitation from Mattel in her inbox, she was surprised. "When you look at the other people that they have highlighted—of course Sally Ride, Katherine Johnson, but also Jane Goodall and Amelia Earhart, I mean, all

kinds of amazing women—it was really an honor to be considered among that group," she says. She has fond memories of playing Barbies with her best friend (who texted as soon as she heard the news). But Ochoa's namesake Barbie is the first she's owned: She grew up in a Jane West the Move-able Cowgirl home. ■

I'D LOVE TO HAVE YOU recreate my hairstyle from the early '90s, said no woman ever. Exception: When Mattel assigns more than 100 designers, makeup artists, and couturiers to your look.

HEAD START Early in their partnership, Mattel sent Ochoa a selection of disembodied Barbie heads. Her mission: to pick the ones that best matched her face shape and skin tone.

POWER SUIT Barbie's launch and entry suit was designed to resemble the one Ochoa wore on her first mission (nine days on the space shuttle *Discovery*), including a patch with the names of the five crew members from STS-56.

NO STILETTOS IN SPACE This Barbie's accessories include a helmet, gloves, and safety boots in basic black.

BARBIE HAS HAD more than 200 careers, from pizza chef to NASCAR driver to Canadian Mountie. She became an astronaut (and set the bar for zero-gravity eye shadow) in 1965, two years after the first woman, Soviet cosmonaut Valentina Tereshkova, went to space. Barbie's giant steps as an astronaut include a 1980s version with puffy pink space suit sleeves and a 2013 Mars Explorer doll. She's also actually been to space, as part of a 2022 education mission.

THE INSPIRING WOMEN SERIES includes—of course—the first American woman in space, **Sally Ride**, '73, MS '75, PhD '78, whose doll launched in 2019.

In 2023, the Role Model Series (which is not sold commercially) honored anthropologist and epidemiologist Janet Wojcicki, '91. There was a Stanford cheerleader doll—not to be confused with a Dollie—in 1996. And in conjunction with the 2023 film *Barbie*, Mattel released "Issa Rae ['07] as President Barbie Wearing Shimmery White Blouse & Short Set."



Hot Stuff

Sam D'Amico cooked up a stove that harnesses battery power—and delivers it, too.

SAM D'AMICO'S QUEST to revolutionize home cooking—and the electrical grid along with it—began with a modest goal. He wanted a way to make pizza in his kitchen with the heat of a wood-fired oven.

It was the impetus for

battery that D'Amico says is five times more powerful than any gas stove and can cook three meals during a power outage. Its burners can be unleashed to boil a liter of water in less than 40 seconds or set to within one degree of a desired temperature.

“How crispy do you want your egg?” D'Amico asks STANFORD, standing before

It's that elite performance that's most likely to lure buyers, says D'Amico, who studied electrical engineering at Stanford and says he cut his teeth at the Stanford Solar Car Project. But the stove, which works on a 120- or 240-volt outlet, serves a larger goal: rebutting the belief that quality cooking requires gas. “Getting gas out of buildings is this white whale of a climate-change problem,” he says. “The way I thought you could do it would be to kick the crap out of gas stoves. It's not by telling people their gas stove is bad or is poisoning them. It was just by making a better product.”

The stove is also a component of D'Amico's ultimate vision: a world in which appliances of all sorts come with batteries that store energy when rates are low and renewable energy is abundant, then disperse it when costs and fossil fuel use are high. Add together, say, a stove, an oven, a clothes dryer, and a water heater, and a homeowner could someday have the equivalent of a Tesla Powerwall that can provide backup power to each appliance and the home, or sell it back to the grid. That, he says, will revolutionize how we make and use electricity—even if the people buying the appliances never have any loftier intentions than, say, wanting to make pizza. ■

D'Amico, '12, MS '13, to imagine electrical appliances turbo-charged by battery power. This summer, Impulse Labs, the company D'Amico founded in 2021, began shipping the first realization of that vision—a \$5,999 induction stove with a built-in 3-kilowatt-hour

a demo stove in the back of Impulse's San Francisco headquarters. “Not very crispy,” the reporter replies. D'Amico sets a front burner to 275—just below the point of browning. Five minutes and 20 seconds later, there's a perfectly fried egg, complete with runny yolk.

THE TICKER



In September, *The Studio* co-creators **Alex Gregory**, '92, and **Peter Huyck**, '93, won Emmys for outstanding comedy series and outstanding writing for a comedy series. **Ted Danson**, '70, was also on stage that evening, to accept the Bob Hope Humanitarian Award with his wife, actor Mary Steenburgen.... Assistant professor of chemical engineering **William Tarpeh**, '12,

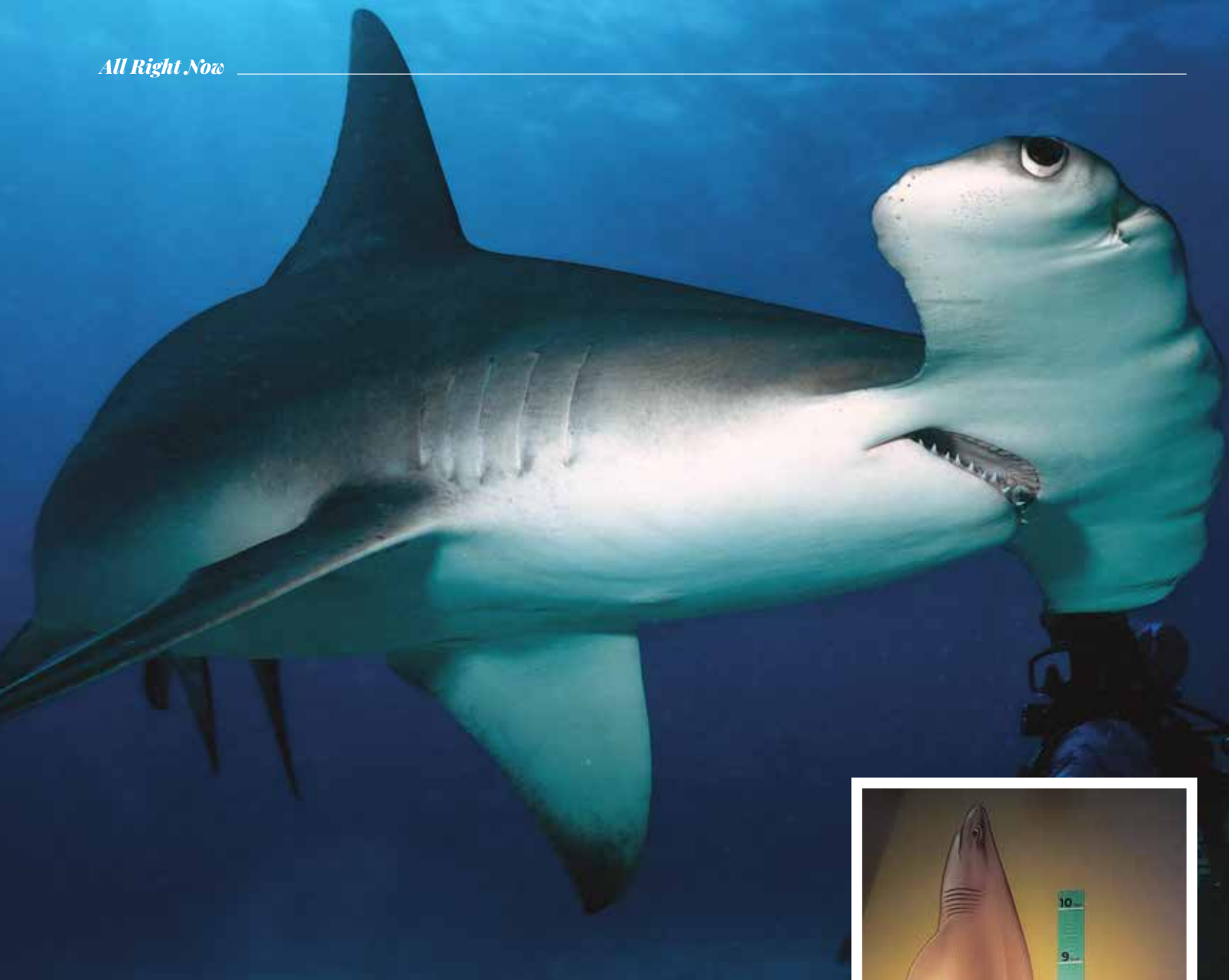
is more interested in bad actors—nitrogen, sulfur, and phosphorus. Tarpeh was named a MacArthur Fellow for his work recovering chemicals from wastewater for reuse in fertilizers and cleaning products. Joining Tarpeh as a 2025 MacArthur Fellow is Johns Hopkins political scientist **Hahrie Han**, MA '02, PhD '05, whose scholarship aims to deepen our understanding of how to build stronger democracies.... Professor emerita of developmental biology **Lucy Shapiro** has won the 2025 Lasker-Koshland Special Achievement Award in Medical Science for her role in the establishment of systems biology as a branch of science.... Getting a running start on achievements are 2026 Rhodes Scholars **Sydney Barta** and **Tatiana Zhang**, both '26. They will pursue graduate study at Oxford.... And **Tavita Pritchard**, '09, is running the field. The former Washington Commanders quarterbacks coach is Stanford's new director of football.



Read more about Tarpeh in our Autumn issue.

[ALU.MS/WASTEWATER](https://alumni.stanford.edu/wastewater)





Snap Decision

Family portraits never looked so sharp.

THERE'S NO NEED TO SAY CHEESE when **Max Arseneault** clicks his camera—most of his photo subjects couldn't hide their teeth if they wanted to.

By day, Arseneault, '19, MS '21, works as a software engineer on a human genome browser that he describes as "Google Maps for DNA." But in his free time, he's off the coast of San Diego, or West Palm Beach, Fla., or Cape Town, South Africa, chumming the water for sharks. He's been fascinated since childhood with shark phylogeny (the evolutionary history of a species). "I've always just liked when there's a template, and then variations on that template," he says.

His dream is to photograph every shark species in the world—to date he's snagged 43—and post them on his website, treeofsharks.com, where he's already mapped the lineage of 497 shark, ray, and chimaera species. "You've taken the most chaotic field, which is biology, and you've very cleanly put it in a box," he says. "You've made a whole story." ■



FROM TOP: MAX ARSENEULT; ALI RANDOLPH

Ski Lift

Designing a freeriding festival for women.

BRIGID WHITE CAN'T IMAGINE life without sport: running, mountain biking, kiteboarding, and surfing. The master's student in design reserves a special place, though, for skiing. She describes the feeling of the wind on her face as she flies through the air, but for the crystalline structure below her, as "almost poetic." In 2024, she began freeriding, which involves staking out a "line" of a trail and stylistically navigating down it, sometimes through ungroomed terrain, forests, and even over cliffs.

During a freeride event at Sugar Bowl Resort near Lake Tahoe that year, White noticed she was one of only nine female skiers to compete, alongside 50 men, even though organizers had urged women to join. "Sometimes women can have a higher bar that they feel like they need to meet" to participate, White says. *What if there were a space that welcomed women into freeride but felt potentially less daunting?* she wondered.

So White pitched a one-day freeride clinic to Sugar Bowl Resort CEO Bridget Legnavasky. How about two days? Legnavasky countered. Thus was born the Empowder Festival, held for the first time in March 2025 and scheduled for the second in February 2026. Creating a welcoming environment for women and

nonbinary attendees, says Sugar Bowl director of marketing Jon Slaughter, inspires a "culture of inclusivity, mentorship, and empowerment on the mountain, which ultimately strengthens the entire ski community."

Empowder 2025 enlisted Tahoe instructors to coach 45 attendees—on the slopes and in the classroom—on judging criteria such as line choice, control, fluidity, and style. "I don't think I would have ever pushed myself to learn some of those skills if I hadn't felt like I was in an environment where I had the right support," says Miriam Khan, an Empowder 2025 attendee who learned how to jump and navigate through chutes and off rock formations. She recalls a moment when the women in her group stood together atop a run, skis aligned, before each descended the mountain with a chorus of cheers behind them. The sense of community, she says, helped her "try new and hard and scary things."

In the evening as they bedazzled one another with sparkles and friendship bracelets, one skier approached White. "This girl came up, and she was crying. She said, 'I did things today that I never thought were ever possible for me in skiing. I'm just so overwhelmed with pride for myself right now.'"

—Georgia Allen, '28



Show Business

The opera singer with an MBA.

IN 2021, ROY HAGE arrived at the GSB with an uncommon professional background: opera singer. Growing up in Beirut, he drowned out the sounds of warfare by singing along to *Cats*, *Phantom of the Opera*, and recordings by the operatic trio the Three Tenors. Singing "was an act that soothed me," Hage says. Thus began his path to performances with the likes of the Boston Symphony Orchestra, the Philadelphia Orchestra, and the Santa Fe Opera.

When the pandemic shuttered shows, Hage, MBA '23, used the interlude to co-found the Soloist Collective for Emerging Artists, which advocates for improved conditions and inclusivity in opera. At Stanford, Hage returned to the stage with an autobiographical Stanford Live show, *Finding My Voice*, a one-man, multimedia performance that showcased Middle Eastern and American influences. These days, the tenor works in marketing—that is, when he's not commanding the stage. In November, the LA Opera staged the world premiere of *Hildegard* with Hage in the principal role of Volmar, a monk and friend of the title character, a medieval German Benedictine abbot. It marked Hage's 47th operatic role. ■



FROM LEFT: VINCENT ZACHA-HERTHEL; RUSS ROWLAND

Stanford

TRAVEL/STUDY



Feel the warm sand between your toes as you step ashore onto a blush pink beach in Komodo National Park. Taste the sweetness of traditional chocolates crafted from age-old recipes in Oaxaca. See your fingers glow with deep indigo ink while you tie-dye alongside Bai artisans. Breathe in a floral bouquet as you walk blossom-bedecked paths in Kyoto. Hear the bold melodies of Schubert's masterpieces at a private concert in Vienna.

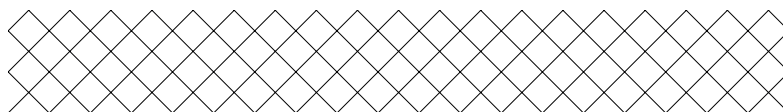
An aerial view of two people snorkeling in clear, turquoise water. The person in the foreground is wearing yellow shorts and blue fins, while the person behind them is wearing patterned swim trunks and blue fins. Both are wearing snorkel masks and are swimming towards the right. The water is very clear, showing some underwater rocks and bubbles.

Find your sense of adventure

With 50 journeys to 80 countries, five senses just aren't enough. But with Stanford faculty, scholars, and alumni as travel companions, going beyond is just the beginning. Choose from a variety of extraordinary experiences including land journeys, river cruises, literary seminars, family adventures, walking trips, and more!

alu.ms/gotravel

California Seller of Travel Program Registration #2048 523-50



Novel Reads

» **WHAT IF MEMORIES** were no longer tied to their creators, but could be bought, sold, and annihilated across minds? This is the world **Yiming Ma**, MBA '18, imagines in *These Memories Do Not Belong to Us* (Mariner Books), where the reliving of inherited memories becomes a form of resistance against a government seeking to control history through its most intimate and personal construction.

» **MEMORY AGAIN** comes alive in *Bad Bad Girl* (Knopf) when **Gish Jen**, Gr. '80, hears her dead mother's voice shunning her for being a "bad bad girl." In this fictionalized memoir, Jen depicts her



mother as a rebellious spirit, showing her determination to move from China to the United States to pursue a PhD and imagining her interjections all the while. Laced with the complexities of the relationship between strong-willed mother and daughter, the resulting novel is a decade-spanning tale of them both.

» **THE DECADES HAVE** imposed scarcity on young Kōrero's home island in Tonga in

Adam Johnson's *The Wayfinder*

(Farrar, Straus and Giroux), when the arrival of a stranger sparks a heroic epic into unfamiliar waters. With magic on every page and a tone reminiscent of oral storytelling, Johnson, a professor of English, transforms deeply researched history into a complex fictional world with a bit of everything: love and war, peril and humor, mysticism and sincerity.

Bio Box

» **MANY HAVE** attempted biographies of Philip Roth; few have succeeded. Enter history professor **Steven J. Zipperstein**, whose *Philip Roth: Stung by Life* (Yale U. Press) centers the writer's work and its real-life inspirations. "Beware of knowing an author!" one of many lovers recounts Roth saying. "He will steal from you!"

» **IN MCNAMARA AT WAR: A New History** (W.W. Norton & Company), journalist **Philip Taubman**, '70, and his brother William, a political scientist, explore how Robert McNamara's particular combination of traits—among them intellectual acumen, self-blame, loyalty, and inflexibility—led him to drive the Vietnam War forward when he knew it was unwinnable. They also illuminate the junctures that can make all the difference in the life of a person, or a country: Had his wife Margy not had a

serious case of polio, they write, McNamara might have become a professor at Harvard Business School rather than rocketing from president of Ford Motor Company to secretary of defense.

» **LONGTIME COLLEGE** football writer **Ivan Maisel**, '81, explains in *American Coach: The Triumph and Tragedy of Notre Dame Legend Frank Leahy* (Grand Central Publishing) how Leahy not only restored the Fighting Irish to its pedestal in the 1940s and '50s but also transferred "the imprimatur of winning" from his legendary mentor, Knute Rockne, to the institution, making a Catholic university in a remote Midwestern town synonymous with gridiron success (at great cost to his health). "[If] there had been no Leahy, there's no guarantee there would be the Notre Dame football that college football fans continue to love—and hate."

Life Stories

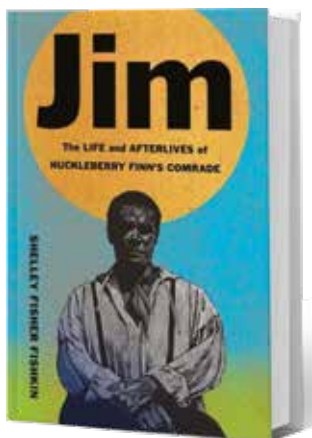
» **NERD NATION** devotees will particularly appreciate one anecdote from *Life, Law, and Liberty* (Simon & Schuster), by Justice **Anthony M. Kennedy**, '58: As a Harvard Law student, he took study materials for his tax course to watch Ted Williams play for the Red Sox. From behind him came a stentorian voice—that of the dean: "You do not bring the Revenue Code to a baseball game." Throughout the book, Kennedy uses Supreme Court cases to illuminate his judicial philosophy with the patience of the constitutional law professor he once was.

» **"I WRITE FROM** two standpoints: that of a mother, and that of a scholar," writes **Danilyn Rutherford**, '84. "Thanks to Millie, the mother and the anthropologist are one and the same." In *Beautiful Mystery: Living in a Wordless World* (Duke U. Press), Rutherford aims not to write a parent's memoir of disability, or even difference, but to plumb the depths of cognitive mystery—what it is to live with, love, and affirm the personhood of someone with an unknowable mind, and learn what she has to teach us about interdependence.

» **WHEN THEIR NEIGHBOR** rushed in with a warning that their names were on a police list of Jews to round up in Vichy France, 9-year-old **Benjamin Parket**, his parents, and his two elder brothers stole across the courtyard from their apartment to another neighbor's workshop. They would remain there for two years. In *The Courtyard* (Amsterdam Publishers), Parket, '62, and his daughter-in-law Alexa Morris pay tribute to the community of tradespeople who fed, sheltered, and protected the family. "Compared to the story of many Jews during the Holocaust, not that much happened," they write. "And because not much happened, everything has been possible."

New in Nonfiction

» **JIM: THE LIFE** and *Afterlives of Huckleberry Finn's Comrade* (Yale U. Press) provides a nonfiction complement to *James*, Percival Everett's 2024 reimagining of Mark Twain's novel from the fugitive slave's perspective. English professor **Shelley Fisher Fishkin** examines the character in historical context, cultural debates, and classrooms, in translation and on stage and screen. "Jim has been hiding in plain sight," she writes. "The first Black father in a novel by a white male American author, Jim has been disparaged, demeaned, and dismissed by many critics for more than a century. But he is more complex and multilayered than meets the eye."



» **INDIVIDUAL IGNORANCE** is vast and inevitable, but the societal production of ignorance is worthy of understanding and study, writes **Robert N. Proctor** in the preface to *Ignorance Unmasked: Essays in the New Science of Agnotology* (Stanford U. Press), which he edited with **Londa Schiebinger**. The history professors' goal is less to convince the reader of particular positions on, say, Adam Smith's economic theory or the causes of obesity and more to examine the tools and techniques used to amplify, distort, or suppress information.

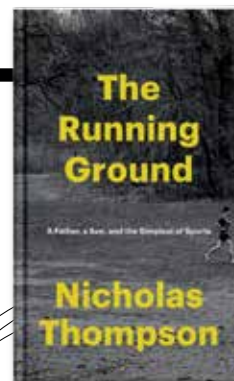
» **THREE LENSES THROUGH** which to contemplate the past, present, and future of the relationship between China and the United States: *Autocrats vs. Democrats: China, Russia, America, and the New Global Disorder* (Mariner Books), by professor of political science **Michael McFaul**, '85, MA '86, examines the lessons and the limits of the "Cold War II" metaphor and sets forth policy recommendations that "make the case for why a return to internationalism, multilateralism, and support for democracy and human rights worldwide best serves American national interests." Princeton

historian **Beth Lew-Williams**, MA '06, PhD '11, uses big data to construct a new legal history of Chinese people in the American West in *John Doe Chinaman: A Forgotten History of Chinese Life Under American Racial Law* (Harvard U. Press). And Hoover Institution research fellow **Dan Wang** compares and contrasts what he sees as the engineering mindset of China with the risk-averse lawyerly society of the United States in *Breakneck: China's Quest to Engineer the Future* (W.W. Norton & Company). Each, he writes, can learn from—or devastate—the other.

Children's Corner

» **BRUCE HANDY**, '80, needs just eight words to capture the devastation of a child whose balloon goes skyward in *Balloon* (Chronicle Books), illustrated by Julie Kwon.

» **KIDS CAN READ** about 16th-century painter Lavinia Fontana in English, Italian, or French in *Lavinia's Wondrous Portraits* (Corraini Edizioni), by associate professor of art and art history **Emanuele Lugli**, illustrated in the manner of an artist's notebook by Chiara Palillo.



'Running connects me to my father; it reminds me of my father; and it gives me a way to avoid becoming my father.'

—Atlantic CEO **Nicholas Thompson**, '97, in *The Running Ground: A Father, a Son, and the Simplest of Sports* (Random House)

Goals

» **IN THE HEALING POWER** of *Resilience* (Simon Element), cardiologist **Tara Narula**, '97, looks beyond the standard heart-healthy orders for a better diet and more exercise to an invisible prescription—building up our ability to embrace change. Resilience, she says, is a critical trait for anyone facing a health event. It helps us to alter long-held habits, reclaim control of our well-being, and move forward with our whole hearts.

» **IF YOUR HEART** is rarely in a networking event, **Goldie Chan**, '04, understands how you feel. In *Personal Branding for Introverts* (Basic Venture), the social media strategist provides tips and exercises to help you present your strengths and skills to others, cultivate genuine connections, and stand out in ways that feel authentic, even if—maybe especially if—you're a person who prizes alone time and privacy.

EXPLAINER

Breaking Point

Social Security will deplete its reserves in 2033. See how two economists want to bring it back from the brink.

BY SUMMER MOORE BATTE

The YEAR 1935 was good to American 60-somethings—assuming you weren't already dead, which, statistically, you probably were. But if you weren't, the passage of the Social Security Act set you up to be among the first to receive Old Age and Survivors Income benefits—aka Social Security retirement income. The plain-English deal to American workers was this: You contribute payroll taxes to OASI; the government pools those taxes together; Uncle Sam cuts you a monthly check when you reach that sweet, sweet age of 65. You, having avoided the grim reaper this long, could expect to live 13.7 more years, enjoying grandchildren or dancing the foxtrot or whatever retirees did then. Economic security, huzzah!

But we are in 2026. Most of us born after 1960 will survive to—and well beyond—our new and improved retirement age of 67. In 1940, when the first checks rolled out, 6.8 percent of the nation was 65 or older. Today, 18 percent are over that particular hill. So many people living so long is causing some epic funding problems. In a recent policy brief, **Andrew Biggs**, a fellow at the Stanford Institute for Economic Policy Research (SIEPR) and an expert on Social Security reform, and **John Shoven**, a professor emeritus of economics and a senior fellow emeritus at SIEPR, laid out a partial solution—one they believe most people could get behind. ■

SUMMER MOORE BATTE, '99, is the deputy and digital editor of *STANFORD*. Email her at summerm@stanford.edu.



1

You Are Here

In 2026, Social Security is largely running the same playbook it did at its creation: one with a bias toward single-income marriages; a fertility rate about double what it is today; and a lifespan that we've busted through like Jell-O.

2

The amount a person gets in Social Security income depends on two things:

Your income while you were working (a wage-indexed average of your 35 highest-earning years).



And the age at which you claim Social Security. You can receive Social Security as early as 62, but your benefits go down for each year you claim prior to your full retirement age (up to a 30 percent reduction if you claim at age 62).

Going the other direction helps you: For each year you don't draw on benefits up to age 70, your checks go up by about 8 percent.

How It Works

The government doesn't sock away the 5.3 percent of your paycheck that goes to OASI (and the matching 5.3 percent that your employer pays, plus another 0.9 percent from each of you for Social Security Disability Insurance) into a personal savings account that waits for the day you sign up for midday water aerobics. It's a pay-as-you-go system—taxes paid by today's workers fund today's retirees. There have always been more workers (OASI income) than retirees (OASI spending), so reserves built up. But retirees are closing the gap. "It's so dependent on demographics," says Shoven. "That is, how many retirees are there compared to how many workers are there? And if people are living longer and fertility rates are low, it doesn't work nearly as well." According to projections, in 2033, our spending will still be increasing, our income will continue to fall, and our surplus will be gone—necessitating reduced payouts unless something changes.



ILLUSTRATIONS: GIORGIA VIRGILI

3

Social Security's benefit formula is progressive: It's designed to give higher returns on lower earnings. As you move up the income ladder, you're likely more able to save on your own with 401(k)s or other investments.

90%

If you claimed Social Security in 2024 at age 67, for the first \$926 (in average indexed earnings) you had made per month, you'd receive about 90 percent in retirement benefits. This is called a replacement percentage.

32%

For the next tier (\$927 to \$5,583 per month), the replacement percentage would be 32.

15%

For the next tier (\$5,584 to \$14,050) the replacement percentage is 15. That's the point at which OASI benefits max out. (Relatedly, those still in the labor force in 2024 paid Social Security taxes on up to \$168,600 in wages—or \$14,050 per month.)

4

Show Me the Money

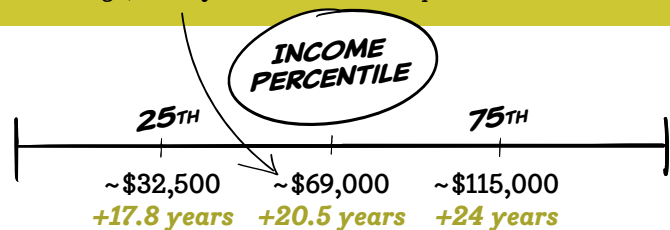
The average retired worker receives about 40 percent of preretirement income. This added up to about \$1.3 trillion in 2024.



5

Problem Part 1: Living Too Long

In 1940, when the first Social Security retirement checks went out, remaining life expectancy as of age 65 was about 13.7 years. Today, remaining life expectancy at age 65 is, on average, **20.5 years**. But it's not equal across incomes.



6

Problem Part 2: Fewer Buns in Our Ovens

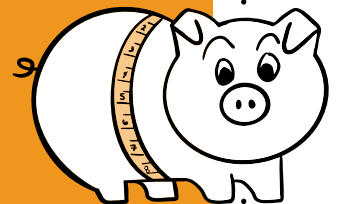
The U.S. fertility rate has dropped from 3.6 in the baby boom years to an all-time low of 1.6 and is projected to stay there through 2100.

7

RIP, Trust Fund

In 2033 (give or take a few months), the OASI reserve coffers will be empty and, without reform of the program as a whole, a \$26.1 trillion funding gap will develop over the rest of the 21st century.

We did the math. In 2033, the eldest . . .



Boomers are still at the party.
87 years old

Gen Xers are retiring just as the money runs out. That tracks.
68 years old

Millennials finally own homes. Maybe?
52 years old

Gen Zers aren't speaking to the rest of us.
36 years old

Gen Alphas are . . . probably merged with AI, right?
20 years old

DÉJÀ VU

In 1983, we faced a similar problem. Part of the solution then was to gradually raise the age at which workers are eligible to receive full benefits from 65 to 67.

8

OK, Boomer. What Are Our Options?



Stick our fingers in our ears and sing.

This is the course we're on. The reserves will run out, and our shrinking worker ranks won't be able to keep up. The way the law works, Biggs says, Social Security "can't borrow, it can't raise taxes on its own." So, in this scenario, benefits would immediately be cut—for all retirees, not just new ones—by about 23 percent. Sorry, Nana!

Raise the tax cap so that high earners pay more into Social Security. (In 2026, \$184,500 in earnings are taxed.)

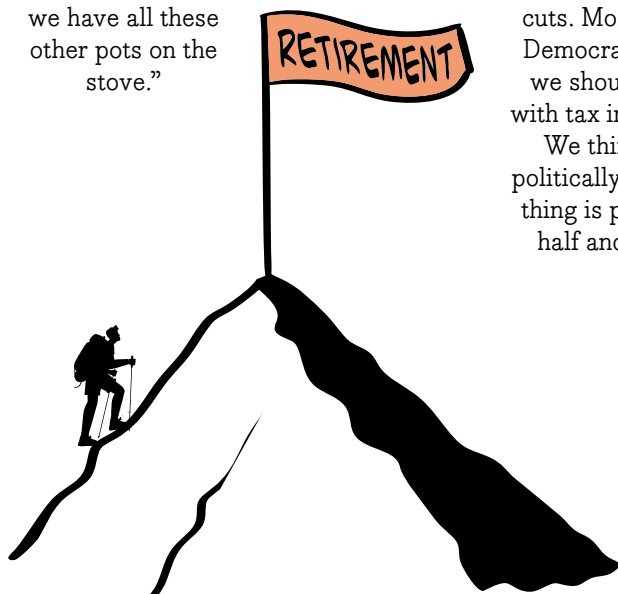
Any solution is likely to raise the cap a bit, says Biggs. But the way he sees it, raising it dramatically would make it politically tougher to increase taxes for other societal priorities, such as infrastructure or education. "All this comes down to not just what you think should happen within the system, but it's taking into account the fact we have all these other pots on the stove."

OMG just raise the retirement age, then.

Sounds egalitarian, but this disproportionately harms the lowest earners, who would end up working more years to correct a kale-fed longevity "problem." "They're not living longer, so why should they have to work longer?" says Biggs.

Raise the retirement age and adjust the progressivity of the formula to compensate lower earners.

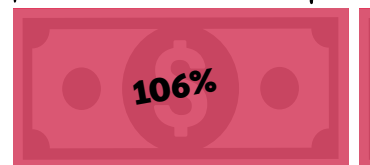
This is what Biggs and Shoven propose. It would get us about halfway to a fix. The rest would need to come from other measures. "We wouldn't be [recommending] this if Social Security was in great shape," says Shoven. "But Social Security's got a huge budgetary problem. Most of the Republicans think we should do it with benefits cuts. Most of the Democrats think we should do it with tax increases. We think the politically realistic thing is probably half and half."



9

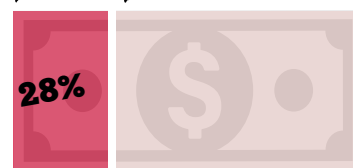
Shoven and Biggs propose raising the age at which individuals receive their full benefits to 69. They'd also change the replacement percentages:

90%



For the first \$926 earned per month (using 2024 figures), the replacement percentage would be 106 percent. If you're a lower earner, you'd get the most support from OASI.

32%



For the next tier (\$927 to \$5,583), the replacement percentage would go down to 28 percent.

15%



For the next tier (\$5,584 to \$14,050), the replacement percentage would decrease to 7 percent.

10

The Fine Print

The time is nigh. Ideally, the policy would be gradually implemented over years (as was done after 1983).

The policy would only apply to workers newly drawing on benefits. So, if you just celebrated the big 6-7 by setting fire to your work pants, you're good.

Both Biggs and Shoven say they'd design the system differently if they were starting fresh today. Shoven likes the idea of progressive price indexing—keep the wage-index approach for lower earners but shift to the price index—i.e., what things cost—as you go up the income scale. Wages typically increase more than prices do over long periods of time.

"If wages triple and prices double, then we triple" benefits for lower earners, he

suggests. "What if, for the well-off, we said, you're only going to get double?"

Biggs would create a minimum benefit—a strong safety net at the bottom. "We're a rich country. There's

no reason you have to have seniors living in poverty," he says. But overhauls don't often get traction when a crisis is afoot, and the two scholars say something needs to be done urgently. "Since [the Clinton administration], we've known roughly when this is going to happen and how bad it's going to be, and we just kicked the can down the road," says Shoven. "And I think the realistic thing to think is that, you know, we're probably not going to fix it until it's broken, completely broken."



11

The Outcome

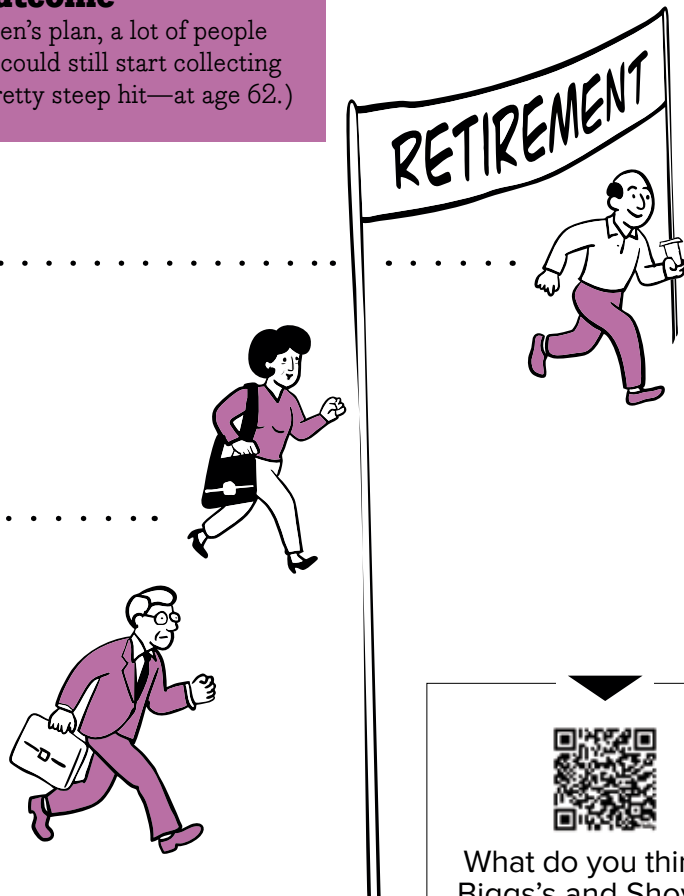
Under Biggs's and Shoven's plan, a lot of people would work longer. (You could still start collecting Social Security—with a pretty steep hit—at age 62.)

But **low-wage workers** wouldn't be penalized.

In fact, they could still retire at age 67 and get the same benefits that they would today.

The **middle class** would take about a 13 percent hit—which they could make up by working to 69.

Wealthier workers would get a 26.7 percent benefits cut. They'd need to work for about four more years to receive what they would under the current formula. But hey, they're the ones who are practically immortal.



What do you think of Biggs's and Shoven's proposal?

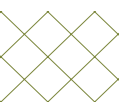
ALU.MS/SOCIALSECURITY

WHERE THE HEART IS

Won't You Still Be My Neighbor?

Michele Judd finds a way to keep Altadenans together.

BY TRACIE WHITE



dRIVE UP LAKE AVENUE from Pasadena, the city of roses, into the foothills of the San Gabriel mountains, and it grows eerie. The stink of smoke clings to the smoggy air months after the embers of the massive Eaton fire fizzled out. It creeps into clothes and into your hair and grows more pungent as you approach the community of Altadena.

"It defies imagination," says **Michele Judd**, '87, who is driving her white Subaru through what's left of her hometown of 21 years. The landscape is covered in mostly empty lots, with the occasional chimney still standing as a marker for a home that, like Judd's, has burned to the ground.

The Eaton fire struck one year ago, on January 7, the same day as the catastrophic Palisades fire consumed the coastal community of Pacific Palisades 35 miles west. Fed by fierce Santa Ana winds, it ripped through the drought-stricken Eaton canyon, its namesake. Judd points through the car window to the canyon's entrance with the "temporarily closed" sign still posted on it. Altadena is a special place, she says, a forested oasis perched above the hustle of the L.A. basin where neighbors leave homegrown lemons on doorsteps.

The fire stole more than buildings and possessions, she says. It destroyed a way of life.

"It's going to take us about 10 years to rebuild here," says Judd. "I'll be 70 by then. I'm

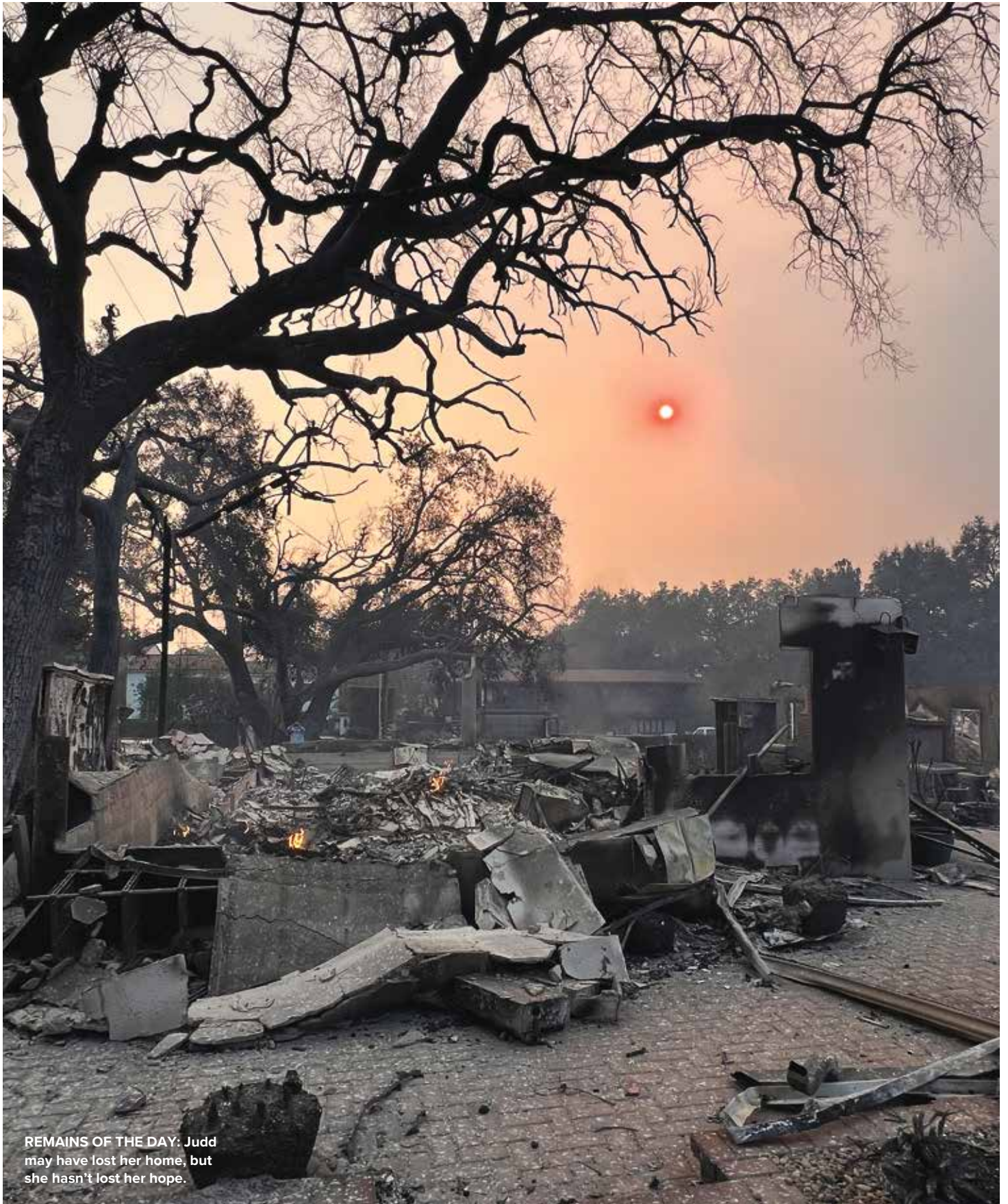
'Sometimes it's like, should we leave? Then we go to the neighborhood meetings, and no, we know we want to stay here with our people.'

hoping Chelsea and I will still be thinking about our next neighborhood get-together." Chelsea Cartwright is one of Judd's dog-walking buddies, who also lost her home in the fire. A few days later, Judd and Cartwright, both suddenly displaced and in shock, did what came naturally: Plan a gathering.

The idea was simple: to provide a space to keep Altadenans together, even if just for a few hours each month. Everyone was scattering: west to Simi Valley, east to Monrovia, south to Highland Park. Judd texted out invitations to every neighbor whose contact info was in her phone: former colleagues from the Jet Propulsion Laboratory, book clubbers, fellow dog walkers. "We just said, look, here's what we're going to do," Judd says. "It's not about trying to get you to join a lawsuit. It's not an information dissemination committee. All we want is to not lose our community by making sure we stay in touch."

Nine days after the fire, the Order of the Phoenix—a reference to both the mythical bird rising from the ashes and the fifth book in the Harry Potter series—held its first meeting at a pizzeria in Pasadena. "It's OK to be a hot mess," Judd told them. The group of about 25 laughed. Then they started to make plans. As the group has grown to about 200, they remain committed to one bedrock goal: Being present at the groundbreaking on each member's rebuilt home.

"Michele's vision has been simple yet profound: create a place where we can relax,



REMAINS OF THE DAY: Judd may have lost her home, but she hasn't lost her hope.

share a meal, and enjoy conversation without the constant weight of rebuilding plans and looming deadlines,” says a member of the Order named Shami, who has lived in Altadena for more than 50 years. “It’s been such an emotional roller coaster, the endless details of rebuilding. Sometimes it’s like, should we leave? Then we go to the neighborhood meetings, and no, we know we want to stay here with our people.”

THE ASHES

One of the most destructive urban wildfires in California history, the Eaton fire killed 19 people and destroyed 9,413 buildings. It flattened neighborhoods, burned schools, destroyed landmarks like the 90-year-old hardware store where Judd and her 87-year-old father liked to hang out. It ruined a bunny memorabilia museum, a country club, a pizza parlor, churches, a mosque. It scattered the residents of Altadena, an unincorporated town of 43,000 known for its blend of artists and scientists and its strong tradition of Black homeownership.

The speed of it was the thing, says Judd, as she cruises through Altadena’s tiny downtown. People move to Altadena for the view of the mountains and the hiking trails, the thick foliage and the owls hooting at night, she says. Each of the homes is unique, as are the people, she says, pointing to what used to be a bungalow, then a colonial-style mansion. After more than two decades here, it’s the neighbors she’s staying for. Her dog-walking group who showed up after her knee surgery to walk Xena, Warrior Princess. The neighbors who brought her food and puzzles and took out the trash while she was going through chemotherapy treatment for breast cancer.

Judd first heard about the start of the fire while out to dinner. She rushed home to wake her parents, who were asleep in the casita she had built for them in the back of her 1,500-square-foot home. Judd decided they should drive to her sister’s house in Simi Valley, just to be cautious. Early the next morning, the frantic texts started pinging in from neighbors—stories of driving through flying embers to escape with their lives.

“We were pretty sure our house was gone by then,” Judd says. “But my dad was like, ‘I have to go see.’”

“I was still hoping,” says her dad, Paul, at



PIECING IT TOGETHER: Judd, center, and other members of the Order are grateful for community gestures such as homemade quilts.

a meeting of the Order of the Phoenix, where he’s sitting next to his former neighbors. Judd’s parents remain at her sister’s house, while she is an hour away from them in a

‘When they cleared the lot, it was one of the last times I cried for my house.’

Pasadena rental. “God, the look on my dad’s face when he saw the burned house—just utter devastation,” she says. “He’s a master carpenter, and he built a lot of the house, and his heart just broke.”

THE BONDING

“There is something wonderful about being able to break bread together,” says Judd, speaking at the August meeting of the Order. As the Altadenans dig into potluck casseroles, salads, and brownies, she and Cartwright start the rallying cries.

“We are people who lost our homes, not our hope,” Cartwright says. “This is one place we can air our grievances and not freak our other friends out.”

“We are strong,” Judd says. “What kind of strong?” The group joins in: “Altadena strong.” Members of the group are milling about, dropping off potluck dishes, hugging old neighbors, laughing. In one corner of the large space are piles of quilts free to members, which a father and daughter are searching through.

“Our home didn’t burn down, but it was contaminated with lead,” he says. His daughter stands quietly next to him, hugging her quilt. “We can’t live there. We’ve had to move six times.” A woman next to him looks up from the quilts, ready to commiserate. “Our house was water-bombed by helicopters,” she says. And the two start talking about the problems of toxins on the land, and the high cost of repairs that insurance companies are refusing to pay for.

“There’s a term we talk about called social cohesion in the disaster world—the more that people know each other and get together the better,” says Luke Beckman, ’09, the Red Cross disaster director for California. “The more you have neighbors talking to

neighbors and neighbors helping neighbors—it's one of the necessary conditions to recovery and neighborhood resilience. Large organizations can never fill all of the void, and at the end of the day, the true first responder is the person you see when you walk out your door. The person who you go to to borrow a cup of sugar."

As the Order has expanded, its monthly meeting has moved from the pizza parlor in Pasadena to the auditorium at La Cañada Presbyterian Church. "We are so close to Altadena," says associate pastor Cindy Frost, '85, who knows Judd from a book club. The members of the congregation, some of whom had been evacuated themselves, wanted to help.

"We believe in community," Frost says. "This is all about community. I know Michele is going through the wringer, and yet she's giving to others. Michele works like crazy to pull this off."

THE RISING

The fire stole so much, sometimes it takes time to realize just how much. Sometimes it hits in the middle of the night when you suddenly remember the loss of your father's

journals, Cartwright says, or when you're wandering the aisles of Target and realize that you needed to buy nearly everything. The fire destroyed both the cherished and the mundane—a favorite mug, a toothbrush, and the blooming plumeria trees that brought Judd's mother so much joy.

"You can't fathom that much loss," says Cartwright. "I literally just threw a couple of things in an overnight bag. At the last minute, we grabbed our wedding rings. The next day, all you're doing is doomscrolling on your phone—the hardware shop gone, the pizza shop is gone. Your brain can't piece together the amount of loss. It would be different if it was just your own loss. But we were having this massive loss together."

Not everyone is rebuilding, Judd says. She understands this. The costs can be exorbitant. Time is a factor; there's pressure to finish construction before the rent allocations from insurance run out—usually within two to three years. Building from the ground up is a massive job. The endless planning and replanning, the insurance forms, the phone calls and meetings with the architects and the builders. Each step forward gets met

with new permit problems, or concerns about toxins in the ground. Then there are the scammers calling to offer help, Judd says, who need to be weeded out from those calling who really can help. Judd recently retired from her position as executive director for the Keck Institute for Space Studies at Caltech. Rebuilding is now her full-time job. For many working folks, it's a second one, she says.

In the spring, the Army Corps of Engineers brought in excavators to remove the ruins left behind by the fire. They carted off the tons and tons of debris, all those crumbling walls and piles of hazardous materials, leaving behind empty lots.

"When they cleared the lot, it was one of the last times I cried for my house," says Whitney Haggins, '87, a classmate of Judd's who lost her home of 13 years. "Now it's an opportunity to envision something new, safer and fire-resistant, and still maintain that beautiful view of the foothills and the sense of neighborhood. I'm moving forward. I'm going with a craftsman bungalow. It's just adorable."

Haggins participates regularly in the Order of the Phoenix. "No matter all the anger, the grief, how crazy my schedule is, I make a point to get to the meetings just to talk to people," she says. In July, the group celebrated its first groundbreaking, and about 30 members were on hand to help celebrate. Haggins can't wait for her own celebration.

Cartwright and Judd visit their empty lots regularly, watering the plants that survived the fire. Envisioning their new architectural plans coming to life. Visiting old neighbors whose homes are still habitable and new friends from the Order who are getting ready to break ground. Both plan to continue organizing the monthly meetings as long as it takes to rebuild—and after.

"We are all on this strange journey we never thought we would be on," Cartwright says. "It's the club you never want to be a part of, where we all lean on each other for support. I've met so many people I didn't know before the fire. I'm so excited for when we are all back, doing our monthly gatherings on our new patios in our new backyards." ■

TRACIE WHITE is a senior writer at STANFORD. Email her at traciew@stanford.edu.



FORCE OF HABIT: John Jackson, Cartwright, and Judd make a point of getting together to walk the dogs.

STUDENT VOICE

Mythic Quest

Maybe I was going about this hero thing all wrong.

BY CHLOE SHANNON WONG

I've ALWAYS BEEN A
sucker for heroes.

In elementary school, I devoured the *Percy Jackson* series and *The Complete World of Greek Mythology*. Nothing captivated me more than Bellerophon bringing Pegasus to heel, or Prometheus nicking fire from the gods. I memorized the nine Muses, the difference between nectar and ambrosia. I recounted obscure mythology to anyone who'd listen. Fun fact: My California hometown of Arcadia bears the same name as the huntress Atalanta's birthplace.

But I thought becoming a hero was impossible—that is, until I got into Stanford.

For a school that isn't even 150 years old, the Farm feels pretty legendary. We have historic landmarks (Memorial Church), traditions from antiquity (Full Moon on the Quad), an endless stream of devout pilgrims (Athenians scaled rocky bluffs to reach the Parthenon. Today's tourists Zipcar down Palm Drive).

But in my opinion, it's the demigods that lend the university its allure: Stanford's half-divine, half-mortal student body, its

dropouts and stopouts and alumni. Ancient foot soldiers aspired to be the invincible Achilles. Here, students worship the likes of Yahoo co-founder Jerry Yang, '90, MS '90.

Finally, I thought when New Student Orientation arrived, *finally*, the chance to live out something truly mythic.

I couldn't wait for 20 years from now, when I would pull up the "List of Stanford University alumni" Wikipedia page, point to my name—squished under "Literature" or "Entertainment," *riiiiight* there, do you see it?—and proudly say that I, too, had become a Stanford legend.

There were, of course, certain narratives I aimed to avoid. I didn't want to be a "paddling duck," barely afloat on the roiling Aegean. Compared with my anxious, introverted high school self, the Chloe of early freshman year was pleasantly unrecognizable. I savored my first quarter like I'd been advised to. Hiked the Dish with friends. Binged *America's Got Talent* without remorse. Slept in on weekends.



Felt happier than ever.

But here's the problem with Stanford's heroes: Their origin stories are deceptively casual.

The poets say Yang met cofounder David Filo, MS '90, in a computer architecture class,

where, serendipitously, Filo served as Yang's teaching assistant. And I was equally vulnerable to a good story at 18 as I had been at 8. Enamored with the thought of global conglomerates forming over CoHo pastries, social revolutions stirring in Roble Hall, I fully believed that at Stanford, great things just happen. All I had to do was wait, and I'd get mine.

Yet weeks passed. My own plot stayed stagnant. I feared something was dreadfully wrong. When would Arrillaga Dining's crispy basa fish inspire me to write an Oscar-winning screenplay? When would that awkward Psych 1 friendship culminate in a *Time* magazine co-feature? My Stanford experience wasn't living up to all the legends. It wasn't even comparable to my friends'. I kept



Stanford | Continuing Studies



Basketball: A Masterclass, Second Edition

From championship culture to global impact, explore the evolving world of basketball with legendary former Stanford Women's Basketball head coach **Tara VanDerveer** and special guests.

**Join Us On Campus or
Online | Starts January 13**

Learn more & register today at
continuingstudies.stanford.edu

hearing iterations of the same dialogue: "Math 51 is killing me." "Yesterday was my 20th all-nighter."

"Same here!" A blatant lie. I was a carefree nymph surrounded by diligent Spartans—peers who balanced 22-unit courseloads with coffee chats. Come to think of it, why didn't I feel like an imposter? Were my standards too forgiving? Why hadn't duck syndrome set in? Was I indulging too liberally?

This whole hero thing . . . maybe I was going about it all wrong.

So I started to rewrite my story. I dropped the reality TV habit (far too strong a source of dopamine). Started declining outings to the ice rink (it doesn't even snow here—total waste of time!). I dedicated myself to recopying my lecture notes, an endeavor that didn't improve my grades but felt diligent. I swapped sunset picnics at the Oval for hours spent doomscrolling LinkedIn profiles, comparing myself mercilessly with my peers. I confused masochism for enlightenment. If I was unhappy, that meant I was doing something right. Greatness couldn't be expected but earned. Hercules' Twelve Labors were *labors* for a reason.

Oracle, if you tell my tale, please omit my foolishness for future freshmen. I am guilty of creating academic misery, social comparison, and hardship where none existed. Worse, I'm guilty of reveling in it.

Here's the problem with Stanford's heroes: They all have compelling motivations. Take Google's founders, Larry Page, MS '98, and Sergey Brin, MS '95. They yearned to "organize the world's information." It's ironic that in questing to join their ranks, I shapeshifted into the most directionless version of myself. I realized I was headed down the wrong path several months ago, when Mom called and asked,

"Written anything lately?"

I hadn't. Wasn't that strange? I'd always thought of myself as a storyteller. It's how I portrayed myself in cover letters and college applications. Just months prior, I'd been dreaming of real goals. Of producing earth-shaking investigative journalism. Evocative poetry collections. Now I wanted . . . what did I want?

I'd sabotaged my uniqueness to become a stereotypical Stanford striver. I wasn't even a noble archetype—just an over-written cliché.

I know essays are supposed to have proper endings. But since I'm a sophomore, half the page remains blank. That's a good thing. It means the plot's still mine to control. Whenever I question my trajectory at Stanford, I try to remember two things.

The first, ironically enough, is a chapter from Stanford's own mythology. Did you know that after perishing from typhoid, Leland Stanford Jr. visited his father in a dream? *Father*, the boy's ghost said. *Do not say you have nothing to live for. You have a great*

deal to live for. Live for humanity.

His words inspired the Stanfords to found the university. And though Jane and Leland Sr. are Stanford's highest deities, Zeus and Hera of the Bay, theirs is the rare Stanford myth I can relate to—proof that achievement isn't everything. *Live for humanity.* Try conceiving a higher calling than that. By founding the university that performed the first U.S. heart transplant, that has educated more than 320,000 people, one could say it's an ambition Leland Sr. fulfilled. Still, given a choice between being a patriarch of higher education and being a father, might he have picked a happy life with his child—even if it meant no one remembered his name?

So whenever I'm deciding between daily

So whenever
I'm deciding
between daily joy
and the grind,
between
dessert night with
my friends and
another hour in
Green Library,
I think of the
Stanfords and
their lost son.
I choose boba.

joy and the grind, between dessert night with my friends and another hour in Green Library, I think of the Stanfords and their lost son. I choose boba.

I also think of Admit Weekend 2024. Susan Rice (literal U.S. Ambassador to the United Nations Susan Rice, '86) had just argued her case for why prospective freshmen should choose Stanford. The Band was putting on a final show, which my memory retains as a cardinal-tinted miasma: brass and woodwinds glinting in the sunlight, Dollies twirling to “Footloose,” the Tree’s turquoise leaves thrashing maniacally. An esteemed speaker followed by an exuberant display—it was so quintessentially Stanford. The legend of Nerd Nation come to life.

It was also a contrast to hours before, when I’d taken a 3 a.m. bike ride with my Room Host and her friends, cycling uphill towards the Student Observatory. Despite it being late April, the night was black and cold. It verged, dare I say, on something less than Elysium. But we counted the stars on Orion’s Belt. Basked in the glow of Cassiopeia. And it was that moment—not the next day’s pomp and circumstance—that made me think, *I could stay here forever.*

We were Stanford students doing something as common as stargazing. And we were happy. We were *fine*. Which isn’t to say I’ll stop striving. I’ll always want to make something of my life. But scratch that Wikipedia page. Twenty years from now, I’ll be proud if I can say that at Stanford, I realized I don’t need to be a demigod. Stanford has plenty of legends. If I find myself among them, little Chloe would surely be pleased. But by the time I graduate, I want to be at peace with however my arc is unfolding—even if it’s considered unremarkable, or renders me a background character in an illustrious classmate’s life.

Because maybe that hill will remain the only Olympus I ever summit. And maybe it isn’t the glorious expanse of the universe—but Palo Alto at night is still a beautiful view. ■

CHLOE SHANNON WONG, '28, is a former editorial intern at *STANFORD*. Email her at stanford.magazine@stanford.edu.

ALUMNI PERKS WORTH REMEMBERING

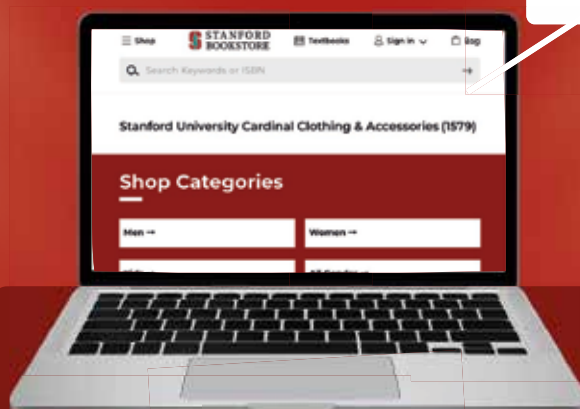
EDUCATIONAL PRICING ON
APPLE PRODUCTS

10% OFF CLOTHING & GIFTS*

**HEY
ALUMNI!**



SHOP NOW!



Visit us at any of our 4 locations

Stanford Bookstore

519 Lasuen Mall
Stanford CA 94305

The Stanford Shop

855 El Camino Real Unit 109
Stanford CA 94305

Tressider Marketplace

459 Lagunita Dr
Stanford CA 94305

Track House Sport Shop

269 Galvez Dr
Stanford CA 94305

*Exclusions apply. Contact us for more information.
Connect with us on Facebook & Instagram @StanfordCampusStore
Visit us at 519 Lasuen Mall, Stanford CA 94305

**SCARDINAL
TECH CENTER**

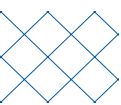
**STANFORD
BOOKSTORE**

SPOTLIGHT

The Playmaker

Oluwaferanmi Okanlami finds his calling in adaptive sports.

BY SAM SCOTT



OLUWAFERANMI OKANLAMI, '07, may head up the University of Michigan's adaptive sports program, but on Tuesday evenings, he's just another member of its wheelchair rugby team. The sport is generally played indoors, on hardwood, and it's as rough as its namesake suggests. Athletes use specially designed chairs to slam and block one another, and Okanlami, who plays when his schedule permits, arrives with force. "He can bring it pretty good when he wants to hit," says Chuck Aoki, a four-time Paralympian and the team's coach. Aoki would like Okanlami to work on being more selfish, pushing with the ball himself. "He is always looking to pass," Aoki says. "He is a distributor, which I suppose kind of fits his ethos. He just wants to make things happen."

The scene at practice is itself a testament to Okanlami's instinct to provide an assist. On one side of the gym is the Michigan wheelchair rugby team, on the other, the Michigan wheelchair basketball team. Neither existed five years ago, when Okanlami took his position as director of adaptive sports and fitness, nor did the school's wheelchair tennis team, its para powerlifting team, or its adaptive track and field team. All told, Michigan now has five teams made up of more than 50 student

and community athletes. Only about 30 American colleges offer any. "The growth of our program in the last five years is definitely unprecedented," says senior Maria Velat, who became the school's first wheelchair track athlete when she arrived as a freshman in 2022.

That expansion is thanks to many people, including athletes, donors, trainers, and coaches, but it's clear who the engine is: Okanlami, aka "Dr. O," an assistant professor on Michigan's medical school faculty and the dynamo in charge of the university's services for students with disabilities—sports included. "You'll listen to him give a speech, and you're like, 'Man, I could run through a brick wall right now,'" says Christopher Kelley, who played on Michigan's wheelchair tennis team and is now the assistant director of adaptive sports and fitness. "He's able to communicate his passion for something [in a way] that just makes you want to be part of what he's building."

Sports and leadership have long been part of Okanlami's life. In boarding school at Deerfield Academy in Massachusetts, he starred in soccer, basketball, and, most notably, track and field, where he flourished in triple and long jump. At Stanford, he was voted captain of the track team his junior and senior years and was an Academic All-American.

He still holds the fourth-best indoor triple jump in Stanford history. (Other honors include winning the J.E. Wallace Sterling Award from the Stanford Alumni Association, given to the senior whose undergraduate leadership and volunteer activities have made the largest impact on the Stanford community.)

Adaptive athletics, however, was nothing he had ever heard of. That would change in the wake of an accident at a Fourth of July party he hosted in 2013. Okanlami—then a third-year resident in orthopedic surgery at Yale—dove into an apartment pool. He doesn't know if his head hit bottom, the side, or someone's leg, but his neck fractured at the sixth vertebrae. His friends—fellow residents—pulled him from the water. At the hospital, he was attended by the same techs, nurses, and surgeons he'd been working with for years.

He was paralyzed at the chest. The familiar phrasing is that such injuries are "devastating." Okanlami resisted that outlook from the beginning. As a doctor, he knew he was in the care of experts. And as a man of faith, he leaned into another kind of trust. "I know that the Lord works in mysterious ways," he says. "I was not worried about what was going to happen." Even in the uncertain early days of his recovery, he says, he considered himself someone to



LEISA THOMPSON/MICHIGAN PHOTOGRAPHY



NOW AND THEN:
Okanlami repping the
Wolverines and the Cardinal.

whom much had been given—education, insurance, supportive parents, a sports background that had taught him to persevere—and much was still expected. “I never allowed it to feel like it was this earth-shattering thing.”

After returning to his parents’ home in Northern Indiana, he earned a master’s degree in engineering, science, and technology entrepreneurship from Notre Dame and started a second residency in family medicine at Memorial Hospital of South Bend, where his duties ranged from delivering babies to providing care in nursing homes. During his own care, he’d felt left in the dark at times. Now back on the listening side of the stethoscope, Okanlami says he had new awareness of the need to be communicative. And he began to recognize that some patients sought him out precisely because of his wheelchair. “I had a lot of people, both based on my disability and my race, who were like, ‘You get it in a way that other people haven’t gotten it,’” he says. In response, he became more open about his personal experiences with surgery, rehab, medication, side effects, and wheelchairs. “It gave my patients a sense that I was not only their doctor, but I was a patient just like them.”



Okanlami had been introduced to adaptive athletics in the months after his injury while recovering at the Rehabilitation Institute of Chicago—now the Shirley Ryan AbilityLab. It required a little bit of matchmaking. “I just wanted to be good, and I wasn’t right away. Which just says more about how difficult para sports are,” he says, “even if you are very athletic.” While he loved wheelchair basketball from the start, his core strength and hand function affected his ability to maneuver his wheelchair, dribble, and shoot as effectively

as he wished. Tennis, too, presented a challenge. “I couldn’t even hold onto the racket because I still didn’t have enough finger strength to hold onto the racket and push,” he says. “Later on in life, I found out that I can tape the racket to my hand.” One of the reasons Okanlami embraced wheelchair rugby was that it was something new that didn’t invite comparison with his former skills. Another is that—unlike in basketball—he has a relatively high classification among those who play the sport, so he can do more on the court. As he got more involved, he began to see some familiar upsides. Adaptive sports were not only fun and invigorating; they were ways to build connection, community, and wellness. And he realized they were not nearly as available as they should be.

When Okanlami got recruited to Michigan in 2018 as an assistant professor, he arrived with hopes of building an adaptive sports program when the chance arose. Two years later, after the previous director of services for students with disabilities retired, he was tapped as interim director, a position that would become permanent in 2021. At the time, the adaptive sports program on campus consisted mostly of rec wheelchair basketball, says Caiden Baxter, then a freshman, who knew Okanlami from South Bend. Okanlami wanted to start an intercollegiate team, which could be most easily done in a sport that didn’t require a large roster. He recruited Baxter and another student to join him in establishing a Michigan wheelchair tennis team. “That was kind of the idea—it was low budget, get it started, get the university to recognize it, and then build from there,” Baxter says. They spent the COVID shutdown practicing five days a week and recruited veteran players such as Kelley. (Some teams allow nonstudents to join, which can broaden both community impact and competition options.) In 2021, the team placed second to Alabama in the national championships. This year, the wheelchair tennis team has 10 student members, which Okanlami says makes it the largest collegiate one in the country.

“He has my complete admiration and respect,” says Brent Hardin, director of adapted athletics at Alabama, one of the most established collegiate parasports

programs. “He didn’t wait until he had all of the ideal resources in line. He just started putting things together and putting teams out there.”

Adaptive sports is only a part of Okanlami’s purview as director of student accessibility and accommodation services. His job involves overseeing equal access to facilities, classrooms, and testing as well as advocating for more inclusive planning. “Anyone can use the ramp while not everyone can use the stairs—so why do we keep on building stairs to everything?” is one of his maxims. Vincent Pinti, a wheelchair user and a Michigan graduate student in law and public policy who doesn’t play sports, credits Okanlami for the improvement in responsiveness to disabled students he has seen since his freshman year in 2019. “Dr. O has been a pivotal leader in accessibility at Michigan,” he says. “He values student input greatly, and he marks a dramatic change in the history of this department.”

Sport and fitness, though, have particular significance for Okanlami. He sees access to them as a fundamental issue of equity and of well-being. Exercise is especially important for a population that often has other health risks. And he believes Michigan’s adaptive teams, with the school’s iconic ‘Block M’ on their chests, are a beacon even to those who can’t be bothered with box scores. Having the recent fifth annual Wolverine Invitational wheelchair basketball tournament light up the marquee outside Michigan Stadium, for example, broadcasts a message well beyond sports. “Our adaptive athletes are a visible representation of the support that we provide disabled students on this campus,” he says. “I want any disabled student out there to be able to say, ‘Wow, the University of Michigan cares about disability.’”

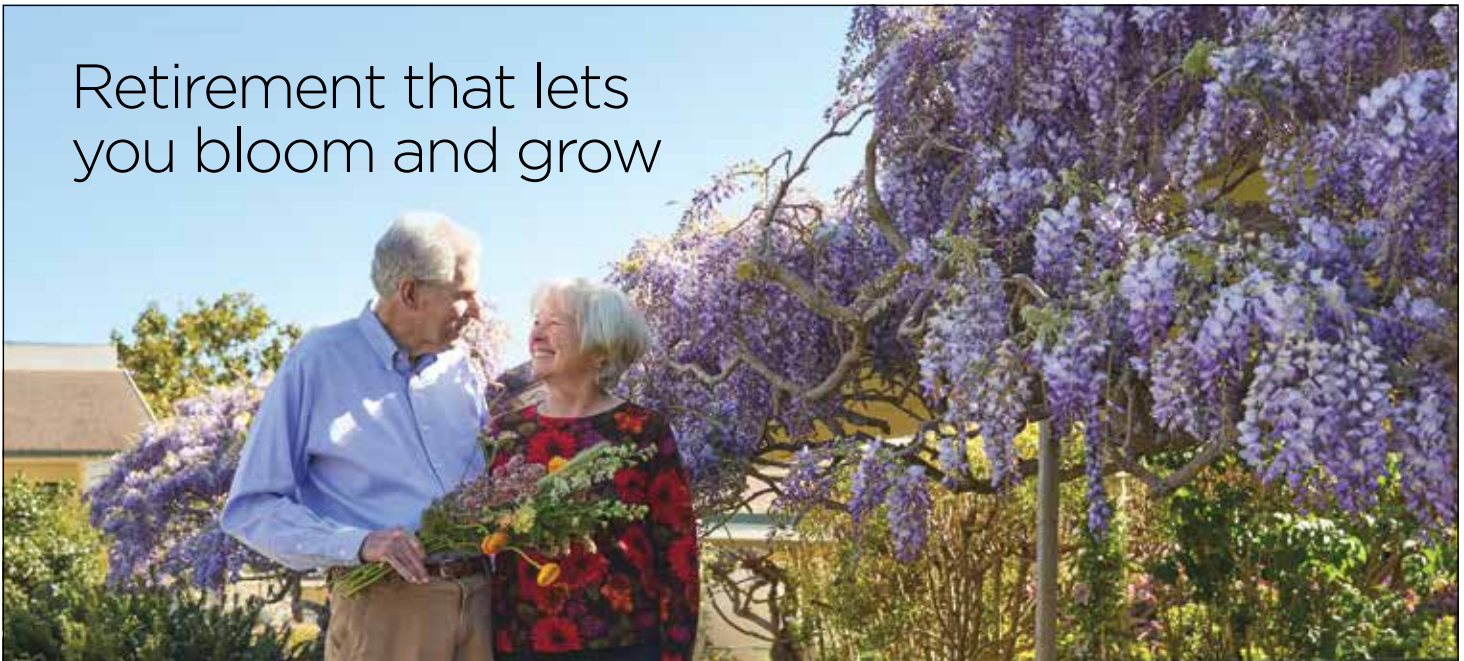
Okanlami wants to go further. While adaptive athletics has a foothold on a few dozen campuses, and about half of U.S. Paralympians compete in college, the field remains wide

open. Okanlami likens it to women’s college athletics before the sweeping reforms caused by Title IX. One of his goals is to bring para-sports into the National Collegiate Athletic Association. “That’s just a no-brainer,” he says.

Okanlami’s commitments—which include parenting his son, Alex, a high school freshman—have led him to stop seeing patients, a recent decision tinged with the awareness that he will no longer provide medical care to those who especially sought him out. But he’s come to understand his new path as an extension of his old one. “The elements of what I loved in medicine—using my mind or my hands to effect change in people’s lives and give people access to as healthy a life as they want and as they can have—I still get to do.” In other words, Okanlami is still playing for the assist. ■

SAM SCOTT is a senior writer at STANFORD. Email him at sscott3@stanford.edu.

Retirement that lets you bloom and grow



Carmel Valley Manor offers those 65+ a low maintenance home, exceptional healthcare along with impeccable service, scrumptious meals, manicured gardens with a pool, fitness center and even a putting green.

To tour our newly renovated 28-acre campus call Angie Machado at 831-624-1281 or visit cvmanor.org

CARMEL VALLEY MANOR

License #270700110. COA #082.



COMMODE CHRONICLES

Royal Flush

Nature called, and Fletcher Wilson answered with a clean take on the public restroom.

BY SAM SCOTT

aNYONE WHO'S EVER FELT STRESS at the stall or panic in a park knows that public toilets—their presence or absence, their cleanliness—can stir strong feelings. Delight is not often one of them. But that is unmistakably the emotion that comes across when Derek Delacourt talks about the mobile toilets in Ann Arbor, Mich., the Midwestern college town where he oversees community services.

For more than a year, the city has been experimenting with a novel solution to the old problem of giving people someplace to go. As elsewhere, that burden mostly falls on businesses, cafés, restaurants, bars, and libraries—a patchwork system that leaves people at the whims of opening hours, company policies, and the ability to pay for a cup of coffee. Constructing permanent facilities, meanwhile, bogs down in debates about cost, location, maintenance, and policing.

So, in the summer of 2024, Ann Arbor partnered with Throne Labs, a start-up co-founded and led by **Fletcher Wilson, MS '08**, an entrepreneur and engineer with a hardwired interest in creating a world with better

facilities. “The line I always say is my GI system is my worst system,” Wilson says. The city deployed nine of Throne’s high-tech mobile toilets—8 feet by 9 feet, self-contained, typically solar-powered, ADA-compliant restrooms that feature running water, baby-changing tables, and frequent cleanings. Most users gain free entry by texting or scanning a QR code with their phones. Afterward, Throne Labs will prompt them to rate their experience. The average response in Ann Arbor has been 4.7 out of 5, Delacourt says, excellent for any service, let alone a public privy where so much can go wrong. “People often walk out saying things like, ‘That was the most pleasant public restroom experience I’ve



had,” Delacourt says.

Of course, clean, accessible public lavatories tend to be a topic we care passionately about in our hour of need and forget otherwise. Wilson, who previously founded a successful medical device company, occasionally gets asked why he would dedicate his talents to toilets. But

Wilson knows as well as anyone how distressing America’s “bathroom deserts” can be. At Stanford, he was a Biodesign Innovation fellow, and he absorbed the program’s ethos that before you can come up with solutions, you have to delve into a problem. Before co-founding Throne in 2020, he interviewed everybody from police officers to homeless people to Lyft drivers, uncovering hacks from peeing in bottles to planning one’s day



around pit stops to traveling with a clip-on tie—the better to slip into hotel lobbies. “I just realized this is one of those problems that permeate society really deeply.”

Indeed, by one recent count, the United States has just eight public toilets per 100,000 people, tied with Botswana and well behind leader Iceland’s 56, says Steven Soifer, co-founder of the American Restroom Association. He estimates that at least one-third of the population has bathroom needs—from accommodating medical conditions to parenting preschoolers who “didn’t need to go” before—that make this shortage especially difficult. “This country needs a toilet revolution,” he says.

Additional latrines aren’t much good if they’re disgusting or unsafe. Throne’s early vision was to create the equivalent of a hotel lobby restroom in a parking lot. To keep the stalls inviting, Throne Labs uses a range of tactics. Touchless flush, faucet, and soap

dispenser minimize the ick factor. The climate-controlled interior is more comfy home bathroom than steely institutional facility. Leafy wallpaper not only creates a soothing vibe but makes a poor canvas for graffiti. To combat those who persist, Throne cleaners carry patterned stickers designed for immediate coverage. The toilets are cleaned by hand

to rate Throne, but Throne to rate the user, à la Uber. If enough people report bad conditions after someone’s visits, that user can be banned. It rarely comes to that, Wilson says. But the possibility alone entices good behavior. “There is this kind of subtle situation where it’s like, ‘Maybe if I mess it up, the next person is going to rate it and I’ll look bad,’” Wilson says.

‘One of the clear insights we found is that a nice bathroom stays nice, a gross bathroom gets much worse.’

roughly every 12 uses and their tanks are pumped every 300. To discourage loitering, the toilet has a 10-minute limit.

But Throne’s most powerful tool, Wilson says, is its digital thread with its users. The smartphone connection not only allows a user

“We definitely have done interviews and folks are feeling that is a motivator to just pick up the paper towel or not pee on the seat.”

And that feeds a virtuous circle wherein spick begets span. “We clean very frequently, but we don’t have to clean as frequently as you

ALUMNI
EXCELLENCE
IN EDUCATION
AWARD

STANFORD GRADUATE SCHOOL OF EDUCATION

Who inspires possibility?

Nominate a GSE graduate for the Alumni Excellence in Education Award.

Nominations due April 3.



ed.stanford.edu/alumni/award

Stanford
GRADUATE SCHOOL OF
EDUCATION

otherwise would,” Wilson says. “One of the clear insights we found is that a nice bathroom stays nice, a gross bathroom gets much worse.”

The company has more than 80 toilets in four geographic locations: greater Detroit, the Bay Area, Los Angeles, and Washington, D.C. After the D.C. Thrones were removed due to budget challenges, an online petition quickly drew more than 1,000 signatures urging the city to restore service. The LA Metro system started with four Thrones and is on its way to 64 in time for the 2028 Summer Olympics. The powder rooms have been a hit with families and senior citizens; they’ve reduced instances of public urination; and they’ve been embraced and cared for at some of the stations previously most prone to vandalism. “It absolutely smashed a home run from our point of view,” says Stephen Tu, deputy executive officer for the transportation agency.

Annual tallies, including equipment and service, range from \$55,000 to \$100,000 per

unit depending on usage, says Wilson. That compares favorably with more permanent options. San Francisco made headlines in 2022 for a single-commode, cinder-block restroom that was initially penciled in at \$1.7 million in building costs alone. And New York recently installed five Portland Loo outhouses—capsule-shaped stainless-steel single-occupancy facilities—at a reported cost of \$1 million each, not including maintenance. By contrast, an ADA-compliant porta-potty can be rented for about \$350 a month, depending on location and frequency of service. But as anyone who has taken a deep breath before entering one of those plastic boxes can attest, that is a different experience altogether.

Throne attracts criticism from some quarters that its model excludes those without phones, notably homeless people. In Ann Arbor, the city passes out reusable access cards that provide an alternative method of entry.

That’s what Shanekia Melton uses if

her phone isn’t charged. She often sleeps at Liberty Plaza, a small park in downtown Ann Arbor. Before Throne, the park had traditional porta-potties that Melton, who has been homeless for two years, characterizes as disgusting. “You couldn’t even wash your hands.” She’s only seen the Throne in poor condition once, and a cleaner was on-scene five minutes after she texted a notification. Cool in summer, warm in winter, and clean almost all the time, “Throne is where it’s at,” Melton says. That’s the kind of response that redoubles Wilson’s commitment to giving people the dignity of a good toilet. “Helping someone avoid anxiety, solve a problem, or prevent a disaster—that’s meaningful,” he says. “For someone who doesn’t have access to a clean bathroom, having one is totally life-changing, not just a slight improvement to their day.” ■

SAM SCOTT is a senior writer at *STANFORD*. Email him at sscott3@stanford.edu.



Stanford TRAVEL/STUDY

Join us in Papua New Guinea

Travel there this fall with a Stanford scholar expert in the region. Traverse rugged highlands, snorkel amongst rainbow-hued reefs, and immerse yourself in unrivaled ecological and cultural diversity.

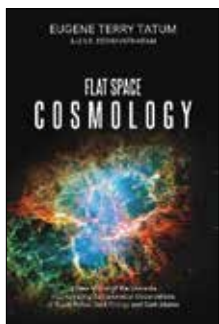
Book now:
alu.ms/gopng




Stanford | *alumni*



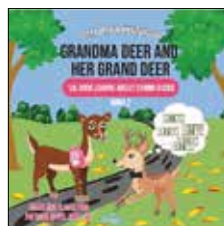
> > > > > > > > > A SPECIAL ADVERTISING SECTION FEATURING BOOKS BY THE STANFORD COMMUNITY



Flat Space Cosmology: A New Model of the Universe

By Eugene Tatum, '78

This compilation, based entirely upon recent peer-reviewed scientific journal publications, encapsulates how the Flat Space Cosmology model has become the primary competitor to the inflationary standard model of cosmology. New ideas concerning black holes, dark energy and dark matter are presented and shown to correlate well with astronomical observations. Available now in online bookstores.



The Money Adventures of Grandma Deer and Her Grand Deer: 'Lil Buck Learns About Saving Bucks Book 2

By Patricia Davis, '73 MBA

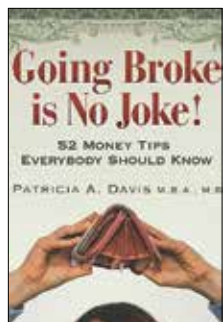
The series provides lessons about money management that will help youth develop smart financial habits. In Book 2, Penny's brother, 'Lil Buck, has taken a job raking leaves in the park so that he can buy ice cream. Grandma Deer shares ideas about how he can spend some money on ice cream while also saving. Journey with her as she teaches her grand deer money basics in a way that makes the subject easy to understand by both young and old.



The BeAst and The Brightest

By Robert Berrier, '69

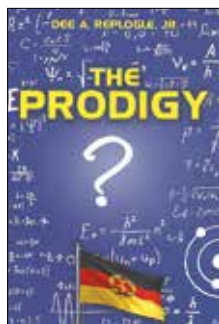
Sex, deceit, and betrayal among three graduate students and a woman. Brilliance does not guarantee decency. Explores trust, positive and negative feminism and the fragility of male friendship. Unfiltered, emotionally raw and disturbingly real.



Going Broke is No Joke: 52 Money Tips Everybody Should Know

By Patricia Davis, '73 MBA

In *Going Broke is No Joke*, the author provides dozens of ideas that will guide you along the road to financial freedom. This easy-to-read handbook provides info on how to: lighten your child's student debt load; keep afloat after a sudden job loss; recognize and avoid scams; raise your credit score, and more. If you want to take your personal finances off life support, this is the book for you.



The Prodigy

By Dee Replogle, Jr., '65

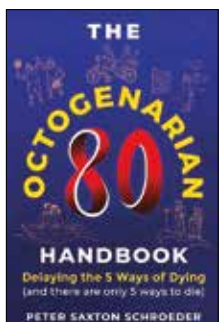
The East German parents of a mysteriously intelligent two-year boy discover a plot by the head of the State Security service to seize the boy and kill the parents. The family desperately tries to escape amidst the chaos of the final days of East Germany. An assassin who may not be what he appears to be, a confrontation on the high seas, along with efforts to recover a mysterious Swiss account add to the suspense.



The American Idea, Resilience, and Thrivancy Education

By A. Dexter Chapin, '67

It is all about the kids. When today's chaos is over, we must rebuild K-12 to support the creation of both cultural and individual resilience so rising generations can thrive in the face of change. A unique approach, based on Natural History and what is known to work, along with a robust administrative design, builds a community-based system fostering both resilience and the American Idea.



The Octogenarian Handbook: Delaying the Five Ways of Dying (and there are only 5 ways to die)

By Peter Schroeder, MBA '70

How can you steer your life towards longevity? By changing a number of lifestyles from your middle years and avoiding pitfalls that lead to each of the five ways to die ... there are no alternatives. Each way is described as a single word beginning with "A," easy to remember, hard to forget. Written in an upbeat style, the book is not morbid as it describes this inevitable outcome we all face. Go to Amazon.com.



American Politics Film Festival

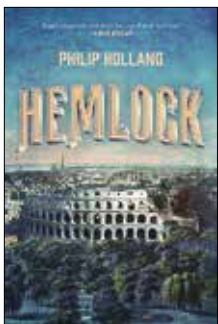
By Thomas E. Cronin, PhD '69,
and Michael A. Genovese

How American political films help us understand the American Experiment—our constitutional system with the lofty aspirations of freedom, the rule of law and the consent of the governed. "Thunderous applause for Cronin and Genovese.... Delightful reading, packed with insight and commentary on over a hundred films that have probed the idea of America." "Highly esteemed experts ... bring enormous talent and knowledge of politics to bear explaining (these films)." Amazon.com.

TO ADVERTISE YOUR BOOK IN THE NEXT AUTHORS' SHOWCASE, EMAIL US AT Mag.ads@alumni.stanford.edu



> > > > > > > > > A SPECIAL ADVERTISING SECTION FEATURING BOOKS BY THE STANFORD COMMUNITY



Hemlock

By Philip Holland, '81

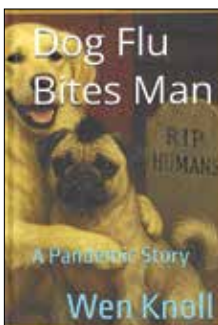
As twenty-seven-year-old Palleias prepares to succeed his powerful politician father, he meets a man who stops him with one question: "Can you judge for yourself?" Set in 1831 Philadelphia, *Hemlock* is a fictional retelling of the last days of Socrates; a coming-of-age story of an individual and a country; and a timely meditation on the nature of liberty and independence. "A fascinating premise and themes that can still speak to us today."—Kirkus Reviews



Cross Winds: Adventure and Entrepreneurship in the Russian Far East

By Steven Myers.'73

In 1992, in a daring, high-risk mission, Steven Myers flew into the Kamchatka Peninsula, one of the most inaccessible places on earth. Invited by post-Cold War Russian leaders to spark entrepreneurship, his team faced isolation, death threats, brutal conditions—and the KGB. Armed with nothing but optimism, they defied impossible odds, turning a business enterprise into the adventure of a lifetime!

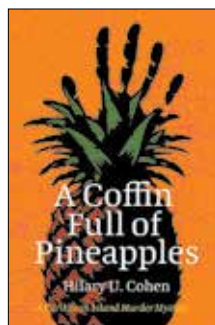


Dog Flu Bites Man: A Pandemic Story

By Wen Knoll, MS '86

Dog Flu Bites Man is the story of an emerging flu virus at Fur Baby's Pet Resort in the heartland of America, Kansas City.

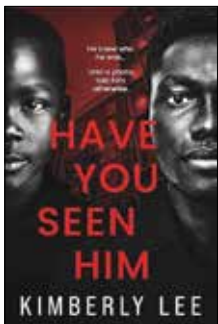
While the virus causes illness in dogs that is the equivalent of a mild cold, it is far more dangerous in humans. This book tells the heartbreaking story of a fatal disease that dogs can transmit to their family, and the veterinarian who is caught in the middle of it all.



A Coffin Full of Pineapples: A Caribbean Island Murder Mystery

By Hilary U. Cohen, '69

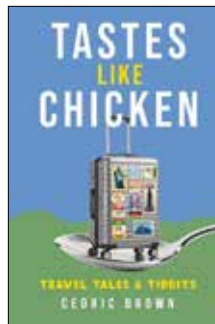
The remote Grenadine islands—sailing paradise of the southern Caribbean. Home of Maggie and Jake's popular little charter boat company and, now ... murder. In this sequel to *A Turquoise Grave*, sailor and lawyer Maggie Mullaley takes on an agricultural conglomerate when it moves in on tiny St. Vincent and dark secrets begin to emerge from the past of environmental degradation and human catastrophe. Hilaryucohen.com



Have You Seen Him

By Kimberly Lee, '90

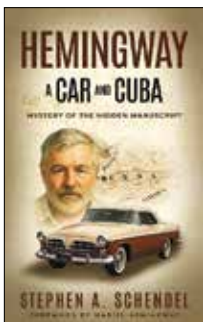
For attorney David Byrdsong, life is a series of daily obligations. Abandoned by his family as a child, he learned to blunt his feelings, despite his subsequent adoption by a loving couple. When he discovers his own face in a missing child ad, he's driven to search for the truth, encountering corporate conspiracies, murdered bystanders, and distressing suspicions about the only family he's ever really trusted.



Tastes Like Chicken: Travel Tales & Tidbits

By Cedric Brown, MA '90

Tastes Like Chicken: Travel Tales & Tidbits takes readers on a whirlwind journey across continents through the eyes of poet and storyteller Cedric Brown. From Rio's samba schools to ancestral threads in Ghana to the spice markets of Dubai, these micro-essays explore identity, culture, and connection, reminding us that joy, resilience, and good company can be found almost everywhere.



Hemingway, a Car and Cuba

By Stephen Schendel,
Professor Emeritus of Surgery, Stanford University

Rick, a surgery resident with Cuban roots receives a package from his uncle containing a cryptic note regarding his father's disappearance in Cuba and a lost car owned by Ernest Hemingway, which is key to a lost Hemingway manuscript about the Cuban revolution and the mystery surrounding his father. Rick is soon invited on a surgical mission to Cuba. He discovers that he is being shadowed by two intelligence agencies also interested in the manuscript.



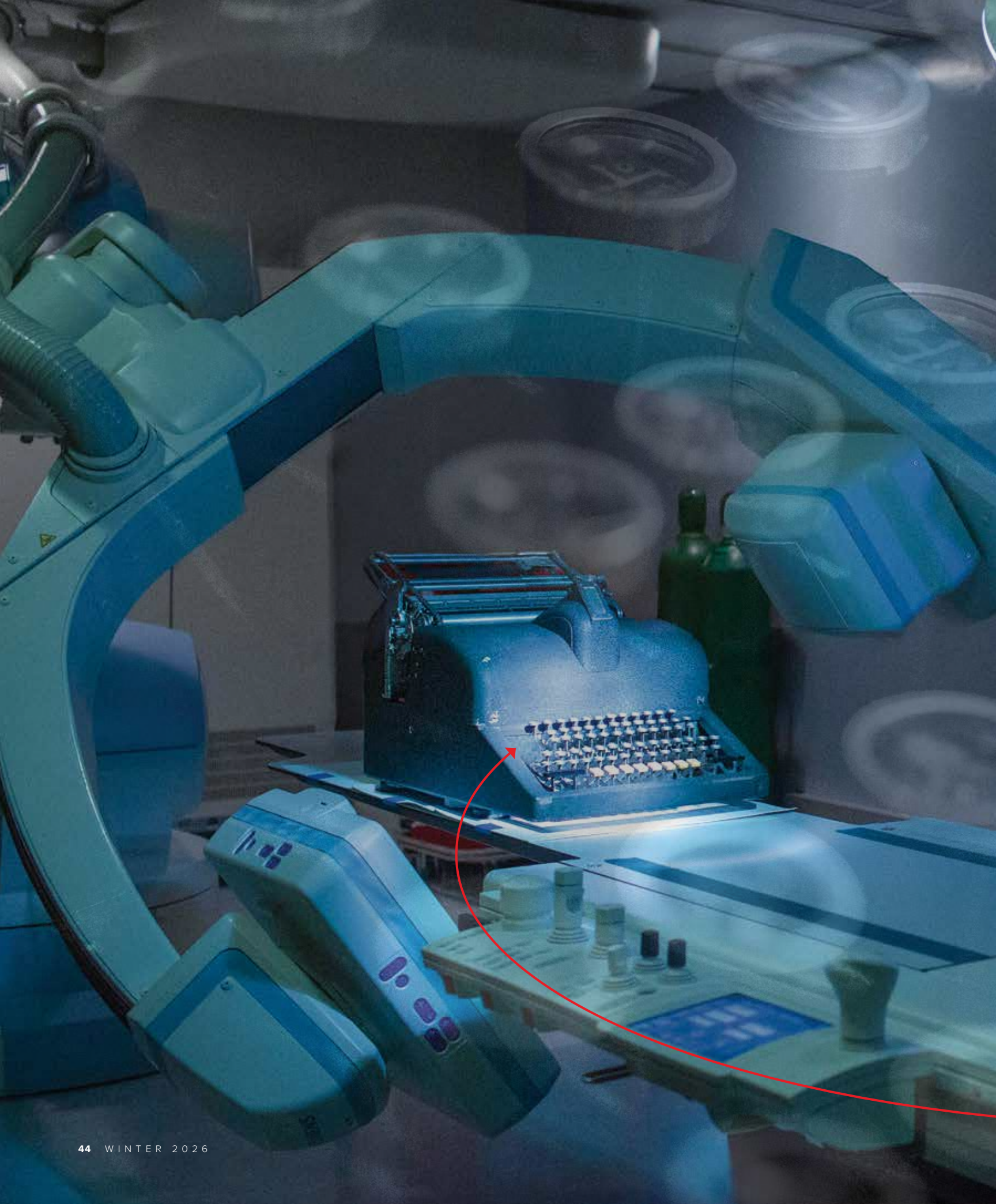
Pescadero: A Novel

By Holly Brady, '69
Past Director, Stanford Publishing Courses

"Among the best Indie Literary Fiction of the year." — Kirkus Reviews.

What compels someone to attempt to cross a brutal and unforgiving desert in search of a better life? In this deeply moving novel, a Midwest girl becomes entangled in the struggles of two undocumented brothers caught on opposite sides of the US/Mexico border. <https://pescaderonovel.com>

TO PURCHASE A BOOK, VISIT PUBLISHER'S WEBSITE, SEARCH AMAZON.COM OR BARNESANDNOBLE.COM, OR VISIT YOUR LOCAL BOOKSTORE



明
快

THE
MYSTERY OF
THE MINGKWAI

A revolutionary Chinese typewriter
was long thought lost. Then it turned up
in a Long Island storage unit.

By SAM SCOTT



INVENTOR
LIN YUTANG

PHOTOGRAPH BY TIMOTHY ARCHIBALD
INSET: KEYSTONE PRESS/ALAMY STOCK PHOTO

明快

MACHINE LEARNING: Mullaney hopes to create a working replica of the MingKwai for research purposes.

AFTER JENNIFER FELIX'S FATHER DIED in 2021, she was so consumed with arrangements that she simply had his belongings trucked, sight unseen, from his home in Arizona. Last winter, Felix, who owns several canine daycares near her home on Long Island, decided it was time to finally address his stuff. On January 23, while she went to work, her husband, Nelson, emptied out the storage unit. That night, a wooden crate awaited her in the kitchen. "I'm pretty sure it's a typewriter," Nelson told her. "It's heavy." But when Felix looked inside, it was unlike anything she'd ever seen. "I'm like, 'This isn't just a typewriter. These are not English symbols.'"

Her husband posted photos to a Facebook page he found called "What's My Typewriter Worth?" before they sat down for dinner. By the time they were finished, messages had poured in from people around the world: It was a singular prototype known as the MingKwai—the first Chinese typewriter to have a keyboard. Some were offering to buy it; others were beseeching them to make sure it ended up in the right hands. (There were varying opinions about whether that meant in China, Taiwan, or

the United States.) As the couple went to bed, messages continued with an urgency that made them wonder if it had been smart to announce the machine was in their home. "We just kind of laid down and we were like, 'What the hell is happening right now? What did we just stumble on?'" Felix says.

Many commenters were tagging **Thomas Mullaney**, a Stanford history professor who'd literally written the book on the MingKwai, in which he had lamented the

machine was now likely entombed in a landfill if it hadn't been scrapped for parts. Years earlier, Mullaney had been digging in the archives of the National Museum of Natural History when he found the only known photograph of the MingKwai with its internal gears revealed. "It was like finding a picture of Great-Great Grandpa," he says. "I'm not going to see Great-Great Grandpa, but I found a picture of him." Now looking on Facebook, Mullaney was stunned to see the forebear not only in one piece, but in near-pristine condition. His elation quickly turned to dread. The machine could so simply disappear again. Mullaney dashed off a plea to not sell it on the Facebook thread, then started searching Whitepages and LinkedIn for Nelson's name. Eventually the Felixes replied to him—they



DIDI VON BOCH

would call in the morning. “There was a good two hours of panic,” Mullaney says.

And that—with the assistance of a private donation—is the short version of how a 78-year-old typewriter unlike any other came to be sitting on a medical CT scanner in the Stanford radiology department in October as a team of scholars awaited a view of its inner secrets. The goal is to build a working replica. “Because this is a one-of-a-kind artifact, we cannot operate it for fear of damaging it, and disassembly is obviously impossible,” Mullaney says. “The only viable way to investigate its internal workings is through nondestructive imaging—to see what lies under the cover.”

THE INVENTION

The 26 letters of English readily fit on a keyboard so compact we hardly stretch our hands to reach our P’s and Q’s. But the tens of thousands of Chinese characters? In popular imagination, you’d sooner get an elephant through a keyhole than fit them on anything like a standard keyboard, Mullaney says. There’s ample allusion to the absurdity of even trying throughout 20th-century Western culture, from 1900s newspaper cartoons that depicted Chinese typewriters the size of houses to the 1990 video for the hit song “U Can’t Touch This” that featured rapper MC Hammer doing a frenetic sidestep that came to be dubbed the “Chinese Typewriter.” It was reference, Mullaney says, to the furious back-and-forth operating such a giant machine must surely demand.

The MingKwai—roughly “clear and fast” in Mandarin—was proof of a far more elegant possibility. Produced in 1947, it had only 72 keys—fewer than a MacBook today—but by pressing them in combinations related to the shapes in the desired character, the user could summon as many as eight options into view in a small window called the “magic eye.” The typist then chose among them. The result was a desktop device that could produce tens of thousands of options, enough for every Chinese character in existence. It was a marvel—and a missed opportunity. For a variety of reasons, not least the business uncertainties created by the ongoing Chinese Communist Revolution, the

MingKwai was never produced beyond a single prototype. After decades of trying to realize his vision, the typewriter’s inventor—the Chinese author, linguist, and polymath Lin Yutang—was too financially and emotionally drained to continue. But while the MingKwai simply disappeared, its significance endured. “It is the great-great-whatever parent of the entire Chinese digital age, at least in terms of human-computer interaction,” Mullaney says.

THE SCHOLAR

Having first studied Mandarin as a college freshman in the mid-’90s, Mullaney never really knew a world when Chinese could not easily be written on a computer-based word processor. He’d never seen a mechanical Chinese typewriter, and never really contemplated one. Even MC Hammer’s exertions in parachute pants had passed him by. But in 2007, Mullaney was browsing a bookstore in Beijing when he came across something that would send him deep into the subject: a dictionary of “ambiguous” Chinese characters that had

fallen into such disuse that nobody knew how to pronounce them or what they meant.

The book cast Mullaney’s mind on a search for explanations, and he began to think about the funneling effect of technology on a language with no alphabet and tens of thousands of characters. With ink and brush, all writing was equally within reach. But in the industrial age, where, say, a printing press could only create a character from a physical plate, new means of communication provoked an implicit question—which characters should make the cut? Mullaney was in his Stanford office one day when he started to wonder about what role the typewriter might have played in this winnowing, and he realized he had no clue what a Chinese typewriter even looked like. Two hours later, he had reams of patent information from dozens of engineers and inventors from the early 20th century and an intense new focus.

Mullaney has an eye for a story hiding in plain sight and a fascination with what he calls “world-making,” the process by which societies shape reality. His first book,

Coming to Terms with the Nation, won raves for its examination of China’s 1954 Ethnic Classification project, a sweeping government effort that funneled hundreds of different ethnic groups into the 56 categories that still stand today. “We all know that China has 56 official ethnic groups, but until now none of us knew precisely why,” one reviewer wrote. In the Chinese typewriter, Mullaney saw an inverse story: an outlier resisting absorption into the supposed universal model, the Western-style typewriter and its partner, a Western alphabet. (Mullaney starts this month as director of the program in science, technology, and society, a nod to his interdisciplinary scholarship.)

Mullaney would throw himself into the typewriter research, a process that would take him to archives around the world and crowd his apartment with what was probably the world’s largest collection of Chinese typewriters, manuals, and related paraphernalia. (It has since been donated to Stanford.) It would lead him to write an award-winning book, *The Chinese Typewriter*. And ultimately it would bring him, and Stanford, what he calls “perhaps the



明快

most well-known, but also most poorly understood, Chinese typewriter in history.”

THE AMERICAN TYPEWRITER

Mullaney’s tale of the Chinese typewriter begins with its American cousin. The first mass-produced typewriters began to circulate in the United States soon after the Civil War and were produced by Remington, an arms maker whose rifles had been synonymous with the conflict. The Remington 1, the first typewriter with a QWERTY keyboard, was overshadowed at the 1876 Centennial Exposition by Alexander Graham Bell’s telephone, but an updated model—now with a “shift” key—exploded in popularity. Remington was soon on a global march with branches throughout Europe and

make the writing system compatible with modernity, the proposal met strong resistance. “We Chinese wish to say that the privilege of a mere typewriter is not tempting enough to make us throw into waste our 4,000 years of superb classics, literature, and history,” a 1913 editorial in *Chinese Students’ Monthly* declared. (While spoken Chinese languages can be “quite distinct from one another,” Mullaney says, the conversation regarding typewriters is “always about Chinese’s standard written form.”)

Stymied in their attempts to make a product, Western typewriter manufacturers ultimately acted as if the Chinese market didn’t exist. In 1958, the Italian typewriter giant Olivetti bragged that its machines “write in all languages,” a boast that conveniently forgot the world’s then-most populous country. “They knew full well that Chinese was not included,” Mullaney says. “But they had set the terms of what counts as universal.”



STUDY HALL: MingKwai research collaborators Adam Wang, MS '08, PhD '12, Zhaohui Xue, Regan Murphy Kao, Robert Bennett, Mullaney, and Bryant Lin apply modern tools to an historical inquiry.

representatives all over the Americas, Asia, Africa, and the Middle East.

With minor adjustments, its typewriters—and those of rivals—were able to accommodate the accents of French, the right-to-left progression of Hebrew, and the ligatures of Arabic. But, if need be, language would be made to submit to machine. The American inventor of the first Siamese typewriter could find no way to fit the full Thai script on a typewriter created for English, Mullaney writes. So, the designer jettisoned two consonants, dooming them to lasting oblivion. Chinese, however, defied such limited surgery. And while some—in China and elsewhere—argued for radical change to

THE CHINESE TYPEWRITER

By contrast, the Chinese typewriter developed outside what Mullaney calls the “Remington monoculture.” The first functional Chinese typewriter—a prototype created in 1897 by an American missionary named Devello Sheffield—could hardly have looked less like its Western kin. Eager to write without relying on Chinese secretaries, Sheffield consulted with typesetters near Beijing before commissioning a device that resembled a round table. Its surface contained 4,662 characters grouped in three regions—“very common,” “common,” and “less common”—that could be rotated over a manuscript.

Like the MingKwai, the invention would never be mass produced, but it exemplified challenges ahead. As

a missionary, Sheffield had obvious reason to want to efficiently write *Jesus*—*Yesu* in translation. But the character for *su* was otherwise of minor importance. So where to put it? “Sheffield was decisively indecisive,” Mullaney writes. “He included two copies of *su* on his machine, placing one where it belonged empirically—within the list of 2,550 ‘less common characters’—and the other where it belonged theologically—within the exclusive list of ‘very common characters.’” With finite space, such double-booking meant less real estate for other characters. It was a problem that nagged at all attempts to shrink the lexicon for the sake of a machine. Choices would eventually become unresolvedly personal.

THE PREDECESSOR

And then, the Sheffield turned up.

LAST SUMMER, after learning their local library was planning an exhibit of historic typewriters, David and Elise Adams offered a contribution: a large metal disc covered in thousands of precisely rendered Chinese characters. The two knew little about it other than what David had deduced decades earlier: It was part of an old Chinese typewriter.

David had chanced upon the disc while working for mainframe manufacturer Univac in Pennsylvania in the early '80s. One day, a tractor-trailer stopped in the parking lot with a load of typewriters from around the globe for sale. Univac was part of a conglomerate that included typewriting pioneer Remington, and the corporation was evidently shedding collections tied to this heritage. "It just seemed so curious and nothing like anything I had ever seen in my life," David says. He offered \$17—all the cash in his wallet—and rolled the disc to his car. Since retiring to Castine, Maine, in 2001, the couple had kept the beloved collectible in a workshop amidst "tools, car parts, lawnmowers, scrap lumber, and poetry magazines," son Christiaan Adams recalls.

At the library exhibit, the disc stopped visitors in their tracks, says Kathryn Dillon, library technician at the Witherle Memorial Library. "It's just so beautiful and so unusual," she says. It weighed around 30 pounds and spanned about 30 inches, yet glided perfectly on a pivot, at least until the library's youngest patrons got hands on it. "It almost spun off the table a couple times," Dillon says.

The only frustration for Dillon was her inability to add much context to the display. The Adamses had uncovered that it was likely part of the first Chinese

typewriter, a prototype created by Devello Sheffield, a Civil War veteran turned missionary to China. Dillon assumed several such devices must have made their way into the world, but she was confounded by how little else she could glean.

Finally, she sent photos of the disc to the professor whose writings on the Sheffield had guided her—Stanford historian Tom Mullaney. "I knew there was something not right—something not complete," she says. "Someone needed to figure it out. And that someone was most likely going to be Tom."

She'd barely hit send when her phone rang. It was Mullaney. The one and only Sheffield had disappeared from the public eye more than a century earlier. After seeing more photos, Mullaney was confident it had been found.

It was another stunning moment for Mullaney, who was still high on the reappearance of the MingKwai. Now the



key part of the first Chinese typewriter had been rediscovered. "This was the first attempt to mechanize Chinese," Mullaney says, "the first ever attempt to merge the mechanical age and Chinese writing." It was almost too much, he says.

The device was quietly withdrawn from the reach of 5-year-olds. "I went to the bank and said, 'Do you have space for a big disc?'" says Elise Adams. "And they said, 'No, no, no, we have only space for money and jewelry, but not 30-inch discs.' So, we took it home."

Mullaney approached Stanford Libraries about acquiring the Sheffield as it had the MingKwai. "Immediately we're like, 'Yes, we want it,'" says Regan Murphy Kao, director of Stanford's East Asia Library. The library hopes to develop an East Asia Media Lab where the Sheffield, the MingKwai, and related items are on display. In November, the Adams family agreed to donate the device to Stanford. "We were always in awe of this thing, seeing this round, heavy brass thing with these beautiful signs," Elise says. "It was amazing that we finally found something out about it." ■



明快

Other strategies included typewriters that tried to replicate brush strokes or create characters from radicals, the semantic building blocks that repeat in characters. These approaches would founder on their own challenges. The version of the Chinese typewriter that would come to predominate through the 20th century—developed by inventor Shu Zhendong following the work of Zhou Houkun—was not unlike Sheffield’s device. Its design principle was premised on amassing the most common characters. But in this rendition, the characters were contained on thousands of moveable slugs on a flat bed. With tweezers, characters could be added and removed. You could have your *su* where—and if—you liked.

By gliding a selection lever over the bed, a trained user could type 2,000 characters an hour, but the typewriters never had the ubiquity of their Western kin. They were large, hard to transport, and customizable

of her memory would fill half a desk. The MingKwai—for all it contained, in terms of characters and history—was not much larger than a Western typewriter. “It was truly stunning to me.”

THE MINGKWAİ

Indeed, judged by its exterior, the MingKwai looked like the device that had finally brought Chinese into the United Nations of QWERTY-ish typewriters. But its cover hid an interior unlike anything else—a tight cluster of 36 octagonal bars each lined with hundreds of characters and packed, Mullaney observed, like “Ferris wheels inside Ferris wheels inside Ferris wheels” that rotated and revolved like moons and planets in a solar system. “Lin’s system encompassed a total of forty-three separate axes of rotation: thirty-six metal bars rotating around their own lunar axes, six higher-order cylinders rotating around their own planetary axes, and finally one highest-order cylinder rotating around a singular, stellar axis,” Mullaney writes.

At the time of its creation, virtually every other typewriter in existence exemplified a “what-you-type-is-what-you-get” approach, Mullaney says. You pushed a key, and the corresponding letter hit the page. But when you pressed a key on the MingKwai, nothing appeared. Nor did it when you pressed a second key. Instead, there was a turning of bars and gears. Only when the typist chose from the options displayed in the “magic eye” would ink hit paper. The MingKwai didn’t type letters; it retrieved them. Its keys weren’t commands; they were notes to be combined into tens of thousands of chords. Lin had set out to make

a better Chinese typewriter. He had uncovered, Mullaney says, “an entirely different way of understanding human-machine interaction.”

Even nearly 80 years later, the mechanics of the metallic algorithm that enable this are staggering, Mullaney says. He’s adamant about not removing anything beyond the machine’s detachable cover. “Nothing else can be disassembled because we have no way, we have no knowledge of how to put it back together.” Instead, a team of experts from the School of Engineering, the School of Medicine, and outside museums are making casts, scans, and measurements



MID-CENTURY MODERN: The MingKwai’s inventor uncovered “an entirely different way of understanding human-machine interaction,” Mullaney says.

to a degree that could render them unusable except by the person who had arranged the slugs. A newcomer would be simply lost in the layout.

Zhaohui Xue, the Chinese studies librarian at Stanford’s East Asia Library, remembers working at a government agency in China in 1980 when such typewriters were still the norm. “In the power hierarchy, as I observed it, the real power was not the director or the leaders, it was the typist,” she says. “She could slow-roll your work. You really had to stay on her good side.” When the MingKwai arrived at Stanford, Xue says she was most astonished by its size. The Chinese typewriters

of the machine in hopes of reconstructing the device in duplicate. “Since the original cannot be used, the only way to understand its mechanism in practice is to construct a faithful, working replica,” he says.

If the researchers succeed, the copy will be only the second MingKwai to exist, a reminder that for all the typewriter’s glory, it was a commercial dud. The MingKwai publicly debuted to rave reviews. An August 1947 *New York Times* article, which quotes a manager of the Bank of China in New York, is characteristic of press accounts across the United States: “I was not prepared for anything so compact and at the same time comprehensive, so easy of operation and yet so adequate,” the bank manager said. But in the boardroom, momentum flagged. When Lin and his daughter demonstrated the machine to a group of Remington executives in New York, the machine stalled, and historical headwinds would prove only harsher. Businesses were concerned that China’s ascendant Communists would not

honor patents, and there were fears that Mao Zedong would romanize the writing system, Mullaney says. Then came the death knell, the Korean War, which put the United States and China on opposite sides of armed conflict. By that time, bankrupt and exhausted, Lin had sold the prototype and the commercial rights to the Mergenthaler Linotype Company, a printing company in Brooklyn, where—Mullaney would discover—Felix’s grandfather was a machinist.

Felix remembers him as a brilliant man building steam-engine trains in his basement—she doesn’t know if he worked on the MingKwai. He clearly esteemed the machine. It was kept in meticulous condition for decades in a handmade crate. Her dad too must have known he had inherited something special. Why else, Felix says, would he have hauled such a 50-pound weight to Arizona from New York? She downplays her own importance in the saga. “I’m just a girl from Long Island who found a frickin’ typewriter.” But she’s happy it has landed at Stanford. “I wanted it

to go somewhere where they would appreciate it,” she says. “I think it was important for it to be there.”

Lin died in 1976 thinking he failed at the MingKwai, Mullaney says. But his prophetic reimagining of a keyboard’s potential would in time change the world. The MIT engineers who created the first Chinese-language computer in the 1950s leaned on Lin’s input research to enable Chinese typing using a QWERTY keyboard. And Mullaney traces a direct line of descent from there to modern China’s multi-trillion-dollar IT market. Not long ago, the very idea of a Chinese typewriter was held up as either a joke or an impossibility. Today, the fastest Chinese typists can sit at the same keyboard the rest of the world uses and easily outpace their English-language equivalents thanks to combinations of key-strokes that descend from the MingKwai. Clear and fast—and prescient. ■

SAM SCOTT is a senior writer at *STANFORD*. Email him at sscott3@stanford.edu.

PODCAST SPOTLIGHT



STANFORD MEDCAST: Expert Voices in Medicine and Healthcare

Host: Ruth Adewuya, Managing Director,
Stanford Center for Continuing Medical Education
Available on Apple Podcasts, Amazon Music, Spotify,
and YouTube

From groundbreaking science to practice-changing insights, Stanford Medcast brings you the ideas shaping the future of medicine and healthcare. Each episode features leading clinicians and scientists sharing expertise on the latest research, innovations, and clinical challenges—designed for busy clinicians on the go.

Hosted by Ruth Adewuya, MD, the podcast spotlights timely, high-impact topics clinicians care about most—from advances in oncology, dermatology, and maternal health to the latest in artificial intelligence, leadership, and health equity. Episodes deliver quick, practical takeaways backed by Stanford expertise.

Subscribe now to access conversations that matter: what’s new, what’s next, and how it impacts clinical practice. Discover more at medcast.stanford.edu. Produced by the Stanford Center for Continuing Medical Education.



STANFORD ECOPRENEURSHIP PODCAST

Host: Sam McClure, Lecturer at Stanford Law School
Available on Apple Podcasts, Spotify, YouTube, or
wherever you get your podcasts

Some of the world’s most powerful ideas start in a university lab. These innovations drive humanity forward and make our lives on Earth more sustainable. But how do we get those ideas out of the lab and into the real world?

On the Stanford Ecopreneurship Podcast, Sam McClure sits down with academics, technologists, and policy leaders at Stanford to understand how they are building a resilient and sustainable future, using the disruptive force of entrepreneurship.

New episodes of the 6-episode Academic Innovator Series will be released every Thursday, starting November 6.

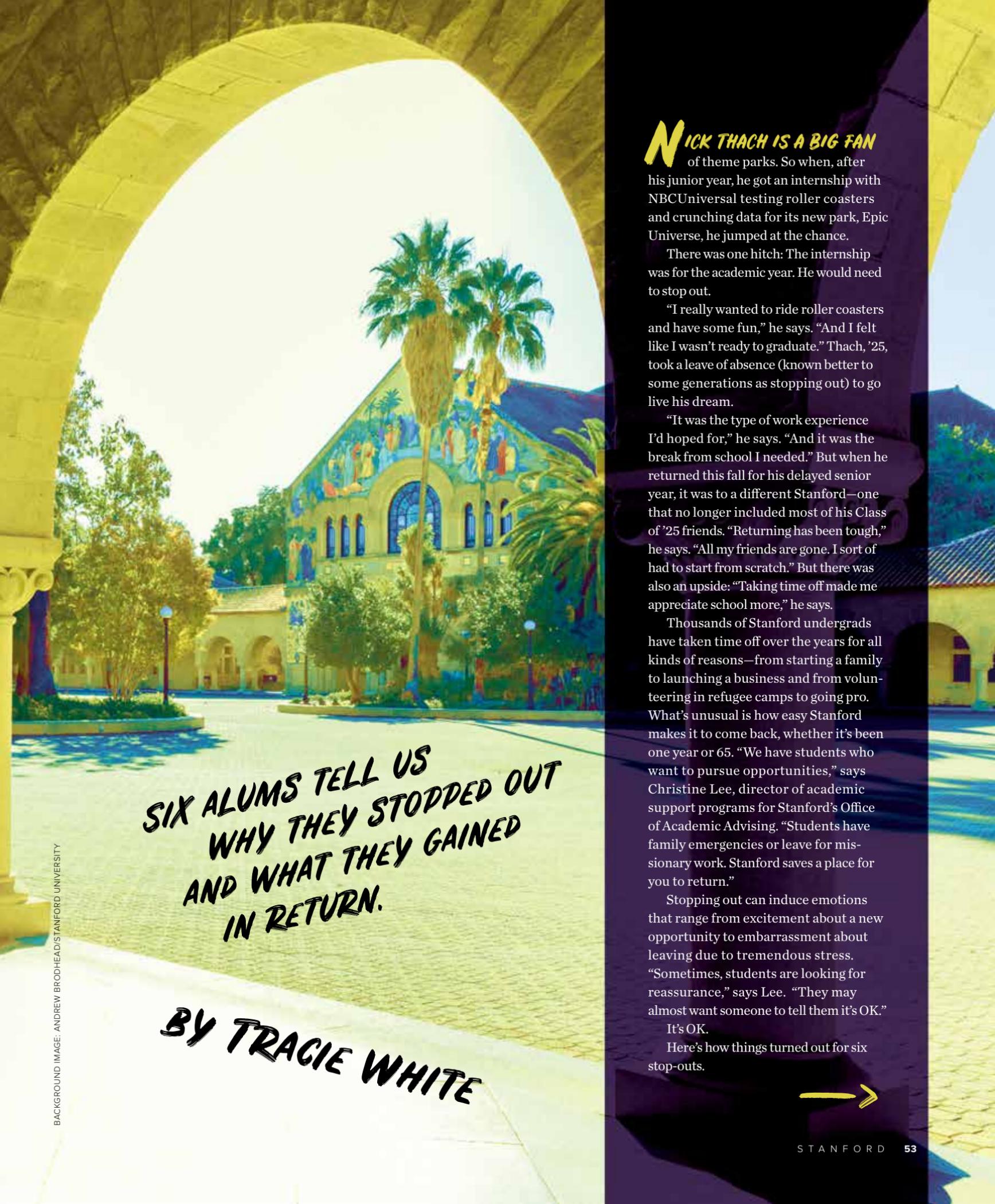
Follow us on Apple Podcasts, Spotify, YouTube, or wherever you get your podcasts so you never miss an episode.



Shine a spotlight on your podcast—advertise with us and reach a highly engaged audience that’s ready to listen
> Email mag.ads@alumni.stanford.edu



DRESSING PAUSE



**SIX ALUMS TELL US
WHY THEY STOPPED OUT
AND WHAT THEY GAINED
IN RETURN.**

BY TRACIE WHITE

BACKGROUND IMAGE: ANDREW BRODHEAD/STANFORD UNIVERSITY

NICK THACH IS A BIG FAN

of theme parks. So when, after his junior year, he got an internship with NBCUniversal testing roller coasters and crunching data for its new park, Epic Universe, he jumped at the chance.

There was one hitch: The internship was for the academic year. He would need to stop out.

"I really wanted to ride roller coasters and have some fun," he says. "And I felt like I wasn't ready to graduate." Thach, '25, took a leave of absence (known better to some generations as stopping out) to go live his dream.

"It was the type of work experience I'd hoped for," he says. "And it was the break from school I needed." But when he returned this fall for his delayed senior year, it was to a different Stanford—one that no longer included most of his Class of '25 friends. "Returning has been tough," he says. "All my friends are gone. I sort of had to start from scratch." But there was also an upside: "Taking time off made me appreciate school more," he says.

Thousands of Stanford undergrads have taken time off over the years for all kinds of reasons—from starting a family to launching a business and from volunteering in refugee camps to going pro. What's unusual is how easy Stanford makes it to come back, whether it's been one year or 65. "We have students who want to pursue opportunities," says Christine Lee, director of academic support programs for Stanford's Office of Academic Advising. "Students have family emergencies or leave for missionary work. Stanford saves a place for you to return."

Stopping out can induce emotions that range from excitement about a new opportunity to embarrassment about leaving due to tremendous stress. "Sometimes, students are looking for reassurance," says Lee. "They may almost want someone to tell them it's OK."

It's OK.

Here's how things turned out for six stop-outs.



JESSICA FRY, '19

STOPPED OUT: **2 YEARS**

WHY: **BROADWAY CALLED**

TODAY: **DOCTORAL CANDIDATE IN PHYSICS AT MIT**

TOWARD THE END of her sophomore year, Jessica Fry got a call from her agent saying, “Hey, can you get to New York on Tuesday? There’s a role on Broadway I think you’d be great for.”

Fry had danced since she was 3, and she won Miss Dance of America in 2015. That landed her an agent. But dance was never her only love. “I am passionate about both performance arts and particle physics, which is why I went to Stanford, where I could do both right off the bat,” she says. She was a member of Cardinal Ballet as well as Stanford’s Alliance hip hop and Urban Styles jazz dance teams when she landed the Broadway gig.

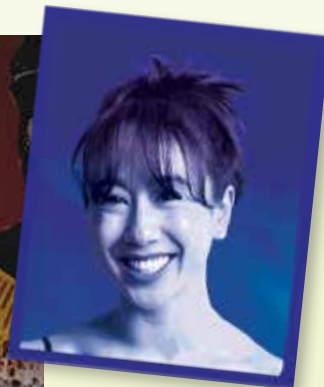
She and her parents discussed both the opportunity of performing on Broadway—very possibly a once-in-a-lifetime shot—and her concerns about leaving school without

knowing if or when she would return. It helped to know that Stanford would leave the light on. Ultimately, she says, “when Broadway comes calling, you don’t say no.”

In October 2017, Fry made her Broadway debut as part of the ensemble in *M. Butterfly*. When the play’s run ended in December of that year, she stayed on in New York, appearing in an episode of *The Americans*, then touring for a year as an ensemble member and understudy for Veruca Salt in *Charlie and the Chocolate Factory*. At the end of the tour, she found herself at a crossroads: forge ahead as a performer or return to Stanford to pursue particle physics?



“A part of me thought that Broadway would be the entirety of my career,” Fry says. “But I got a little bit sad, because that would have been turning off a whole other passion I have for physics and for the sciences. I feel like I need to have both in my life to be a happy person.”



AMONG THE STARS: Fry left the footlights to study dark matter.

FROM TOP: COURTESY JESSICA FRY (2); SARA KRULWICH/THE NEW YORK TIMES/REDUX

VINCE GOTERA, '75

STOPPED OUT: **6 YEARS**

WHY: **TO HAVE MORE CONTROL OVER HIS VIETNAM WAR MILITARY SERVICE**

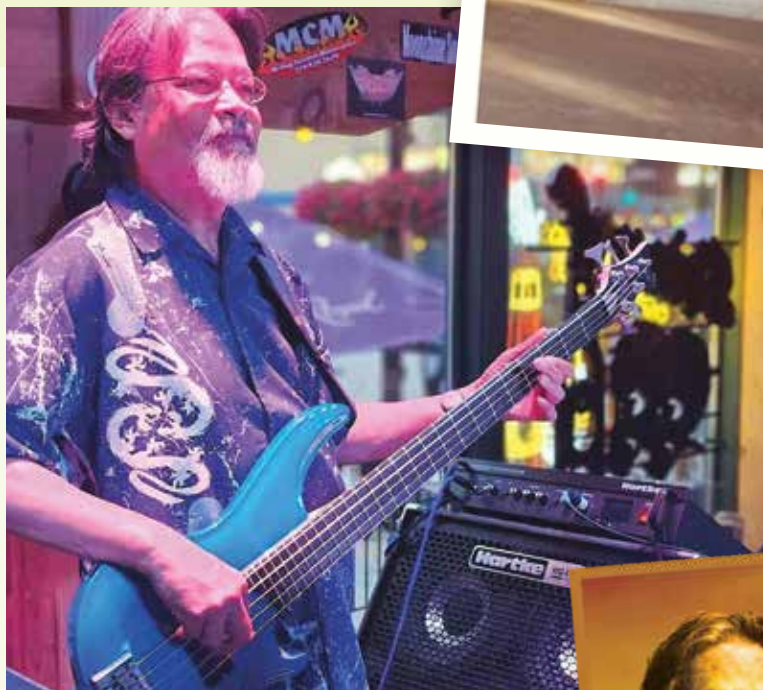
TODAY: **PROFESSOR EMERITUS OF ENGLISH AT THE UNIVERSITY OF NORTHERN IOWA; POET LAUREATE OF IOWA**

TWO THINGS HAPPENED just as Vince Gotera was entering Stanford in 1971: The Selective Service System lottery assigned him the number 30, and the military draft exemption for students was phased out. After two quarters on campus—newly married, seeking a job, and sure he would be drafted—he took matters into his own hands. “I enlisted in the Army in order to have some control over what I would be doing,” he says.

Gotera served as a military pay clerk and was able to remain in the United States for his three years of service. Afterward, he returned to school but couldn’t afford Stanford, so he attended City College of San Francisco and then San Francisco State. For his final year, his father offered to pay for his return to the Farm.

“Probably my dad thought the prestige of a Stanford degree would be good for me and my career—which it has been,” Gotera says. He returned to Stanford a father himself, commuting from Daly City and squeezing four quarters’ worth of courses into three. “It was a pretty intense year,” Gotera says.

After graduation, he taught high school English but soon discovered he wanted to teach college students. He earned an MFA and a PhD and did just that for more than 40 years, landing at the University of Northern Iowa in 1995. Among his books of poetry are *Fighting Kite*, about his dad, and *Ghost Wars*, about the effects of war, which won the 2004 Global Filipino Literary Award in Poetry. He also won a creative writing fellowship in poetry from the National Endowment of the Arts in 1993, served for 16 years as editor of the *North American Review*, and for three years edited *Star*Line*, a long-running publication of the Science Fiction & Fantasy Poetry



Association (apt preparation for his latest book of poetry, *Dragons & Rayguns*). In his two-year term as poet laureate of Iowa, Gotera told the *Northern Iowan*, “I would like to dispel the stereotype that many people have about poetry that it’s hard to understand and it’s too damn serious.”

Gotera credits Stanford with giving him the skills and the courage he needed to pursue graduate education. His English professors on the Farm encouraged his love of writing, he says. For years, he kept in touch with Belle Randall, MA '73, a Stegner fellow who’d taught the first poetry course Gotera took, in his first year. “One of the things I loved about Stanford was that students were treated as family,” Gotera says. “Stanford was the most student-friendly university I’ve ever gone to. I’ve been to a lot.”



WORDS THAT SING: As poet laureate, Gotera travels throughout Iowa for readings and workshops. As a bassist, he plays in the blues-rock band *Deja Blue*.

THOMAS ISAKOVICH, '99

STOPPED OUT: **7 YEARS**

WHY: **TO RUN TRUESAN NETWORKS**

TODAY: **FOUNDER AND CEO OF NIMBUS DATA**



DURING THOMAS ISAKOVICH'S FIRST TWO years at Stanford, he spent early mornings at rowing practice and late nights launching a data storage start-up from his rooms in Larkin and the Theta Delta Chi house.

"It got to the point where I just didn't have time to go to class," he says. When his adviser

pointed out his low grades and said he would need to choose between his business and school, Isakovich stopped out. His adviser understood. His dad, on the other hand, did not. He said that if Isakovich left school, he'd have to pay his own way when he returned.

"I said, 'OK, well, the business is profitable,'" Isakovich says. "I'll keep my

expenses low, and I'll figure it out.' I had no idea what I was in for." Thus began a six-year odyssey as an entrepreneur, raising \$27 million from investors and later navigating the demise of TrueSAN when the dot-com bubble burst. Isakovich was 26.

"I decided I was going to start another company and keep it lean and mean this time," he says. That company became Nimbus Data, which he has run for 22 years. But his experience out in the business world also made him want to get back to school.

"Frankly, the day-to-day running of a business, there's a part of your brain that sort of slowly dies," he says. "I wanted to go back and exercise it again." Isakovich returned to Stanford full time in 2004, and after hearing a 2005 guest lecture by Condoleezza Rice, then on leave from Stanford to serve as secretary of state, chose to major in political science. He completed an honors thesis before graduating in 2006. "I was so proud of [it]," he says. "It completely gave a rebirth to that intellectual side of me that had been dormant for years. To turn it around and become a top student, that meant a lot. It's one of the things I'm most proud of in my life."

DIAL-UP: Isakovich built data storage arrays in his room during his first stint on campus. "Imagine—that giant system was probably 1/4 of the storage you have on your iPhone today," he says.



ARTHUR ALVAREZ, '03

STOPPED OUT: **10 YEARS**

WHY: **FOR HIS MENTAL HEALTH**

TODAY: **ASSOCIATE DIRECTOR OF QUALITY ENHANCEMENT
PLAN AT CLEMSON UNIVERSITY**



DURING HIGH SCHOOL in Fresno, Calif., Arthur Alvarez had a counselor who told him he had the potential to go to Stanford. So he made the Farm his goal. Once that dream came true, and he arrived on campus as a first-generation student, he realized he had no idea how to fit in.

"I freaked out," he says. "You have some of the top talent across the world there. I just immediately caved under all of it." There were complicating factors, Alvarez says. His hearing aids weren't working well, making it hard to follow along in class, and he'd had some anxiety issues in the past. College pressures brought them to a new level.

"I felt this intense amount of shame that made me afraid to leave my dorm room," he says. "Toward the end of October, I wasn't even going to classes anymore. I was just sleeping under my bed because I was just so scared to step outside of that door and go into a classroom."

Over the years, Alvarez took several mid-quarter medical withdrawals along with four leaves of absence. Many times, he thought of giving up, but says his Stanford advisers provided the encouragement he needed to make it to graduation. They also inspired his career choices. After graduation, he earned a master's in educational leadership at San Diego State and worked as a student adviser for three years at UC San Diego. Now at Clemson, he works with faculty, staff, and students to support experiential learning. "It is wonderful," he says. "This was the first time that I felt like I was able to utilize a lot of my knowledge."

His experience at Stanford made him want to help others beginning their higher education journey. "I got to see so many layers of the university as a result of various needs of my own, as well as resources that the university provided," he says. "Maybe I could help alleviate some of the stress I went through."



CORNERSTONE: Alvarez (top, right) became what he calls a "professional undergraduate." Today, that experience informs his career.



BY THE NUMBERS

What we know about the 8,000-plus stop-outs who crossed the finish line

6.5

Years, on average, from matriculation to graduation

69

Years it took the longest stop-out to graduate (1942–2011)

269

Average annual stop-outs completed by those who entered with the classes of 1997–2024, as compared with 19 per year for the classes of 1930–1996

902

Bachelor's degrees completed by stop-outs in their most frequently chosen major, computer science (the runner-up: human biology, at 627)

5

Alums who stopped out before CS became an undergraduate major in 1986 and returned to get a degree in it

GEORGIARY BLEDSOE, '80, MA '96

STOPPED OUT: **14 YEARS**

WHY: **MARRIAGE AND KIDS**

TODAY: **SEMI-RETIRED MUSIC INSTRUCTOR AT LOUISBURG COLLEGE**



GEORGIARY BLEDSOE stopped out after her sophomore year to get married—she'd fallen for a graduating senior. They moved to New York, where her husband worked for two years on Wall Street. Then they returned to Stanford, where he got his MBA and Bledsoe planned to finish her undergraduate work. But life intervened.

"I had one child by then and was eight months pregnant, so I put off going back," she says. "After I had four kids, I thought, *I'll never finish now. My brain has turned to mush.* I really gave up." Bledsoe worked as a stay-at-home mom for nearly a decade before taking a job as a substitute teacher in a San Jose school. She taught music and theater classes—and she loved it. When the headmaster encouraged her to get a degree so the school could hire her permanently,

she decided it was time to return to Stanford.

She graduated in 1994. But she didn't go to work at the high school. Encouraged by her adviser, she went to graduate school, earning a master's in music at Stanford, then a PhD in musicology at Duke in 2002, the

same year her youngest child graduated from high school. Since then, she's done postdoctoral work at Brandeis, taught at Duke, Tufts, and the University of North Carolina, and started Afrocentric music programs for youth across the country.

Looking back on her initial years on the Farm, Bledsoe says, "I was not prepared to really take advantage of the opportunity." Her goals changed as she matured, she says. "When I look back on it now, I am glad I did what I did. And I'm so glad Stanford made available the opportunity to come back. I wouldn't change anything."



IN THE WINGS:

Bledsoe acted in plays at Stanford in the '70s—including in *The Trial of Dedan Kimathi* (left)—but would wait more than a decade for her academic encore.

SUMMER SANDERS, '94

STOPPED OUT: **23 YEARS**

WHY: **POST-OLYMPIC OPPORTUNITIES**

TODAY: **SPORTS COMMENTATOR, SPOKESPERSON, AND
PHILANTHROPIC AMBASSADOR**



SUMMER SANDERS WON 10 NCAA national championship titles in her two seasons swimming at Stanford, then gained international fame when she won four medals in the 1992 Olympic Games.

After Barcelona, she took off one quarter from Stanford, then returned to campus as the most decorated swimmer of the Games. Resuming student life kept her grounded, she says. "It was a lot to handle. I would only do media on Wednesdays. My roommates would always answer the phone. They were the difference makers, to be honest."

For the next two years, Sanders juggled celebrity and college courses while launching a career as an NCAA commentator for CBS. She walked with her class at Commencement in 1994 but wasn't technically done.

"At first, I wasn't that worried," she says. "I knew I was coming back." But even after summer courses, she was seven units short—and by fall, she was busy working in L.A. Her career in television was taking off. She was already co-hosting MTV's beach game show, *Sandblast*; then she was an NBC analyst and host for the 1996 Olympics; and the gigs kept coming. But that unfinished business hung over her head. "There was always the ongoing stress of, 'When am I going to fit this in?'" Plus, there was a smidge of pressure. "My dad just couldn't understand. 'How can you not get your degree?'" she says. "Which of course, I wanted to. It was just fitting it into life."

As it turned out, the question wasn't when she'd do it; it was how. "I had to wait until online classes became a thing." In 2017, married, raising two children, and traveling for work, she was able to graduate with her

communication degree by transferring online credits from the University of Utah back to Stanford. When it finally

happened, she thinks she was more excited than her dad. "I knew he was proud of me, but I think in the end I did it for myself." ■

TRACIE WHITE is a senior writer at *STANFORD*.
Email her at traciew@stanford.edu.



**INDIVIDUAL
MEDLEY:** Sanders
finished her last lap
with online credits.





How documentarian Jeff Orlowski-Yang connects us with the world around us.

BY KALI SHILOH

IN MAY 2008,

24-year-old **Jeff Orlowski-Yang** disembarked from a helicopter on the stony tundra of western Greenland, then watched it fly away. He had one month until it would come back.

The novice documentarian had been dropped off alongside engineer and scientist Adam LeWinter with a few tents, a month's worth of food, and hundreds of pounds of camera equipment to try to witness one of nature's most elusive shows. The pair set up camp and carefully positioned five cameras. They recorded 24/7, sleeping in shifts, focusing first on one glacier, then relocating to another, hoping to catch ice at the front edge breaking off, a process known as calving. On day 18, with all cameras aimed at the Ilulissat Glacier, a low rumble broke through the wind. "It's starting, Adam, I think," Orlowski-Yang said, as one massive slab began to separate from the rest of the glacier. "Holy shit, look at that big berg rolling," LeWinter said. "Look at the whole thing!"

The entire three-mile face of the glacier was fracturing. For 75 minutes, Ilulissat's facade—more than twice the height of the Empire State Building—crumbled off in what still holds the Guinness World Records for both the largest and the longest glacier

calving event ever caught on film. In all, 7.4 cubic kilometers fell into the sea, and the glacier retreated by a mile.

Orlowski-Yang, '06, combined the record-setting footage with five years of additional filming to direct his first feature documentary, *Chasing Ice*. It premiered at the Sundance Film Festival in 2012, played in theaters for 27 weeks, and reached 15 million broadcast viewers. Orlowski-Yang followed that with two more critically acclaimed documentaries: *Chasing Coral* in 2017, which used underwater time lapses and videos to chronicle one of the most severe coral bleaching events in recorded history; and *The Social Dilemma* in 2020, which exposed the deep regret and concern of some of social media's major architects. All three films won Emmy awards, and *Chasing Ice* was nominated for an Oscar, for best original song.

Orlowski-Yang was drawn to documentaries because of their power to captivate. "It's one of the last mediums people will sit down and consume in long-form," he says. "Somebody will go and see a film for an hour and a half and leave the theater oftentimes transformed." And the audience is growing. The number of annual documentary theatrical releases has more than tripled since 2000, and it's the most in-demand type of unscripted content on streaming services, outpacing genres like reality TV and talk shows. More than 100 million people had watched *The Social Dilemma* within a year of its premiere.

Orlowski-Yang's newest film, a mini-documentary called *Chasing Time*, caps the first chapter of his career with a return to the glaciers—and people—that have shaped him. Its time lapses span 1.5 million photos and 15 years, offering the only opportunity to see the complete range of footage from the original film's now-decommissioned cameras. A 30-minute version premiered on PBS in November, and the full 40-minute director's cut will be available for free on ChasingTime.com beginning March 21, World Glacier Day.

"I don't think Jeff necessarily set out to found a production company to make millions of movies," says Larissa Rhodes, a producer and co-founder at Orlowski-Yang's studio, Exposure Labs. "I think it was really,



PICTURE THIS: Orlowski-Yang in high school, shooting a selfie. As editor-in-chief of the school newspaper, he oversaw the creation of a 9/11 commemorative issue.

JEFF ORLOWSKI-YANG



EXTREME FOCUS: For *The Social Dilemma*, Orlowski-Yang, with headphones, Rhodes, center, and the rest of the Exposure Labs team interviewed 21 tech experts, including eight alums.

truly: *How do I use film to show people what I'm witnessing in the world? And then how do we share that in a way that is compelling and moves people to want to do something?"*

THE FIRST BIG STORY

When Orlowski-Yang was a senior at Stuyvesant High School in Manhattan, he was witnessing the world as editor-in-chief of the school newspaper, the *Spectator*. One morning, during his first-period music class, he heard what sounded like giant truck doors slamming shut just outside. It was 8:46 a.m. on September 11, 2001.

His father, John Orlowski, was watching the news from their Staten Island home and immediately worried for his son. Stuyvesant was four blocks away from the Twin Towers, but it wasn't the school's proximity that concerned him. "My fear was that he was going to take his camera and run toward the buildings and start documenting," John says.

Orlowski-Yang began taking pictures as a 9- or 10-year-old, when his father set up a darkroom in the basement. He'd spend hours there, the Beatles or Jimmy Hendrix blasting in the background, as images appeared on photo paper as if by magic. "You were using your hands to literally paint with light," Orlowski-Yang says. His father, a high school social studies teacher, remembers Orlowski-Yang being particularly inspired by one image: "Tank Man," the famous 1989 photo from Tiananmen Square that showed a man standing alone, facing down a line of military tanks. "He said when he saw that photograph, it clicked in him:

the power of photography," John says.

As the Twin Towers were collapsing, Orlowski-Yang dispatched the *Spectator's* photographer and writers, intent on covering whatever was happening. In the weeks that followed, he led the creation of a 24-page commemorative issue with photos and reporting by students. When he saw the final product, he thought it warranted wider readership. His parents still aren't sure how he did it, but Orlowski-Yang found a paper supply company and a printer, got in touch with the *New York Times*, and persuaded them to include the edition as an insert. On November 20, 2001, 830,000 copies of the *Spectator* were distributed to subscribers in the New York metro area.

MEETING A MENTOR

By the time Orlowski-Yang entered Stanford, he was set on becoming a photojournalist—a neutral observer creating a record of important events. He took every photography course he could and got a job scanning photographs for professors.

But at a photo exhibition on campus, his plans faltered. As he stood alone, taking his time to consider one of the photos and read its caption, he saw a group of three students walk in, look around for a moment, and leave. They hadn't looked at any photo for more than a few seconds. "I just was like: *Shit*," he says. "I felt so bad for the photographer whose work was on display, and I was worried that my photography wouldn't have an impact in the world if people weren't going

to pay attention to it like that."

He related the story to his good friend and housemate Jack Conte, '06, who saw an opening. Conte, who made short films with friends as a member of the Stanford Film Society (SFS), had long been trying to persuade Orlowski-Yang to deploy his camera skills on the group's behalf. Armed with SFS's professional-style Panasonic DVX100 camera, Orlowski-Yang began to shoot short movies about an old Polaroid camera that trapped people in its film, or about a coin-operated human. "Here was a completely new take on the medium," he says. "I just utterly fell in love with it."

His schedule was perpetually packed—singing with the Talisman a cappella group or helping with photography shoots on campus—but filmmaking, both in and beyond SFS, began to take over, especially after a mutual friend connected Orlowski-Yang with renowned environmental photographer James Balog (see p. 61, with ice axe).

It was 2007, Orlowski-Yang's senior year, and Balog had recently founded the Extreme Ice Survey, a project for which he'd install 28 cameras at 21 glaciers around the world and stitch together time lapses of any change. Balog invited Orlowski-Yang to accompany him (for one week and no pay) if Orlowski-Yang could be his jack-of-all trades assistant and novice cinematographer, documenting the process of setting up the project's first time-lapse camera, at the Sólheimajökull Glacier in Iceland.

"It was the dream job," says Orlowski-Yang. It was also far outside of his comfort zone, which seems to be one of his favorite places. "If you stumbled out at 3 a.m. to go to the bathroom, you'd find him testing his snowshoes in the hallway," remembers Conte, now the founder and CEO of Patreon.

The tendency was hardwired. As a kid, when Orlowski-Yang first got a mountain bike, he went outside, sat on the bike without moving, and let it tilt until he fell to the ground, over and over again. He'd read an article about safe falling technique, and he wanted to practice falling properly. "He's not just an adventure risk-taker. He's hyper-strategic about what he does," Rhodes says.

In Iceland, Orlowski-Yang filmed Balog and his small team as they climbed up ice and

huddled against wind carrying two-by-fours, power tools, and a wooden mounting bracket. He assisted as they bolted the camera to the lip of a cliff so it faced the Sólheimajökull Glacier. What he lacked in experience he made up for through his fascination with studying camera manuals and a plan B, C, and D for every setback. “He’s kind of a mix of a Boy Scout and MacGyver,” says Svavar Jónatansson, Balog’s field assistant and the team’s native Iclander.

After graduating from Stanford, Orlowski-Yang continued to work with Balog as a

to replace a timer, or being dropped off by helicopter to nab Guinness World Records.

“I was totally hooked,” he says. “Totally friggin’ loved it.”

THE GREEN LIGHT

Though Balog wasn’t sure the Extreme Ice Survey team would capture anything worthwhile, the footage they retrieved over the next year revealed that a glacial pace was, in fact, rapid, with glaciers responding to weather and the temperature of the ocean by receding in weeks, days, and even hours rather than years. As Balog presented the photos in lectures around the country to wide-eyed audiences, it became clear that the project was more than a print spread in a magazine. In 2007, Balog pitched a documentary to National Geographic’s TV division.

Orlowski-Yang was adamant he could direct it, but Balog initially hired industry veterans to lead the film. “I just thought he was too green,” Balog says. However, after just a few months, when Balog fired the veterans for blowing through one too many deadlines, Orlowski-Yang asked him if he could do it on spec. “Let me take the footage home for the weekend,” Balog remembers him saying. “Let me cut a trailer for you and show you what I can do.”

For Orlowski-Yang, the story was not just one of climate change. It was the story of Balog—a man who’d devoted his entire life to his art, whose kneecaps were ragged from four decades of mountaineering, who was now, in his late 50s, pouring his soul into a project he hoped could leave a lasting impact on the world his children were growing up in. “I feel like my life has purpose in doing this,” Balog says straight to the camera in the film. “It’s what I was put here to do.”

Back in the office on Monday morning, Balog sat with his wife and a longtime office manager to watch the five-minute trailer Orlowski-Yang had made in less than 72 hours. “We were in tears,” Balog says, his voice catching. “Still brings me to tears right now, thinking about it.” The trailer was thoughtful and sensitive, Balog says, and Orlowski-Yang had a good sense of where the grandeur and the punch of the story would be.

He gave Orlowski-Yang the green light.



TROPHY TIME: Balog and Orlowski-Yang began collaborating in 2007, when Orlowski-Yang joined Balog’s Extreme Ice Survey team. The first film drawing from that footage, *Chasing Ice*, won an Emmy for Outstanding Nature Programming in 2014.

cinematographer and assistant, eventually moving to Boulder, Colo., where Balog lived, and following him around the world to install additional cameras and absorb his outlook on life. “In working with James, yes, he was a photojournalist, but he was really an artist with a message,” Orlowski-Yang says. “One of the biggest things that I learned from him was just the reality that I did have my own voice.” Orlowski-Yang earned money by making marketing videos and sizzle reels for the tech start-ups of his friends from Stanford. Then he’d be off, to Montana, or Alaska, or Greenland, riding sled dogs to a remote site

‘HE’S ABLE TO TAKE THIS THING THAT COULD SCARE AN AUDIENCE AND FIND A WAY TO GET THEM TO CARE AND TO FOCUS FOR THAT 90 MINUTES.’

CHASING DILEMMAS

It took five years, numerous complete remakes, and the hiring of experienced editors and producers, but in 2012, *Chasing Ice* premiered at dozens of film festivals and established a filmmaking signature for Orlowski-Yang and his new production company: The topics are heavy, and the research is rigorous, but the stories are simple.

“The big-idea films can sometimes just leave people cold,” says Basil Tsiokos, ’95, one of the senior programmers at the Sundance Institute, who selects films that will screen at the festival. One thing Orlowski-Yang does well, he says, is find a way to tell a smaller story, typically through an empathetic focal character like Balog. “He’s able to take this thing that could scare an audience—like, I don’t want to watch anything about climate change—and find a way to get them to care and to focus for that 90 minutes.”

That was especially true in Orlowski-Yang’s second feature film, *Chasing Coral*. The Exposure Labs team spent 3 ½ years filming the death of coral reefs in warming waters—a process known as bleaching. Though the movie is known for its eerie time-lapse footage of bustling coral communities turned to vacant oceanic graveyards, the journey of a young coral aficionado, Zackery Rago, is the soul of the story. When Orlowski-Yang met him, Rago was a recent college graduate working with an underwater camera equipment manufacturer. “I was, at that point, never even supposed to be on camera,” Rago says. But as the film progressed, Rago’s love for coral reefs and the emotional toll he described as he dove down every day to film the dying colonies became the heartbeat of the film.

“It’s not a science-first film,” Orlowski-Yang told Denver’s *Westword* magazine when

the documentary premiered in 2017. “We’re trying to keep the human story, the thread that gets people engaged, and the science is as little as you need to know to understand what’s going on.”

To find a human story in his third feature documentary, *The Social Dilemma*, Orlowski-Yang spearheaded an unconventional approach. The heft of the film came from interviews with 21 tech experts and executives (including eight alumni) sounding the alarm on their own work, explaining how the software they’d programmed to, for example, spread positivity (e.g., the Facebook “like” button) had been co-opted to exploit human attention. But the interviews were interspersed with scripted narrative scenes—the smaller story—of a family struggling against addiction to increasingly radical, one-sided social media content.

“Its value lies in pulling together some alarming if abstract concepts into a genuinely scary whole,” reads the *Wall Street Journal* review of the film. Though critics questioned the impact of the scripted scenes, audiences were rapt. Within four weeks of the film’s premiere on Netflix in September of 2020, 38 million people had watched it, and it became a most-watched film on the streaming service that year. In those same four weeks, the U.S. government subpoenaed chief executives at Google, Twitter, and Facebook to appear before Congress, and Facebook took the unprecedented step of issuing a 1,387-word public rebuttal to the film.

A GLACIAL PACE

Orlowski-Yang’s aspirations were small when he began working on *Chasing Time* in 2021. “The thought was: We’ll just make a YouTube update. It’ll only be, like, three to five minutes,” says Sarah Keo, the film’s co-director.

The update would feature Balog, Orlowski-Yang, and Jónatansson decommissioning the sole Extreme Ice Survey camera still in operation—the first camera they’d ever installed, at the Sólheimajökull Glacier in Iceland. “I’ve been dreading taking down this camera,” Balog says in the film. After 15 years, Balog was bidding a reluctant goodbye to the project that had filled him with purpose for nearly a third of his life. He’d had four knee surgeries, a hip replacement, and, most notably, a blood cancer diagnosis. (“I’ve never had that phone call from anybody,” Orlowski-Yang says in the film. “What do you do?”)

Chasing Time is as much about the mortality of people as it is about the mortality of glaciers. Telling that story, he and Keo decided, wouldn’t fit in a three-minute YouTube clip.

“I don’t think he ever set out to be my mentor,” Orlowski-Yang says in the film. “He sees the world through such a powerful lens—literal, figurative—and he had something he needed to say artistically.” It took years of looking at Balog through lenses, sitting next to him on helicopters, and being at the other end of his climbing ropes for Orlowski-Yang to internalize that conviction and realize that he, too, had something to say.

A lot to say, in fact. He and the Exposure Labs team are currently at work on five new feature-length films. They will be different from the *Chasing* films and *The Social Dilemma*. “The stories that we need now are of a completely different flavor,” Orlowski-Yang says. Though he’s reluctant to dig into specifics, he says that while the earlier films tried to illuminate problems, his upcoming films will focus more on solutions and frameworks aimed at repairing the rifts between humans and the world around them, especially the natural world.

The films are Orlowski-Yang’s way of saying something artistically. They’re his way of making an impact that will outlive him. And they are, in a sense, his way of answering a question he asks in *Chasing Time*: “How do you say thank you to somebody who’s changed your life? How do you say thank you to a mentor?” ■

KALI SHILOH is a staff writer at STANFORD. Email her at kshiloh@stanford.edu.



BY SAM SCOTT

ILLUSTRATIONS BY MARK MATCHO

POWER TRANSFER

WHAT *HEALTH INSIGHTS* FROM *ELITE ATHLETES*
CAN DO FOR *EVERY BODY*.



IF YOU'VE WORN AN APPLE WATCH, GARMIN, OR OTHER EXERCISE TRACKER, YOU'VE LIKELY ENCOUNTERED "VO₂ MAX"—A CALCULATION OF THE MAXIMUM VOLUME OF OXYGEN YOUR BODY CAN CONSUME WHILE EXERCISING. IT'S BECOME A WIDELY EMBRACED METRIC OF AEROBIC FITNESS

and predictor of longevity. A measurement of 54 (milliliters per kilogram per minute) is considered "superior" for a 30-year-old man, as is 47.4 for a 30-year-old woman. Stanford cardiologist **Euan Ashley** and his colleagues have their eyes out for those with scores far higher. Their ELITE study, which seeks to understand the genetic determinants of performance in top endurance athletes, has received DNA samples from

nearly 3,000 participants from 15 countries with an average VO₂ max of 73 for men and 61 for women.

Ashley, the chair of the department of medicine, is an expert in hearts in distress. His clinical focus includes cardiovascular diseases, cardiomyopathies, and a litany of other ailments. But as a lifelong athlete and a renowned geneticist, he also has a long fascination with hearts at their most powerful. He once set up a mobile lab to test finishers at the end of a 400 km endurance race in the Scottish Highlands. Conditioning only partially explains why certain athletes have cardiovascular capacity in the top 1 percent. The ELITE study seeks to shed light on the genetics underpinning the rest. "We're interested in learning from the people whose engines work better than anyone else's, how that's the case," Ashley says. The resulting insights may one day benefit athletes themselves—helping develop better training regimens based on genetic profiles, for example. But the goal is to aid those at the other end of the spectrum too. If the research finds, say, a genetic variant in an enzyme that helps an athlete's heart contract with extraordinary efficiency, scientists may be able to target that enzyme in hearts that pump poorly. "We hope to learn from the fittest hearts what we can apply to the sickest hearts," says senior research engineer **Maléne Lindholm**, who manages the study.

Such research has not often risen to the top of the

of bioengineering and of mechanical engineering. "Someone has to die in the first paragraph, or at least get very sick, and then you swoop in with science and save them." That approach has paid amazing dividends in our treatment and understanding of illnesses from diabetes to cancer, he says, but it comes with limitations. "Almost everything we know about health comes from studying disease," he says.

Delp leads an organization that inverts that model. The Wu Tsai Human Performance Alliance is a Stanford-based research partnership with locations at five other institutions that emphasizes the study and pursuit of peak performance, supporting efforts like ELITE. The Alliance launched in 2021 thanks to a \$220 million donation from Joe Tsai and Clara Wu Tsai, '88, MA '88. The couple's experience as owners of several professional sports teams—including the NBA's Brooklyn Nets and the WNBA's New York Liberty—convinced them of the need and opportunity for research into avoiding injury, improving rehabilitation, and optimizing achievement. The findings, they hope, will not only help athletes have better, longer careers but also broadly benefit the general population. "Impact for me means being able to affect the lives of as many people as possible—not just elite athletes," Wu Tsai says.

STAYING AGILE

The alliance takes a broad view of where to put its support. Each year, it awards numerous "agility" grants of up to \$100,000 for early-stage projects that have ranged from psychological studies of the relationship between mindset and performance to physiological inquiries into the connection between endurance and the gut microbiome.

One priority: learning more about female athletes, who have long been sidelined from research due in part to the data variability introduced by the menstrual cycle. A 2021 meta-analysis of papers in major sports medicine journals found that while women were included in 63 percent of studies, they made up only 1/3 of the overall participants; only 6 percent of studies were conducted exclusively on women, compared with 31 percent for men. Lara Weed, MS '22, a doctoral

funding pile. In a typical application for a biomedical research grant, it helps to directly address death and disease, says **Scott Delp**, MS '87, PhD '90, a Stanford professor



student in bioengineering, is leading a Wu Tsai-supported study that delves into issues she's had on her mind since her days as a teenage gymnast grappling with the effects of her menstrual cycle on flexibility. "I ended up getting a lot of back injuries that I think were primarily tied to the menstrual cycle," she says. "Your body physically moves differently during certain phases. It takes years to understand which symptoms are coming from the menstrual cycle versus just a random bad day."

The study—which examines how sleep, circadian rhythms, and the menstrual cycle combine in women to affect neuromuscular performance—used wearable sensors and urine-based hormone testing to monitor 50 women aged 18 to 30 for 28 days, twice bringing them into the lab for strength, coordination, and balance assessments at very different times of day: 3 hours before and 8 hours after their usual wake time. "We know the menstrual cycle affects performance, but it's also true that sleep and circadian rhythms are changing across the cycle, and that can confound things," Weed says. "The idea was to be able to tease apart which effects are really due to hormones, and which are due to circadian timing or sleep disruption."

Analysis of the data is ongoing, but the results will help provide a baseline of performance fluctuations across the menstrual cycle for use in future studies, she says. It's obvious from the reactions she receives that there's a great deal of desire for rigorous inquiry. "Every time I've presented this work—even in early stages—there's a lot of excitement, because it's one of those things that everybody kind of knows must matter, but there's not really any data," she says. "The fact that the menstrual cycle was affecting performance was not a secret, but it wasn't known what specifically it affects or what to do about it."

Similarly, Jonathan Long, an associate professor of pathology and a biochemist, is amassing data on another vital but mysterious physiological process. He's using two Wu Tsai agility grants to gain insight into two supplements—ketone ester and taurine—as part of his broader quest to understand the biochemistry of exercise. It's commonplace, he says, to refer to exercise as a medicine. And exercise has, of course, long been associated with a range of beneficial health outcomes, including preventing disease. But to call it medicine, he says, implies we know far more than we do. Long points out that when you pick up a prescribed drug at the pharmacy—like a statin—you also receive a long instruction manual describing everything from proper dosage to pharmacokinetics to possible adverse effects. Meanwhile, the prevailing federal advice on exercise,

issued by the Centers for Disease Control and Prevention, boils down to a call to move more and sit less with an aim of doing at least 150 minutes of moderate-intensity activity a week (more if you can). Moreover, Long says, not all scientists agree on what constitutes physical activity: Is it

gardening, marathon training, both? If we prescribed medicines like we prescribe

exercise, Long said at a Wu Tsai symposium in 2023, it would sound like this: "You should take some pills. Maybe you should take two. Maybe four. Maybe 10. Maybe you should spread your pills throughout the week, and of course the more pills you take the better it is for you." Long's previous research has shown that

different types of exercise—aerobic, anaerobic, and resistance—result in the production of different sets of molecules in the blood. (In a 2022 study, his lab found a previously unknown molecule called Lac-Phe that spikes after high-intensity exercise and explains why hard workouts suppress appetite.) Before we can prescribe exercise with the precision with which we prescribe medication, Long says, we need to probe which molecules do what when we engage in different types of physical activity. "If we really want to have exercise as medicine, in the way that we really understand modern medicines, if we want to be able to harness it and dissect it and give it to the right person at the right place at the right time for the right things, then we need to have a better understanding of what it is besides you move 150 minutes per week and live a better life."



FULL RECOVERY

In addition to the short-term agility grants, Wu Tsai provides sustained support for four aspirational, interconnected projects it calls "moonshots." One—the Molecular Athlete—supports the ELITE study and has a focus on decoding the biology and genetics of high performance. "We've learned so much in medicine from the ill," Ashley says. "What can we learn from the healthiest?" Another—Regenerative Rehabilitation—is a quest to restore damaged tissue to its preinjury strength, flexibility, and utility. For **Michael Longaker**, the professor of surgery leading Stanford's contribution to the effort, the moonshot





has provided new direction to an old obsession: preventing scarring.

When Longaker was a post-doctoral fellow in the late '80s, he operated on a fetal lamb that was then restored to the womb and subsequently born without the blemishes associated with incision. For Longaker, it was an unforgettable illustration of how scars are not the inevitable consequence of injury, but the result of a tactical shift late in gestation when the body switches to more rapid recovery. In a world of pathogens and predators, perfect repair becomes a luxury.

Scars are flawed fixes, “spot welds,” in Longaker’s words. Scar tissue in skin has no hair follicles and no sweat glands. It is less flexible and weaker than skin. And, of course, it looks different. Longaker’s work has helped decipher the chemical and physical signals that tell skin to make scars, which has led to a tantalizing potential therapy: verteporfin, a drug already on the market for macular degeneration. It turns off the master switch of scar formation—something called a Yes-associated protein. In animal models, wounds treated with verteporfin healed virtually scarlessly, raising hopes of transformative treatment. “We hope in the next year or two to start our clinical trial at Packard Children’s Hospital for cleft lip scar revision,” Longaker says.

Longaker says Wu Tsai leaders encouraged him and collaborator Derrick Wan, '97, a fellow plastic surgeon and professor at the School of Medicine, to think about how their work could apply within the body to areas key to performance and mobility. “They challenged us to say, ‘How could this be incorporated into other tissues beyond skin?’” Longaker says. Delp connected the two with orthopedic surgeon Geoff Abrams, '00, an associate professor at the School of Medicine who was working to reduce scarring and inflammation in tendons, which link muscles and bones.

Scarring is not as readily associated with tendons as it is with skin, our vast, visible external organ. But fibrosis—aka scarring—wreaks havoc in the interior of the body as well. It’s weaker, stiffer, and more prone to rupture, as anyone who has ever rehabbed an Achilles tear has worried about. Longaker and Wan say the mechanisms of scarring in tendons and muscles are not significantly different than those in skin. Their work with Abrams is testing potential small molecules that could inhibit the call to create scar tissue and instead promote good-as-new healing.

“Regenerative rehabilitation means that tissue will respond to injury and regenerate without a scar and be as strong as it was before, as soon as possible,” Longaker says. “We still want to see the healing be accelerated to full strength, not 80 percent strength. That’s something we think we can really contribute to.”

PERFORMANCE EVALUATION

THE ALLIANCE'S FOUR MOONSHOTS.

DIGITAL ATHLETE

MISSION: understand how athletes of all ages can train to achieve peak physical performance by creating predictive models to guide training and treatment

HEADQUARTERS: Stanford

REGENERATIVE REHABILITATION

MISSION: restore function to damaged tissues, accelerating healing, facilitating rehabilitation, and improving quality of life

HEADQUARTERS: University of Oregon

MOLECULAR ATHLETE

MISSION: map molecules and gene expression that occur during performance to help maximize performance, healing, and recovery

HEADQUARTERS: Salk Institute

MULTISCALE ATHLETE

MISSION: synthesize experimental measurements to predict molecular and cellular states of tissues and their effects on whole-body performance; serve as conduit for transferring knowledge from Molecular Athlete and Regenerative Rehabilitation to Digital Athlete

HEADQUARTERS: UC San Diego

The collaboration with Abrams happened only because of Delp's intervention, Longaker says. "There are 2,400 faculty members at Stanford. We could have collided at a drinking fountain at any time—we hadn't," he says. "Wu Tsai brought us together."

SOMETHING IN THE WAY THEY MOVE

When Delp was a 20-year-old college student, he was telemark skiing at Vail when he sustained a devastating tear to his psoas, a long muscle that runs from the lower spine to the top of the femur. It took 15 years—and many fruitless doctor visits—to fully recover from the injury. "No one knew how to fix me," he says. "I thought, *I've got to figure this out.*" The young engineering student switched his focus from solar and wind energy to the mysteries of the body, ultimately becoming the founding chair of Stanford's bioengineering department.

Delp leads not only Wu Tsai but its Digital Athlete moonshot, which focuses on creating predictive computer models to improve training and prevent injuries. In his quarter-century on the Stanford faculty, he has developed a lab that uses sophisticated motion-capture cameras and computer modeling to help people with conditions like osteoarthritis and cerebral palsy improve their movement. The work, he says, has paired naturally with assisting athletes. In both cases, Delp says, he is optimizing performance. "A kid with cerebral palsy is trying to stand tall," he says. "An athlete is trying to run faster. Their goals are different, but the underlying science is the same."

As part of the moonshot, Delp is working to put the power of his multimillion-dollar lab into smartphones. His team has developed an open-source tool called OpenCap that uses video to perform 3D-motion capture and biomechanical analysis. He's using it to develop an app that assesses an athlete's risk of injuring her anterior cruciate ligament—the ACL—a knee injury especially prevalent in girls and women. The app records an athlete doing a pair of movements—a run-cut maneuver and a single-leg drop jump—and breaks down the biomechanics to give a score indicating if the subject has resilient or injury-prone movement patterns. "About 70 percent of ACL tears are noncontact—they're not from getting hit but from how someone moves," says



WHOLE NEW BALL GAME: Performance lab data, such as sprint split times for Stanford outfielder Brady Reynolds, '27, can enable Wu Tsai researchers to provide training prescriptions that translate to on-field advantages.

Kirsten Seagers, MS '19, a doctoral student working on the project. "If you take a wrong jump landing or dodge a defender the wrong way, it's not bad luck—it's mechanics we can train."

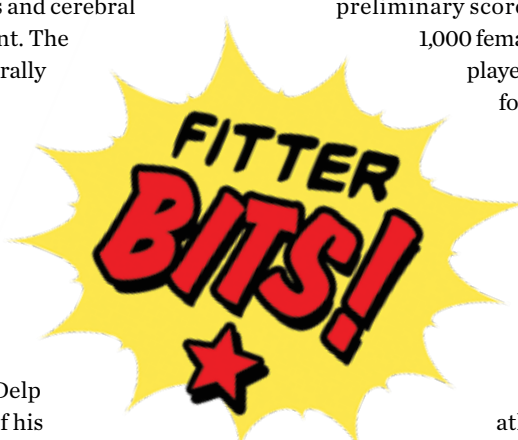
The Stanford women's basketball team took part in the study, to provide model movements and to receive preliminary scores. Now the lab is recruiting 1,000 female soccer, volleyball, and basketball players, ages 12 to 30, for a study that follows them over time to compare how their scores relate to injury outcomes. The goal is not just to identify risk but to reduce it.

"Thousands of papers describe the ACL injury problem," Delp says. "We're focused on changing it."

That could be as important for weekend warriors as top-level athletes. It's a model of the Wu Tsai approach. People don't die of ACL tears,

and surgery is better than ever at remedying them. But how much better to learn ideal ways of moving to avoid the pain, rest, and rehab altogether. "It's not about just athletes or Olympians—it's about everybody. We're all trying to do the same thing: stay healthy, strong, and able to live full," Delp says. "By discovering the fundamental principles that govern our ability to engage in life, and translating them to everybody, we can elevate everyone." ■

SAM SCOTT is a senior writer at STANFORD. Email him at sscott3@stanford.edu.





Stanford Summer Session

Share the Stanford Tradition

Stanford Summer Session invites visiting students to live and study on campus during the University's fourth academic quarter.

PROGRAM DATES: SATURDAY, JUNE 20 – SUNDAY, AUGUST 16

Visiting undergraduates, graduate students, and a limited number of advanced high school students take courses alongside current Stanford students, developing a global network of friends while experiencing life on the Farm.

Farewells

FACULTY

James R. Doty, of Los Altos Hills, July 16, at 69, of complications from a surgery. He was a neurosurgeon who specialized in tools to deliver targeted radiation treatments and founder of the Stanford Center for Compassion and Altruism Research. CCARE was dedicated to research and training in compassion practices in medicine and everyday life. His book *Into the Magic Shop: A Neurosurgeon's Quest to Discover the Mysteries of the Brain and the Secrets of the Heart* was a *New York Times* bestseller. Survivors: his wife, Masha; and sons, Alexander and Sebastian.

Stanley E. Fischman, of Cupertino, Calif., March 27, at 90, of dementia and a hip fracture. He was an associate professor of psychiatry and a child and adolescent psychiatrist at El Camino Health. He served three terms on the foundation board of directors and also on the physician advisory commission of El Camino's Genomic Medicine Institute. He helped create ASPIRE and MOMS, and supported the work of the Scrivner Center for Mental Health and Addiction Services. Survivors: his wife of 61 years, Linda; and two sons.

John Hurley Flavell, of Palo Alto, March 13, at 96. A professor emeritus of psychology and disciple of Jean Piaget, he coined the term "metacognition"—awareness of one's own thought processes—and specialized in young children's cognitive development. His work, cited nearly 20,000 times, helped reveal how children learn about appearance and reality. He served as president of the Society for Research in Child Development and received numerous awards from the American Psychological Association. He was predeceased by his wife, Ellie. Survivors: his children, Beth and Jim; two grandchildren; and three great-grandchildren.

Antony Charles Fraser-Smith, of Los Altos, June 16, at 86. He was a professor emeritus (research) of electrical engineering and geophysics. He left his native New Zealand to work at Lockheed's Research Laboratory in Palo Alto before arriving at Stanford in 1968. His work included groundbreaking insights into the fields of radio seismology and electromagnetic methods of submarine detection. He was predeceased by his son, Bill. Survivors: his wife of 57 years, Elizabeth (Birdsey, '60, MA '62); daughter, Julie; six grandchildren; and sister.

James Carter Van Horne, of Palo Alto, September 1, at 90, of liver cancer. The A.P. Giannini Professor of Banking and Finance, emeritus, he taught at the Graduate School of Business for more than four decades and was the first recipient of the MBA Distinguished Teaching Award. He examined issues such as capital budgeting, inflation, and financial innovation. He wrote five books and served as deputy assistant secretary of the U.S. Treasury. Survivors: his wife of 65 years, Mimi; sons, Drew, Stuart, '89, and Stephen, MA '97, MBA '97; and grandchildren.

1940s

Nancy Tait Cox, '48 (undeclared), of San Francisco, June 21, at 98. She attended the Katherine Delmar Burke School before enrolling at Stanford. She was predeceased by her husband of 64 years, Fred, '42, son Warren, and grandson Joshua. Survivors: her

sons Fred and William; three grandchildren; and five great-grandchildren.

Paul Raymond Baker, '49 (economics), of Glen Ridge, N.J., June 16, at 97, of heart failure. He earned a PhD from Harvard and joined NYU's faculty in 1965, revitalizing its American studies graduate program and winning the Mary C. Turpie Prize for outstanding teaching, advising, and program development. A prodigious writer, he published two major biographies of American architects and received an author award from the New Jersey Hall of Fame. Survivors: his wife of 53 years, Elizabeth; daughter, Alice Baker-Roberts; and three grandchildren.

1950s

Rita Kathleen Chow, '50 (nursing), of Arlington, Va., June 9, at 98. She earned a master's in teaching surgical nursing from Case Western Reserve University and a PhD in education from Columbia University. She worked as a nurse, educator, and public health advocate with a focus on improving care for older adults. A leader in

the Public Health Service and the Indian Health Service, and a captain in the Army Reserve, she was named a Living Legend by the American Academy of Nursing. Survivors include her nephews, Michael Lee and Daniel Wong.

Peter Albert Johnson, '50 (political science), of Palo Alto, July 9, at 96, of pneumonia. With a master's in Scandinavian area studies from the University of Minnesota and a master's in library science from UC Berkeley, he spent more than three decades as a reference librarian at Meyer and Green libraries at Stanford, where he also taught library courses and freshman seminars on Scandinavia. He was a deacon at Palo Alto's Covenant Presbyterian Church and a founding member of the Charles Schulz Museum. Survivors: his daughter, Jill Gold; and two granddaughters.

Richard Browne Kilner, '50 (communication), MBA '52, of Palo Alto, August 1, at 97, of Alzheimer's disease. He was a member of Alpha Delta Phi. His small Palo Alto business represented the operations of East Coast-based trade magazines on the West Coast. He was a Stanford football and basketball

A Water Expert for the Drought-Stricken West

Richard Luthy knew pretty much everything there was to know about water in California. His five decades as an environmental engineer led him from wading in San Francisco Bay to battling microscopic water pollutants in the lab to innovating new policy solutions for a water-starved American West.

"He was capable of thinking at the molecular level and a much larger statewide level about our future and our water," says his colleague Jeff Koseff, an emeritus professor of civil and environmental engineering. "It is not an exaggeration to say Dick Luthy became one of the most influential environmental engineers—if not the preeminent one—in the United States."

Richard Godfrey Luthy, a professor of civil and environmental engineering, remained active as a researcher and educator until his death on October 6 at Stanford Hospital following a cerebral hemorrhage. He'd planned to take students on a tour of campus water systems that day. He was 80.

"He loved taking students on field trips around campus," says Sarah Billington, professor and chair of civil and environmental engineering. "He knew where every sewer went. He knew about and worked in every branch of water quality. He just loved it."

Luthy was born on June 11, 1945, in Buffalo, N.Y., then moved to Kansas—where he developed a love for science, often playing with a chemistry set in the family garage—and later to Palo Alto. He joined the Navy Civil Engineer Corps in the early '70s and became a deep-sea diver, leading underwater construction projects.

By 1976, he'd completed a PhD in environmental engineering at UC Berkeley and joined the faculty at Carnegie Mellon University in Pittsburgh. He was recruited to Stanford in 2000.

Luthy's research on controlling water contaminants supported an inexpensive process for treating sediments using activated carbon in place of dredging. His lab once showed how a clam, left in a mixture of sediment contaminated with PCBs but with activated carbon added, absorbed 95 percent less of the man-made toxin than a control clam in untreated contaminated sediment did. His rural- and urban-water research demonstrated ways to capture and store surface runoff underground.

"Dick was really concerned about the sustainability and resiliency of water in California," Koseff says. "He embraced that whole vision of taking one drop of water and using it multiple times." In a recent Stanford publication, Luthy wrote, "There isn't a single activity that will solve our water problems, but conservation, recycling, desalination, stormwater capture, recharge, and water banking will go a long way."

On campus, he was known as a father figure to many, a lover of Stanford Football, and a calm presence who would end fractious meetings with the words, "It's time for a hamburger!"

Luthy is survived by his wife, Mary Sullivan; children, Matthew, Mara, and Olivia Saachi; and three grandsons.



—Tracie White

fan and loved Hawaii, surfing, and playing bridge. He was predeceased by his wife, Carol (Ackerman, '50). Survivors: his partner, Marilyn Mahan McAdams, '50, MA '64; sons, Scott, '74, and Brian; four grandchildren, including Derek, '06, and Melinda, '10; and three great-grandchildren.

David Duncan Elliott III, '51 (physics), of Palo Alto, August 6, at 95. He was a member of Alpha Kappa Lambda. He earned a PhD in high-energy nuclear physics from Caltech. He began his career as a research scientist at Lockheed Missile and Space Co. In 1970, he became the scientific adviser to the National Aeronautics and Space Council, and he later served as director for science and technology in the Executive Office of the President. He was predeceased by his wife, Arline. Survivors: his daughter, Laurie Elliott Croft, '86; and granddaughter.

Dana Lovejoy Johnson, '51 (economics), of Bellingham, Wash., August 27. He was a member of Theta Chi. He was an accountant who worked at firms in Honolulu and San Francisco before starting his own business and later buying a practice. He also launched a company that developed a machine to simplify harvesting and moving crops, particularly avocado trees. He was a longtime Rotarian and community volunteer. He was predeceased by his wife of 65 years, Christine. Survivors: his partner, Beverly Blom, '53; children, Lynn, CeCe, and Doug; three grandchildren; and two great-grandchildren.

Jean Yardley Charles D'Anne Gansa, '52 (history), of San Francisco, April 7, at 94. With a master's degree in psychology from Lone Mountain College, she opened a private practice and worked with the Guild for Psychological Studies for many years. She wrote, hiked, and loved the outdoors, especially adventuring at Fallen Leaf Lake. Her daughter, Roberta D'Anne, passed away in June. Survivors: her husband of 45 years, Alex; children, Drew, '85, Allan, John, and Paul D'Anne, and six grandchildren.

Hallett Mengel Luscombe, '52 (education), of El Paso, Texas, September 1, 2024, at 92. She supported a variety of causes, including the arts, mental health, the advancement of medical research, environmental initiatives, human and animal rights, and organizations working to fight hunger and poverty. She served on the board of St. Margaret's Orphanage of El Paso in the early '70s. She was a wonderful cook, baker, and tennis player, and enjoyed sewing, bird-watching, and gardening. Survivors: her children, John, Sherod, and Hallett; three grandchildren, including Elliot, '09; and great-granddaughter.

Carolyn Elisabeth "Bee" Johnson McPhail, '53, MA '54 (education), of Monterey, Calif., June 29, at 93. She taught elementary school in London and Berkeley and later assisted her husband at his law practice in Santa Cruz, Calif. She was a talented musician and artist, and she wrote adventure stories starring her grandchildren and co-authored books with her husband on estate planning. Survivors: her husband of 65 years, Ian; children, Mary Meeks, Andrew, and Alex; four grandchildren; and sister, Christine Johnson Farquhar, '56, MA '61.

Thaddeus "Tad" Norman Taube, '53, MS '57 (industrial engineering), of Belmont, Calif., September 13, at 94. He was a member of Sigma Nu/Beta Chi and played rugby. A Polish immigrant who served in the Air Force, he became an entrepreneur and went on to become a philanthropic and civic leader. He was a primary benefactor of Stanford, co-founding the Stanford Institute for Economic Policy Research and funding the Taube Family Tennis Stadium. Survivors: his wife of 28 years, Dianne; and

children, Mark, Paula, Sean, Juddson, MA '20, PhD '23, Travis, and Zakary.

Beverly Ann Albright, '54, MA '55 (education), of Mountain View, April 6, at 92. She taught at Woodside Elementary before marrying Donald Wells, '55, MS '56, PhD '63, and starting a family. Later, she worked at the Stanford Bookstore and helped establish Stanford's Catholic community as a parish within the Dioceses of San Jose. Survivors: her children, Eric Wells, '78, Valana Wells, '79, MS '81, PhD '85, Vanessa Wells, '81, Vanita Wells, '82, MS '84, Barrett Wells, '86, MS '90, PhD '92, and Barton Wells, '88; seven grandchildren; and three great-grandchildren.

Mary Baxter Harris Franks, '54 (psychology), of Leverett, Mass., January 22, 2025, at 92. She earned a master's degree in art history from the University of Massachusetts in her 50s and worked as the assistant curator of education at the Springfield Museums. She loved music-making, taking piano lessons, playing cello with Holyoke Civic Symphony, and learning the recorder with her daughter and playing with the Leverett Consort. She was predeceased by her husband of 65 years, Lewis, MS '53, PhD '57. Survivors: her children, Jan, Jill, and Dan; and three grandsons.

John Paul Hanna, '54 (political science), JD '59, of Palo Alto, August 6, at 93. He was a member of Delta Tau Delta and played soccer. He served as a captain in the Army Reserve. He was a leading land use and real estate lawyer in California for 65 years, and a prolific author whose books include *Teenagers and the Law*. An adventurous spirit, he rode his Harley from Kentucky to California, raced Ferraris, spearfished, and dove for abalone. Survivors: his wife, Barbara; daughters, Katie Hanna Dickson, '84, and Kristine; and three grandchildren.

Martha Nell Tucker Beatty, '55 (social science/social thought), of San Francisco, August 21, at 91. She worked at Thomas Cook Travel, co-founded Unravel Travel in 1969, sold it in 1993, and continued working in the industry for Frosch Travel until retiring at 90. She visited 108 countries, wrote travel articles, and published a guidebook. She was predeceased by her first husband, Alden Crow; second husband, Denis; and son, Tucker Crow. Survivors: her daughter, Alana Crow; stepdaughters, Deirdri Gladwin and Victoria Campbell; six stepgrandchildren; and two great-stepgrandchildren.

Alan Clark Chapin, '55 (economics), of Milwaukee, January 4, 2024, at 90, of Alzheimer's disease. He served in the Navy and, after studying Arabic, worked as an attaché to the staff commander for the Middle East Force. He later worked for different companies in New York as a sales and marketing manager, with accounts around the world. He loved his pets, working with his wife to restore their Victorian home in Milwaukee, and taking French and singing lessons. He was predeceased by his wife, Janet. Survivors include his nieces, nephews, and friends.

Jed Arthur "Art" Cooper, '55 (undeclared), of Panguitch, Utah, February 5, at 92. He was a weather observer in the Air Force. He was a faculty member at the University of Arizona and the University of North Texas. He was elected to the Utah State Legislature, worked in Panama for USAID, was mayor of Panguitch, and served a mission for the Church of Jesus Christ of Latter-day Saints. He was predeceased by his daughter Carmen Joy Standiford. Survivors: his children, Carolyn Stacy, Christian, Clifton, and Carlton; 20 grandchildren; 21 great-grandchildren; and sister.

Mary Oliver Loomis Dorn, '55, MA '56 (education), of Edina, Minn., July 11, at 91. She opened her heart and family home to young single mothers. She also served as a spiritual director at the Cenacle Retreat Center, where she helped develop one of the country's first credentialed spiritual director training programs. She was known for her passion for learning, dry humor, and keen ability to listen. She was predeceased by her husband of 67 years, Ernie, '56. Survivors: her sons, David, Scott, Mark, and Rich; 16 grandchildren; and four great-grandsons.

John Reed "Hap" Easter, '55, MA '58 (education), of Medford, Ore., May 17, at 92, of prostate cancer. He played rugby. He was a high school science teacher and coach. He was also a school district supervisor overseeing computer-based teaching and learning programs and student data management. An avid follower of Stanford sports, he devoted part of his retirement to traveling to games throughout the western United States. Survivors: his wife, Peggy (Tatum), '57, MA '60; three children; three grandchildren; great-grandson; and brother, Jim, '57, MA '63.

Hugh Brasher Haskell, '55 (physics), of Longmont, Colo., June 20, at 91. He earned a master's degree and PhD in physics from the Naval Postgraduate School while serving in the military for 22 years, including in Antarctica. He was on the faculty of the North Carolina School of Science and Mathematics for 18 years and coached the U.S. Physics Olympics teams. He was predeceased by his first wife, Elizabeth (Fell), '57, MA '58, and daughter. Survivors: his wife Diana; sons, Robert and David; stepchildren, Katherine and Bradley Queen; step-granddaughter; and brother.

William Devereux McCarthy, '55 (undeclared), of Santa Fe, N.M., January 16, 2025, at 91. He was on the crew team. He worked at General Mills and the Minneapolis Grain Exchange. In response to his wife's interest in ceramics, they bought Minnesota Clay Company, and he later started Santa Fe Clay Company, selling potters' supplies all over the Southwest. He helped found the Buck Hill ski area in Minnesota. He was predeceased by his wife, Marnie. Survivors: his children, Dan, Sarah Madrid, Molly McCarthy Lacy, and Laura; seven grandchildren; and four great-grandchildren.

Lucia Carole Cole Millhauser, '55 (undeclared), of San Mateo, Calif., June 17, at 90. The parent of four by the age of 25, she juggled school activities, dinner parties, and volunteer work, including at the Coyote Point Junior Museum Auxiliary. She was an active grandmother, tennis player, and member of First Presbyterian Church of Burlingame. She was predeceased by her second husband, Robert. Survivors: her children, Mark Showen, '77, Richard Showen, Scott Showen, and Nancy Showen, '83; nine grandchildren, including Eric, '09, Amy, '12, and Kelly Showen, '14; and two great-grandchildren.

Ronald Ellis Nunn, '55 (undeclared), of Brentwood, Calif., August 8, at 92. He was a member of Sigma Chi. He played semi-pro football for the Antioch Hornets before being drafted into the Army. He ran farming operations in Fresno and Contra Costa counties and created Blackhawk Nunn, a real estate venture that developed more than 5,000 homes. He served on the Brentwood school board and, in 1991, a new grammar school was named after him. Survivors: his wife, Shirley; children, Lindsey, Laura, and Bob; and three grandchildren.

Richard Alfred Scramaglia, '55, MA '57 (education), of Healdsburg, Calif., August 3, at 92. He was a member of Alpha Tau Omega and the first Stanford freshman to play varsity baseball. He played

professional baseball in three different leagues with the Oakland Oaks, Stockton Ports, and Tri-City Braves. He left his baseball career to serve in the military. He taught middle and high school for more than two decades and coached varsity baseball. Survivors: his wife, Joyce; children, Richard, Rina Gerstley-McCarthy, Nora Bulloch, and Maria Smith; 10 grandchildren; and four great-grandchildren.

William John "Jack" Welch, '55 (physics), of Berkeley, March 10, 2024, at 90. A professor at UC Berkeley and co-founder (with his wife) of the SETI Institute, he was a pioneering astronomer whose work in radio astronomy advanced the search for extraterrestrial technology. He was known for starting the field of millimeter-wave interferometry, and his research led to discoveries in star formation. He directed Berkeley's Radio Astronomy Laboratory for 25 years. He and his wife built the first and only observatory created specifically for SETI research. Survivors include his wife, Jill Tarter.

Eleanor Lee Evans Willms, '55 (English), of Medford, Ore., May 14, at 92. She was born in Honolulu and lived with her parents in Argentina for two years. After marrying, she and her husband lived in Texas, California, New Jersey, and Tennessee before retiring to Oregon. Survivors: her husband of 69 years, Fredric, '55, MS '61; daughters, Lindsay Pavel, Claire Cantu, and Kura Maidana; seven grandchildren; and three great-grandchildren.

Janet Ruth Stein Wright, '55 (sociology), of Palo Alto, June 15, at 92. She was an administrator in the computer science department at Stanford and later served as the geology department's lead administrator. She had a lifelong love of travel and visited numerous countries, as well as much of the United States. She sang in the chorus for West Bay Opera and collected California art. She was predeceased by her daughter Elizabeth. Survivors: her daughter Lesley, MA '85, PhD '93; two grandchildren; step-granddaughter; and two great-granddaughters.

Ernest Edward Hunt III, '56, MA '65 (history), of Dallas, May 29, at 91. He was a member of Theta Xi. He was an ordained Episcopal priest, rector, and Army chaplain who went on to earn a doctor of divinity from Princeton Theological Seminary. He was the dean of St. Matthew's Episcopal Cathedral in Dallas and later of the American Cathedral in Paris, France. He was the author of more than a dozen books. Survivors: his wife of 66 years, Elsie; children, Elizabeth Hunt-Blanc and Ernest IV, '81; four grandchildren; and great-grandson.

Eileen L. Toothaker Lehmer, '56 (art), of Portola Valley, Calif., November 27, 2024, at 90, after a stroke. She earned a master's in art education at Cal State Long Beach. She served on PTAs, taught Sunday school, and hosted neighborhood and church get-togethers before becoming the accountant, treasurer, office manager, and HR director for her husband's structural engineering firm. Survivors: her husband of 68 years, Gerald, '55; children, Brenda Lehmer Robinson, '86, Ken, MS '82, and Jeff, '83; eight grandchildren, including Joy Robinson, '18, and Larisa, '08, MA '09; and three great-grandchildren.

Donald Howard Nichols, '56 (electrical engineering), of Queensbury, N.Y., June 14, at 94. He spent 35 years at General Electric's offices in Hudson Falls and Fort Edward, marketing industrial electrical equipment. In retirement, he and his wife operated the Saratoga Sleigh inn for 21 years. He was a Boy Scout leader and loved boating and camping. He was an expert woodworker, skied beautifully into his 80s, and would sing goofy songs on the ukulele. Survivors: his wife of

67 years, Cynthia; children, David, Jeffrey, and Leslie; two granddaughters; and great-granddaughter.

Marilyn Lee Stanton Scruggs, '56 (French), of Ponte Vedra Beach, Fla., July 21, at 91. She was predeceased by her husband, Richard, '56. Survivors include her daughters, Karen Wilkinson and Catherine Rooney.

Richard Mitchell Scruggs, '56 (civil engineering), of Ponte Vedra Beach, Fla., May 24, 2024, at 90. He was a member of Phi Kappa Sigma. He served in the Navy as a jet pilot for 30 years. His wife, Marilyn (Stanton), '56, died in July 2025. Survivors include his daughters, Karen Wilkinson and Catherine Rooney.

Richard Spencer Woodward, '56 (history), of Sherwood, Ore., August 28, 2024, at 90, of cancer. He was a member of Theta Xi. Survivors include his wife, Mary; and sons, Brendan and Ryan.

Richard Allen Foster, '57 (electrical engineering), of Fullerton, Calif., August 4, at 90. He began his career in the defense industry at Interstate Electronics in Anaheim, Calif., while simultaneously working toward his MBA from UCLA. He retired as president in 1991. He was predeceased by his children, Susan and Kenneth. Survivors: his wife of 71 years, Cynthia; four grandchildren; seven great-grandchildren; and sister.

Lynn Lowenson Marks, '57 (education), of Portland, Ore., September 5, at 89. She participated in Ram's Head. She taught at Multnomah Elementary School in Portland. She loved the beach and vigorous walks and enjoyed more than 70 trips with the Stanford Travel/Study. She and her husband were active philanthropists and established the M and L Marks Family Fund through the Oregon Community Foundation. She was predeceased by her husband, Milton "Mickey"; and daughter, Lianne Klein. Survivors: her sons, Michael, '85, and Leland; and brother.

Theodore Joseph Templeton, '57 (civil engineering), of Fremont, Calif., January 28, 2025, at 90, of multiple myeloma. He served in the Air Force. He worked as a civil engineer with CalTrans and Alameda County Flood Control. He took pride in landscaping his backyard, tending to his fruit trees, researching home projects, and fixing things himself. Survivors include: his wife of 57 years, Elizabeth; children, Laura Willson, Victoria Henderson, and Bruce, '94; and eight grandchildren.

Thomas King Wyatt, '57 (biological sciences), of Palo Alto, May 29, at 89. He had a distinguished career as a bilingual dentist, serving patients and multiple generations of their families over nearly 50 years. A skilled pilot, mariner, and engineer, he found his greatest joy in the air, on the water, in a duck blind, and in his workshop. He was a masterful guitar and ukulele player. He was predeceased by his wife, Sheila. Survivors: his children, Kelly Atkinson and Mike, '90, MBA '94; and three grandchildren, including Morgan, '25.

Sandra Walpole Handler, '58 (hearing & speech sciences), of San Francisco, June 18, at 88. She earned a master's degree in education from Harvard and worked with hearing-impaired children in the San Francisco Unified School District. She later became the dean of behavioral and social sciences at City College of San Francisco. She loved gin (the card game and beverage), long walks, movies, and the *New Yorker*. She was predeceased by her husband, Louis. Survivors: her children, Daniel and Rebecca; and three grandchildren.

Rodney L. Bailey, '59 (economics), MBA '61, of Salem, Ore., June 15, at 87, of pancreatic cancer. He built Evergreen Services Corporation, a thriving landscaping company, and was a founding

member of the Washington Association of Landscape Professionals, where he helped to shape the professionalism and growth of the industry he loved. He later became a business management and financial consultant at Alder Springs Enterprises. He was predeceased by his wife, Sue (Pullin, '61). Survivors: his children, Elizabeth Earls, Will, and Ben; and three grandchildren.

Patrick Weems Hurley, '59 (mechanical engineering), of Los Ranchos, N.M., July 15, at 88. He was a member of Phi Gamma Delta. He served in the Army. He was an engineer at Sandia National Laboratories before shifting his focus and earning a law degree. He specialized in real estate transactions and estate planning for more than 50 years and founded The Hurley Law Firm. He loved the mountains and New Mexico artists. Survivors: his wife of 65 years, Elois "Nannette" (Greenwood, '60); children, Suzanne Hurley McCombs, '83, Patrick, and Davis; and five grandchildren.

1960s

Bridget McColl Hursley Dobson, '60 (English), MA '64 (communication), of Atlanta, January 3, 2024, at 85. She and her husband were a prolific writing team, working on *General Hospital*, *Guiding Light*, *As the World Turns*, and *Santa Barbara*, and winning multiple daytime Emmy Awards. She earned an MBA from Harvard as a member of the first class to include women. In retirement, she wrote a musical and her paintings were featured in multiple museums. Survivors: her husband, Jerome, '60; and daughter, Mary, '84.

Thomas Little Jeffries, '60 (history), of Pacific Palisades, Calif., January 13, 2023, at 85. He was a member of Zeta Psi and the gymnastics team. He worked for the family business, Jeffries Banknote (founded in 1894), and later became CEO of Pandick Technologies. He and his second wife enjoyed decades of adventures around the world; biking, hiking, skiing, and fly-fishing. He was predeceased by his daughter Jennifer, '82, MA '83. Survivors: his wife of 43 years, Mary; children, Julianne and Billy; and three grandchildren.

Donald Gene Peter, '60, MA '61 (education), of Burlingame, Calif., July 14, at 87. He was a member of Zeta Psi and played football and rugby. For 36 years, he taught history and coached football at Downey, Mills, and Burlingame High Schools. He founded and coached the national championship-winning Burlingame Rugby Club. He was an active member of St. Ambrose Episcopal Church. He was predeceased by his first wife, Sally Blevins. Survivors: his wife of 26 years, Elizabeth; children, Carolyn, Brian, and Elizabeth; stepsons, Robert and William Bradford; 10 grandchildren; and two brothers.

Harry Arnold Ratner, '60 (biological sciences), of Monte Sereno, Calif., May 6, at 87. In addition to Stanford, his education included the Army Navy Academy, UC Berkeley, and San Jose State, where he earned his CPA degree. He built his life around family and was the devoted, kind, and generous patriarch of four generations. He was a source of quiet strength with a limitless reservoir of unconditional love. Survivors: his wife of 62 years, Marcia; children, Julie Ratner Sachse, '02, Mimi, Maralissa, Morris, '88, and Dawn; six grandchildren; and great-grandchild.

William Albert Clark, '61 (economics), of Falfurrias, Texas, September 25, 2023, at 84. He was a yell leader and played golf and soccer. He earned an MBA from Harvard and devoted his professional life to helping people in his community as a local banker. He traveled widely and was an accomplished hunter

and photographer. He regaled friends and family with stories and pictures from across the Americas, Europe, and Africa. He was predeceased by his wife of 56 years, Peggy. Survivors: his daughter, Kittie; and two grandsons.

Mary Anne Dolen, '61 (nursing), of Thomasville, Ga., December 28, 2024, at 85. After receiving her nursing license, she entered and served with the Dominican Nuns in San Rafael. During a 50-year career in nursing, she served as an educator and patient advocate. She earned a master's degree in nursing from the University of Colorado and a doctorate in public health from the University of Texas. Later she taught at Thomas University, Florida State University, and the University of Phoenix.

Mary Allen Griffing Spindler, '61 (history), of Lincoln, Mass., July 11, at 85. She played basketball. She earned a master's degree in education from Harvard. She was an elementary school teacher at Hanscom Air Force Base, where she would ask students to listen to music and draw what came to mind. She also tutored reading at the Carroll School in Lincoln and worked at the Lincoln Library. She sang in her church choir for decades. She was predeceased by her husband, James. Survivors: her sons, David and Henry; and five grandchildren.

Catherine Scott Wolfe Tennican, '61, MA '63 (hearing & speech sciences), of Los Angeles, November 16, 2024, at 84, of heart failure. She participated in student drama. She was an audiologist and speech pathologist who also worked in teleconferencing, retail, and commercial real estate before devoting most of her time to supporting community and charitable organizations. An avid athlete, she played tennis, squash, and golf and liked to ski and windsurf. She enjoyed adventures around the world. Survivors: her children, Liz, '90, MBA '97, and Geoff; grandson; former husband, Mike, '60; and sister.

Susan Melinda Artero Basso, '62 (international relations), of Menlo Park, January 7, 2024, at 82. She earned a teaching credential at Notre Dame de Namur University and taught history at the high school level. She loved to read, swim, and play piano, and she was an astute and self-trained stock investor. She found joy in helping to raise her grandchildren who called her "Granny Sue." Survivors: her husband of 60 years, Lawrence; children, Stephanie, Cristy Barnes, and Tony; five grandchildren; a sister, Mary Louise Artero Bava, '76, MS '78; and brother.

Kathryn Jane Burke, '62 (English), of San Francisco, July 28, at 85. She lived in Germany, Bellingham, Wash., and New York City, where she worked in university administration and student organizing at CUNY. She was a founding member of the District 3 Democratic Club of San Francisco and served as voter registration chair. A champion of progressive causes, she supported organizations like the ACLU, Southern Poverty Law Center, and NAACP. She was active in Alcoholics Anonymous for more than 40 years and cherished cold-water swimming. Survivors include her brother, Bob.

Robert B. Harrington, '63 (undeclared), of Palo Alto, June 8, at 84, after a short illness. He played golf. He was in the Marine Corps Reserve. During his 25-year investment career with Dean Witter (now Morgan Stanley), he created the Immediate Sale Program and was a radio and television commentator for over 20,000 business reports. He was a civic leader and supporter of community projects. Survivors: his wife of 64 years, Margaret, '80; children, Melissa Whiting, Elizabeth Kristofferson, Steven, and David; 10 grandchildren; eight great-grandchildren; and sister.

Kathleen Lusignan Jones, '64 (French), MA '66 (education) of Berkeley, February 8, at 82. She played tennis. She studied Chinese, learned to cook a variety of cuisines, and opened a successful Mexican restaurant in Toledo, Ohio. She loved skiing, backpacking, tennis, film, theater, and spending summers in Telluride, Colo. She visited every continent, often cycling hundreds of miles through the mountains, villages, and countryside. Her husband of 58 years, Henson "Hans," MBA '65, died in April. Survivors: her children, Cameron, Leland, MBA '00, and Tegan; and six grandchildren.

Fred Haruz Altshuler, '65 (history), of San Francisco, November 20, 2024, at 81. He was a member of Delta Chi. He was a lawyer with California Rural Legal Assistance before joining the U.S. House Judiciary Committee's bipartisan special staff looking into the possible impeachment of President Richard Nixon. He co-founded Altshuler Berzon, a law firm focused on social and economic justice that helped restore health insurance to retired miners and restore the San Joaquin River. Survivors: his wife of 41 years, Julie Cheever; children, Norma and George; and three grandchildren.

Mary Louise Dederer, '65 (English), MA '66 (education), of Palo Alto, April 23, at 81. She taught English at the high school level for many years and later at San Jose State. She worked with California Poets in the Schools and published two books of poetry. She lived in the Santa Clara area for her adult life, maintaining close friendship with many fellow Stanford grads. Survivors include her brother, Thomas.

Dale Roy Herspring, '65 (political science), of Wichita, Kan., July 15, at 84. He earned a master's degree in government and a PhD in political science. He served with distinction in the Navy for 32 years. He was later hired at the National War College in D.C. and then Kansas State University, Manhattan, where he was a political science professor and department head. He played a pivotal role in pre- and post-Soviet block policy. Survivors: his wife of 60 years, Maureen (Phillip), '65; children, Larissa, Kurt, and Kyle; and seven grandchildren.

Gary Ralph Severson, '65 (economics), MBA '67, of Gig Harbor, Wash., August 20, at 81, of Parkinson's disease. He was a member of Alpha Tau Omicron. He served in the Air Force. He held leadership positions at Bank of America, Security Pacific, and First Interstate Bank. Later, he held directorship positions on over 30 nonprofit boards, universities, and foundations. He was predeceased by first wife, Madge, and son Matthew. Survivors: his wife, Kit; second wife, Cheryl; children, Robert, Carley Kahn, and Elin; stepchildren, Nevis and Kya Granum; five grandchildren; and three siblings.

Judith Lynn Werner, '65 (anthropology), of Parma Heights, Ohio, April 2, at 81, of lung cancer. She earned a master's degree in Middle East studies from Harvard. She worked for the U.S. Department of the Army and U.S. Department of the Navy, developing curricula and writing medical and health manuals. She ardently supported the Humane Society, PETA, and other animal welfare agencies; cared deeply about the environment; and loved reading, classical music, and in-depth phone calls. Survivors include her friends, Irma Laszlo and Lynn Lontos, and caregiver, Diamond Porter.

Gwendolyn Beryl Shumway Wharton, '66 (nursing), of Boulder, Colo., February 1, at 81, from an injury suffered in a fall. She worked as a pediatric nurse and visiting public nurse and ended her career as a school nurse. She made friends

wherever she went, in her community, at church, and through her many hobbies. A committed volunteer, she supported the League of Women Voters and National Alliance on Mental Illness, to name a few. Survivors: her husband of 57 years, William, '65; children, Ruth McMillan, Kenneth, '92, and Paul; and granddaughter.

Duane Roger Iverson, '67 (history), of Lake Oswego, Ore., April 05, 2024, at 79, of acute myeloid leukemia. He was a member of Phi Sigma Kappa. He earned his medical degree from Northwestern and completed his residency at Oregon Health & Science University. He practiced internal medicine at Cascade Physicians and was affiliated with Good Samaritan hospital in Portland, Ore. He was kind and affable, and loved golfing, fly-fishing, travel, reading, and classical music. He was predeceased by his wife of 40 years, Patricia. Survivors: his wife, Lani Bidgood; daughter, Kristen; and brother.

1970s

Barbara Elva Rust Berring Ward, '71 (German studies), of Nipomo, Calif., June 25, at 75, cancer. She played tennis. She earned her master's degree in German at UC Berkeley and taught high school before attending dental school at Tufts and practicing as a dentist. She was active in the Stanford Women's Alumni Organization, was a certified Zumba Silver instructor, and traveled widely in Europe and Asia. Survivors: her husband, Cameron; children, Kate Berring, Daniel Berring, '09, and Simon Berring, '06, MS '07; stepchildren, Shannon and Owen; and former husband, Robert Berring.

Frederic Timothy Clock, '72 (political science), of Palo Alto, May 1, at 76, of a ruptured aorta. He was a member of Theta Xi. He moved to Israel after graduating from Stanford and then to Geneva as an intern with the United Nations. He earned an MBA at the Monterey Institute and a master's degree in political science at UC Irvine. He was a member of Mensa, a substitute teacher, and Safeway employee for 26 years. He enjoyed motorcycle trips and family genealogy. Survivors include his brother, Charles, '69, MBA '75.

Bruce Philip Nethercut, '73 (history), MA '76 (communication), of Los Angeles, August 13, 2024, at 73, of cardiac arrest. After graduation, he moved to Los Angeles to pursue screen writing. He also worked as a high school tutor, was an active volunteer at the food bank, and frequently helped serve charity-provided Thanksgiving meals. He enjoyed the Southern California climate, the Angels more than the Dodgers, and Korean street food. He kept his family current on all genres of music and animation studio innovations. Survivors include his sisters, Gail and Anne. **Theodor Charles Albert Jr.**, '75 (history), of Orange, Calif., May 5, at 72, of cancer. He was a member of Sigma Chi and the *Stanford Daily* staff. He co-founded Albert, Weiland & Golden and, 10 years later, was appointed by the U.S. Court of Appeals for the ninth circuit as a bankruptcy judge. In 2022, he was named chief bankruptcy judge for the Central District of California. He wrote a treatise on the Roman origins of bankruptcy law. Survivors: his wife, Deborah; and sons, Brendan, Brian, Sean Van Braden, and Casey Braden.

Christopher Brian Ponce, '77 (human biology), of Redding, Calif., July 13, at 69, of liver failure. A skilled higher education fund-raiser, he worked in Stanford's Office of Development for 19 years, directing the Stanford Fund and individual giving. As the vice

president for advancement at Pomona College, he was instrumental in raising \$316 million, and he later served as associate vice president for development at Whitman College. He loved playing soccer and distance running, but reading sustained him. Survivors: his wife of 44 years, Lisa (McPherson, '79); daughter, Avery; and sister.

1980s

Henry Allen Hartman II, '81 (chemical engineering), of Cary, N.C., May 8, at 66, of brain cancer. He was a member of Beta Theta Pi. With an MBA from NYU, he enjoyed a decades-long career in the computer and networking industries at IBM, Enterasys, and Extreme Networks. In retirement, he was a tax preparation volunteer for AARP and co-owned the Great Yarns store with his wife. Survivors: his wife of 38 years, Pamela (Wright, '82); children, Samuel, Grace Parce, Joshua, and Benjamin; and two sisters, including Amy Hartman White, '82, MS '84.

Renee Richards, '81 (communication), of San Francisco, March 9, at 65, of lung cancer. She played lacrosse and was in student government. A lawyer at Hassard Bonnington, she was a trial attorney with expertise in patient privacy and provided invaluable advice to psychiatrists and other physicians during her career. She was a member of the San Francisco-Marin Lawyer Referral and Information Service Committee for over 20 years. She was a vital, vibrant, inspirational force in the office and in court. Survivors: her husband, John Hill; and son, James Hill.

Bret Eugene Fuller, '83 (mathematical and computational science), of Roxborough, Colo., August 10, at 64. He was a member of Phi Delta Theta. His successful career in software and IT, at Ask and then Oracle, was marked by numerous achievements and an extraordinary ability to lead and manage. He was a hunting and fishing enthusiast, an enormously proud father, and a devoted Stanford Cardinal and ISU Cyclones fan. Survivors: his wife, Roxanne Green; daughters, Morgan Fuller

Kolsrud, '12, and Kelly Fullmeyer; stepchildren, Payten and Austen Green; four granddaughters; and father, Wayne.

Ricardo L. Ortiz, '83 (economics and English), of Washington, D.C., August 18, at 63, of a heart attack. An English and American studies professor at Georgetown University for more than 25 years, he expanded humanities departments and helped institutionalize the Latine and queer studies departments. He frequently taught in the Community Scholars Program for first-generation and low-income students and was a faculty sponsor of many programs supporting underrepresented students. He published two books on Latine studies. Survivors: his partner of four years, Paul O'Neill; and sisters, Ana and Ana.

Kimberley Anne Sankey Martinez, '84 (economics), MBA '88, of Kensington, Calif., July 25, at 63, of Alzheimer's disease. She was a member of Kappa Kappa Gamma. After a career in investment banking and investment management, she left finance to devote herself to parenting, filling the family's home with music and other enriching activities. She was board chair of Kid's Turn, a nonprofit that helps children of divorce, and served on the board of directors of her children's school. Survivors: her husband, John; children, Alex, Miles, and Tara; father, Noel; and two brothers.

1990s

Jamie Donald Peña Williams, '97 (psychology), of Vallejo, Calif., October 9, 2024, at 49. He earned a master's in computer science and information technology from CALMAT University of Management and Technology in 2012. He was a senior college adviser with USNCA, an educational consultant in the Bay Area, and a director of marketing and business support at Stanford, where he worked for eight years. He traveled widely, including to Scotland, Brazil, Japan, Mali, Turkey, and China, which he first visited as an undergraduate to teach English. Survivors include his mother, Barbara.

2000s

Jeffrey Port Winter, '02 (history), of Lone, Calif., July 30, at 45, of esophageal cancer. He was in the Stanford Band. He earned a master's degree in history from UC Davis. After finding sobriety in 2010, his love for the outdoors brought him to a job at REI. He welcomed his first daughter in 2022 and became a stay-at-home father and part-time farmer on his family's cattle farm. He loved road-tripping, skiing, and introducing his daughters to nature. Survivors: his wife, Anina; daughters, Charlotte and Juniper; parents, Susan and Dan Port; and sister.

Ali Jamal, '06 (mathematical and computational science), of San Francisco, June 16, at 40. He was a member of Delta Tau Delta, student government, and the College Republicans. He was the founding partner at First Check Ventures, an early-stage venture capital firm. His career as a product director, data scientist, corporate strategist, and investment banker took him around the world, with much time spent in Silicon Valley, Southeast Asia, and Latin America. He was a thoughtful friend and generous adviser. Survivors: his parents, Kassamali and Salma; and brothers, Habib and Omar.

2010s

Edwin Arthur Howell II, '10 (human biology), of Carlsbad, Calif., July 19, at 37, of bile duct cancer. He was a member of Kappa Alpha and played volleyball. After teaching middle school with AmeriCorps, he earned his JD and a master's degree in bioethics from the University of Pennsylvania. A beloved senior associate at Jones Day, he had a gift for making anyone laugh and finding common ground. He loved surfing, the Padres, and spending time with loved ones. Survivors: his wife, Alexa; sons, Quinn and Gio; father, Carl; and three siblings.

BUSINESS

John Alan Young, MBA '58, of Portola Valley, Calif., May 26, at 93. He served in the Air Force. He succeeded the eponymous founders of

Champion of the Public Benefit Corporation

In 2007, Andrew Kassoy was at the peak of the wrong mountain. He'd spent 16 years in private equity and managed a billion dollars of real estate assets. But a career that looked good on paper had started to feel bad in his soul.

"I think one of the things that makes capitalism not work as a system is it was built on the idea of carelessness," Kassoy said in a conversation filmed while he was in hospice. "The entire purpose of it was that people should build wealth for themselves and that other people didn't matter—you couldn't care about them."

When Kassoy was 37, he and his Stanford fraternity brothers Jay Coen Gilbert and Bart Houlahan co-founded B Lab, a nonprofit reimagining capitalism as "a force for good." B Lab came up with the concept of public benefit corporations, which balance profit with the well-being of any people or places they affect. Forty-three states have adopted statutes that authorize incorporation as a public benefit corporation. In addition to their legal status, public benefit corporations can choose to undergo B Lab's B Corp certification process,

which grants points for actions from the employee-focused—say, offering on-site childcare—to the societal, which are achieved via business practices or donations.

Andrew Renard Kassoy, '91, a business visionary who worked to make capitalism better serve everyone, died on June 22 of prostate cancer. He was 55.

Kassoy grew up in Boulder, Colo., where his father was a mechanical engineering professor and his mother served on nonprofit boards. "The seeds of service were for sure planted by his family," says his wife, Margot Brandenburg, '01. As a grade schooler, Kassoy wanted to be an elected official or a policymaker.

He met Coen Gilbert and Houlahan, both '89, during Kappa Sigma recruitment, which put them all on the volleyball court together. "[Kassoy] was both the most competitive and the most joyful person that I met that day," Coen Gilbert says. During his sophomore year, Kassoy interned for Colorado congressman David Skaggs, who suggested he gain real-world experience before becoming a public servant. Kassoy went on to work in private

equity for firms such as commercial real estate developer Trammell Crow, Goldman Sachs, and MSD Capital.

According to his co-founders, the same skills that had made Kassoy a good investor made him a valuable leader at B Lab: his social savvy, understanding of capital markets, and extensive network. "He left an amazingly successful private equity career to co-found a start-up whose ridiculous, hubristic vision was to change the economic system," says Houlahan, who remains on the B Lab board. "Twenty years later, he helped to move the needle." Today, more than 10,000 businesses in 102 countries are B corporations, including Ben & Jerry's, Patagonia, and Coursera.

In addition to his wife, Kassoy is survived by his children, Jed, '29, Xavier, Etta, and Max; parents, David and Carol; and sister, Erin Kassoy Falquier, '98, MS '99.

—Kali Shiloh



Hewlett-Packard as CEO, a title he held from 1978 to 1992 while increasing annual revenue from \$1.3 billion to \$16 billion. As chairman of President Reagan's Commission on Industrial Competitiveness, he played a key role in strengthening America's position in technology sectors. He was predeceased by his wife of 67 years, Rosemary. Survivors: his children, Gregory, MBA '83, Peter, and Diana, '83; and four grandchildren.

Jerome Walter Carlson, MBA '61, of Atherton, Calif., September 11, at 88. He served in the Army Reserve. During his decades-long business career, his roles included corporate controller at Hewlett-Packard and chief financial officer at Triad Systems. He helped found his local bank's board of directors and served as mayor of Atherton. He was predeceased by his son Craig and former wife Sally Wells. Survivors: his wife of over 30 years, Shirley Cummings; children, Alisa, Steve, Sheila, and Kristy; stepchildren, Jennifer and Matthew James; three grandchildren; stepgranddaughter; and former wife Lois Hastain.

Phillip Douglas Phythian, MBA '62, of Mill Valley, Calif., June 22, at 91. He served in the Navy on the USS *Scanner*. His career in management included roles at Calaveras Cement, Memorex Corporation, Westco Pump, and the Lawrence National Laboratories, where he was the chief budget officer. He co-founded and briefly ran RAM Lighting. A competitive runner, he completed 28 marathons and 30 Dipseas. He enjoyed the opera, literature, camping, trout fishing, and travel. Survivors: his wife, Ann Hardham; children, Elizabeth Dorfman, Phillip, and Charles; four grandchildren; and sister.

Henson Leland "Hans" Jones Jr., MBA '65, of Berkeley, April 30, at 87. He served in the Navy. He was the president of his father's Commodore Perry Company before joining The North Face as an executive and board member. He later started Telecam Partners in Telluride, Colo., which developed affordable housing and light-industrial space. He was a serial entrepreneur, an outdoorsman, and a contagious bon vivant. He was predeceased by his wife of 59 years, Kathleen (Lusignan, '64, MA '66). Survivors: his children, Cameron, Leland, MBA '00, and Tegan; and six grandchildren.

William Carl Roe, MBA '67, of Davis, Calif., April 21, at 83, after a bicycle accident. In 1972, he co-founded Tandem Properties, which remains a successful business and deeply rooted community partner. For championing countless community initiatives, he and his wife were named Davis Citizens of the Year in 1987 and won numerous awards from UC Davis for their efforts. In 2020, he was honored with the Rotary Club Lifetime Achievement Award. Survivors: his wife, Nancy; children, Whitney Roe Thornburg and Eric; five grandchildren; and two siblings.

Henry Edward Ericson, PhD '75 (business administration), of Atherton, Calif., January 30, 2024, at 81, of pulmonary fibrosis. He earned his bachelor's degree and MBA at Harvard before coming to Stanford. For 39 years, he worked at San Francisco State, where he was a professor of economics, ethics, and management and the chair of the department of management. He chaired the board of trustees for the Peninsula French American School, now Silicon Valley International, where his daughter was a student for seven years. Survivors: his wife, Linda; and daughter, Liz, '03.

Mary Ellen Martin Zellerbach, MBA '76, of San Francisco, June 18, at 74, after a fall. She helped introduce what is believed to be the first international index fund, was integral in growing Mellon

Capital Management's assets to \$33 billion, and served as managing director of the majority women-owned Martin Investment Management.

Pensions & Investments named her to its inaugural list of Most Influential Women in Institutional Investing in the past 50 years. Survivors: her husband of 47 years, John, MBA '75; children, Elizabeth Rufer and Joseph; three grandchildren; and four siblings.

Kristi Louise Smith Hernandez, MBA '80, of Saratoga, Calif., June 21, at 74. She was an inspector/investigator and a public affairs officer for the U.S. Food and Drug Administration and a product manager at General Mills and Del Monte before transitioning to forensic accounting and spending over 20 years at a San Jose practice. She was an active philanthropist and a founding member of Project Redwood, a nonprofit that raised millions for poverty alleviation. Survivors: her husband, Laurence; children, Leslie Hernandez Dinneen, '06, and Mark; five grandchildren; and two siblings.

EDUCATION

Mabel Helen Fulker Korbitz, MA '65, of Colorado Springs, Colo., February 16, at 97. She spent one year as a Fulbright scholar in Peru and 26 years as an elementary school teacher in Colorado, Arizona, and California. A longtime docent at Glen Eyrie, she conducted research on its history and the history of Colorado Springs. She was a member of First Presbyterian Church in Colorado Springs. She was predeceased by her husband of five years, Norman, and longtime boyfriend, Jim Edgar. Survivors: her stepson, John Davison; and six nieces and nephews.

Joseph Isaac Castro, PhD '98, of Long Beach, Calif., August 24, at 58, of colon cancer. A first-generation college graduate, he became a trailblazer in higher education and student access. He increased graduation rates and shrank achievement gaps as president of Fresno State, and was a critical partner in the founding of UC Merced. He then became the first person of color to lead the California State University system, serving as its eighth chancellor. He taught at Cal Poly San Luis Obispo. Survivors: his wife, Mary; and children, Jess, Isaac, and Lauren.

ENGINEERING

Donald Spray Griffin, MS '53, PhD '59 (mechanical engineering), of Pleasant Hills, Pa., June 3, at 95. He served in the Navy. He was an expert in structural mechanics in the nuclear power field, working primarily at Westinghouse in Pittsburgh. He was a fellow in the American Society of Mechanical Engineers. He loved to race his sailboat and cruise larger sailboats in tropical destinations. He was predeceased by his wife, Susan, and second wife, Barbara. Survivors: his children, Abbie, Margaret, David, and Frederick; three stepdaughters; six grandchildren; seven stepgrandchildren; and two great-grandchildren.

Robert R. Barber, MS '65 (electrical engineering), of Raleigh, N.C., August 19, 2023, at 83. He spent his entire career at IBM. Survivors include his wife, Carol Ann.

Ronald Frank Krasovec, MS '66 (electrical engineering), of Reading, Mass., August 4, at 88, of Parkinson's disease. He served in the Army National Guard and the Marine Corps. He spent most of his career as a systems and reliability engineer, including on the Central Artery Tunnel (Big Dig) project. He was also a member of and instructor in the Minute Man Power Squadron and a recipient of the Arlene Hunt Memorial Award for outstanding educational performance or service.

Survivors: his wife of 62 years, Helen; sons, Scott and Jeff; and five grandsons.

Velimir Mihajlo Ristic, MS '66, PhD '69 (electrical engineering), of Phoenix, September 30, 2023, at 86, of cancer. He earned his first master's degree from the University of Beograd. He became a Fulbright scholar and had the opportunity to spend several days with Professor Fulbright. He spent 31 years as a professor of electrical engineering at the University of Toronto. His places of happiness and peace were along the shores of Georgian Bay and in the ochre sands of Arizona. Survivors: his wife, Jelica; daughter, Milica Hymus; and two grandchildren.

Samuel Wyatt Swan, MS '72, Engr. '74 (mechanical engineering), of Albany, Calif., June 19, at 76, of myelofibrosis. He was an earthquake engineer whose advances in the field of seismic engineering helped fortify structures for the future. He visited earthquake sites in places like India, Mexico, Japan, and Alaska, and assessed damage at power plants, recommending retrofits that likely saved power consumers millions of dollars. When it came to his own home repairs, he traded structural integrity for duct tape. Survivors: his wife, Sandy; daughters, Rachel and Emma; five grandchildren; and brother.

Rangadhar Dash, MS '84 (general engineering), of Arlington, Texas, April 18, 2023, at 82. He earned six degrees, including two PhDs and three master's degrees, in fields including aerospace and mechanical engineering, mathematics, and computer science. He worked for NASA Ames Research Center, Hughes Helicopter, McDonnell Douglas, LTV, and Bell Helicopter before joining the faculty at UT Arlington. He was a passionate teacher of acoustics, mathematics, and computer networks, and he published more than 30 research papers. Survivors: his wife, Kalyani; and children, Trivikram, Sany, and Neeta.

John Marvin Earl Chachere, MS '94 (computer science), MS '07, PhD '07 (management science and engineering), Engr. '07 (civil and environmental engineering), of Berkeley, February 25, at 55. He was a management consultant at Oracle, NASA, and Bridgewater Associates. Deeply inspired by encounters with Nelson Mandela and the Dalai Lama, he was a committed vegan and a dedicated supporter of reproductive rights, LGBTQIA rights, and the Palestinian cause. Generous and humorous, he was brilliant at synthesizing ideas and solving problems. Survivors: his sons, Logan and Luke; mother, Joan; brother; and stepbrother.

Stefan Hadjis, MS '21, PhD '21 (computer science), of Toronto, May 19, at 33. He developed the first open-access software tools and techniques that improve the accessibility and efficiency of artificial intelligence systems. As part of his doctoral work, he co-authored 14 papers with over 1,000 citations. He was dedicated to advancing knowledge while collaborating with and helping his team. He loved classic rock and stage musicals, writing, nature, learning, and the arts. Survivors: his parents, Maria and Tony; grandmothers, Kathy Tzamtzis and Georgia; and siblings, Alex and Georgia.

HUMANITIES AND SCIENCES

Joseph Henry Eberly, MS '59, PhD '62 (physics), of Rochester, N.Y., April 30, at 89. A longtime and pioneering professor of physics and of optics at the University of Rochester, he made seminal contributions to quantum entanglement, spontaneous collapse and revival phenomena, and the behavior of non-diffracting light beams. He co-founded the open-access journal *Optics Express* and served as president of Optica, the international optics and

photonics society. Survivors: his wife, Shirley (Smith, '60, MS '61); daughters, Virginia Eberly Harvey, '87, Becky, and Lynn; seven grandchildren, including Vienna Harvey, '16; and sister.

Celia Ann Buchan Morris, MA '64 (English), of Washington, D.C., April 17, at 89, of complications from Parkinson's disease. She earned a PhD in English from the City University of New York and worked as an editor at *Change Magazine* and an assistant professor at Pace College. An accomplished writer, she was a National Endowment of the Humanities grantee and published numerous books, including the memoir *Finding Celia's Place*. She was predeceased by her first husband, Willie; and second husband, Bob Eckhardt. Survivors: her son, David; granddaughter, Uma Dietzel; and brother.

Sven Hermann Arnold Bruntjen Jr., MA '66, PhD '74 (art), of San Rafael, Calif., August 4, at 84, of pneumonia and complications from cancer. After serving as assistant director and chief curator at the Stanford University Museum of Art, he became an art dealer, consultant, and appraiser. He was respected for his expertise in fine art and rare books, and counted the Richard Diebenkorn Foundation and Getty Research Institute among his clients. He was predeceased by his wife of 50 years, Sabine. Survivors: his daughter, Nicole; two grandsons; and partner, Paulina Paczkowska.

Robert Taft Olmstead Jr., MA '66, PhD '70 (English), of Sacramento, Calif., May 26, at 85, of pneumonia. He majored in English at Yale as an undergraduate and earned a bachelor of philosophy from St. Andrews University before attending Stanford. He was a professor of American literature at CSU Sacramento for 35 years. He was a passionate fly fisherman and edited two books about the sport. Survivors: his wife, Chris (von Saltza, '65); and sons, Robert and Philip, '01.

Allen Eugene Johnson, MA '67 (music), DMA '71, of Knoxville, Tenn., March 10, at 84. He served in the Air Force Reserve. A professor at the University of Tennessee, Knoxville, for 25 years, he taught music theory and composition and composed orchestral, instrumental, and vocal works. He completed a residency at the Charles Ives Center for Contemporary Music, was an associate at the Atlantic Center for the Arts, and twice received an ASCAP Award for composition. He was interested in architecture, classic cars, and gemstones. Survivors include many cousins and close friends.

Constance McClintock Barrett, MA '69 (Russian, East European and Eurasian studies), PhD '75 (Slavic languages and literatures) of Victor, N.Y., January 3, 2025, at 83, of congestive heart failure. She was a graduate of Harvard. She taught Russian literature at Southwestern at Memphis (now Rhodes College) and worked as an analyst at the FBI. She earned a master's degree in literacy education at George Mason University and taught English as a second language. Survivors: her husband of 56 years, Terence, PhD '67; children, Josephine, James, and Nathaniel; and five grandchildren.

Roger William Kaye, MA '69 (English), of Chico, Calif., August 2, at 82, after a stroke. He contributed to the *Stanford Chaparral* magazine. After teaching English literature at the University of Pennsylvania for six years, he spent the rest of his career at CSU Chico fostering a love of literature, language, and critical thought. His greatest joy was helping students enroll in graduate and doctoral programs across the country. He loved books and shared his personal library of over 10,000 volumes with students and colleagues. Survivors include his sister, Nancy Koons.

Steven Douglas Bryan, Gr. '78 (applied physics), of Tucson, Ariz., April 24, at 72, of a stroke. He was in the orchestra. He was a computer programmer whose work included the development of early precursors to the Portable Document Format, as well as encryption and peer-to-peer file sharing. While at Stanford, he lived in quarters attached to (and helped operate) the solar observatory. He was a cellist in several Tucson community orchestras and performed in local choirs. Survivors: his wife, Natalie Synhaivsky; children, Alex, Andrew, and Athena; two grandchildren; and brother.

Nina Rosita Menendez, MA '86, PhD '93 (Spanish), of Oakland, August 5, at 69, of colon cancer. She taught at the University of Florida before leaving academia to become a flamenco singer. She founded Bay Area Flamenco and produced the group's main event, the annual Bay Area Flamenco Festival/Festival Flamenco Gitano, for 15 years. Later she dedicated herself to promoting the legacy of her mother, singer Barbara Dane; she executive-produced a documentary, managed a six-concert tour, and edited Dane's autobiography. Survivors: her brother, Pablo; and half brother, Jesse Cahn.

LAW

Sirje Puusepp Weldon, LLM '68, of Halifax, Nova Scotia, June 14, at 84, of heart failure. She was an Estonian refugee and, in 1974, became the youngest person and only woman on faculty at Dalhousie Law School in Halifax. She directed the legal aid clinic and worked for the City of Halifax, arguing two cases before the Supreme Court of Canada. She later advised and directed several Canadian trade groups. She was predeceased by her life partner of 30 years, Donald Walker. Survivors: her children, Kaljo and Laurel; and two grandchildren.

James Charles Kitch, JD '72, of Menlo Park, Calif., July 18, at 78, of Lewy body dementia. He was on the *Law Review*. After clerking for Justice John Paul Stevens, he helped open the Silicon Valley office of Cooley Godward, where he spent his entire 44-year legal career. He was a longtime member of Holy Trinity Church and served as chairman of the Child and Family Institute for over 35 years. He loved golf, puzzles, and the Weather Channel. Survivors: his wife, Chris; children, Peter, Drew, and Cindy; and three brothers.

MEDICINE

Jean Mackey Ertwine Disterdick, MA '56 (physical therapy), of Gardnerville, N.V., May 1, at 99. She served in the Army Air Corps and the Air Force, treating soldiers wounded in the Korean War and retiring as a captain. She later worked in several hospitals and discovered a passion for treating children through the Elks organization. She enjoyed skeet shooting, competitive target shooting, softball, and tennis. In retirement, she became an expert in making decorative folk art. She was a world traveler and fisherwoman. Survivors include her daughters, Patti Graf and Damian.

Ronald Nicholas Gibson, MD '90, of Honolulu, July 19, 2023, at 62. An OB-GYN on Maui, Hawaii, he was known for his generosity, intuition, reference for life, and calm, caring nature. He was a member of the American Medical Association and a certified diplomat of the American Board of Obstetrics and Gynecology. He authored several journal articles, abstracts, and book chapters. For the past 20 years, he was a member of Olivet Baptist Church. Survivors: his wife of 43 years, Susan; daughter, Cindy; mother, Margaret West; and brother.

Do you know of a Stanford alum who has recently passed away?

Please let us know.
Simply fill out our online form:
<https://stanfordmag.org/obituary>

Stanford Alumni Association BOARD OF DIRECTORS

Chair: David Hornik, '90, Palo Alto

Vice Chair: Amanda Renteria, '96, Piedmont, Calif.

Vice President for Alumni Affairs and President, Stanford Alumni Association: Howard Wolf, '80, Stanford

Andy Berke, '90, Washington, D.C.

Kitty Boone, '79, Snowmass, Colo.

Ward Bullard, '00, Menlo Park

Maya Burns, '12, MA '13, Los Angeles

Andrés Cantero, Jr., '12, Los Angeles

Hans Carstensen, '70, MBA '74, Shelburne, Vt.

Paulo Castañón, MS '96, Paris

Jennifer Chou, '00, MA '01, JD '05, Los Angeles

Pierre Dagsi, '26, Stanford

Kate Duhamel, '83, MBA '88, San Francisco

Irenea Erteza, MS '87, PhD '93, Albuquerque, N.M.

Kern Guppy, MS '76, MS '78, PhD '80, Sacramento, Calif.

Xavier Gutierrez, JD '00, Pasadena, Calif.

Liz Jenkins, '99, Encino, Calif.

Greg Justice, '11, Redondo Beach, Calif.

Melinda Kliegman, PhD '13, Seattle

Andrew Kwan, MS '02, MS '06, Hong Kong

Danielle Limcaoco, '19, Cambridge, Mass.

Fred Lopez, '86, CRT '95, MF '98, New Orleans

Simeen Ali Mohsen, '96, Newton, Mass.

Jason Okonofua, PhD '15, Cranston, R.I.

James Quattromani, '00, Madison, Wis.

Khara Ramos, '01, New York

Mili Dutt Reddy, '02, Hillsborough, Calif.

Gabrielle Sagalov, MBA '17, Menlo Park

Troy Steinmetz, '07, Louisville, Ky.

Marilyn van Loben Sels, '66, Clarksburg, Calif.

Shankar Vedantam, MA '93, Washington, D.C.

Carly Villareal, '11, MS '14, San Francisco

Maurice Werdegarr, '86, MBA '92, Woodside, Calif.

Clara Wu Tsai, '88, AM '88, La Jolla, Calif.



No Place Like Home

Through my daughter, my own roots are growing.

OVER THE SUMMER, my daughter, Cora, then 9, attended her first sleepaway camp. When I picked her up in Marin County after five days, we were both filled with the emotion of our reunion—it had been her longest time away from home and family. “How much longer?” she asked with increasing frequency during our return trip to Stanford.

Just past Crystal Springs Reservoir, Highway 280 peaks and then bends left, descending through acres of golden grasses and on toward the Dish. I asked her to look out the window. “Do you recognize where we are?” She peered out, then emitted a cry of longing. By the time we turned onto Campus Drive, it had become a chant: “Home. Home. Home! HOME!”

Cora has lived as a resident fellow kid in frosh dorms since she was 1. She’s connected—for richer and for poorer—to the land and its inhabitants: the coast live oaks she climbed during the pandemic shutdown; the Lake Lag coyote pack that absconded with her beloved brown tabby, Kuma; the annual summer pilgrimage of ants into every campus kitchen. (Unlike her mother, she’s not alarmed by the

rats who scuttle through Arroyo’s RF patio. But the ants!)

Likewise, she’s bound to its people—notably, college students. She has joined their Halloween costume competitions and hidden Easter candy for them in the lounge. She’s eaten dining hall chicken drumsticks beside them since she could hold one up. Year after year, Cora has set up tables on the sidewalk to sell her wares—at first, friendship bracelets, then homemade artwork, and eventually Girl Scout cookies and fresh lemonade. If you ever wonder about Gen Z, I can assure you that they are kind: They patronize little kids’ shops like there’s nowhere else they’ve got to be.

I, on the other hand, have a hard time answering the question of where I am “from.” My parents—and ancestors—are most assuredly Missourian. By the time I was Cora’s age, I’d lived in Ohio, Indiana, Missouri, and North Carolina. I’d grown fond of limestone cliffs but also loblolly pines; any friendships built to last did so by letter. In adulthood, I added four more states to my tally. Where can I lay

claim to? I’ve now lived at Stanford a collective 13 years—longer than anywhere—and built a family here, biological and otherwise. Can I call it mine? Will it have me?

In that moment Cora cried out—it had to be the pitch of her voice, or perhaps its honesty—I was filled with a realization. Cora is *from* here. She knows no other place in this way, in the way that your body calls out for the land when you’re not with it, in the way that the bend of the road and the color of the grass and the familiar line of trees signal to your subconscious to relax and release and be enveloped by their welcome. Up to that day, I’d thought of Stanford as a thing I was sharing with my children, but I realized it is something they are sharing with me. Of course, none of us ever really owns the land on which we’re living—we are but travelers here, the saying goes. And yet this place grounds us, my daughter and me, in a way no other place now can, and it connects us to each other, and to all of you. ■

JILL PATTON, ’03, MA ’04, is the senior editor for *STANFORD*. Email her at jillpatton@stanford.edu.



Your Next Chapter Matters, For You and For Society

Deborah Bennett

Stanford BA '77

UChicago LSI Fellow '25

Shape a future of personal growth, societal contribution, and enduring connections.

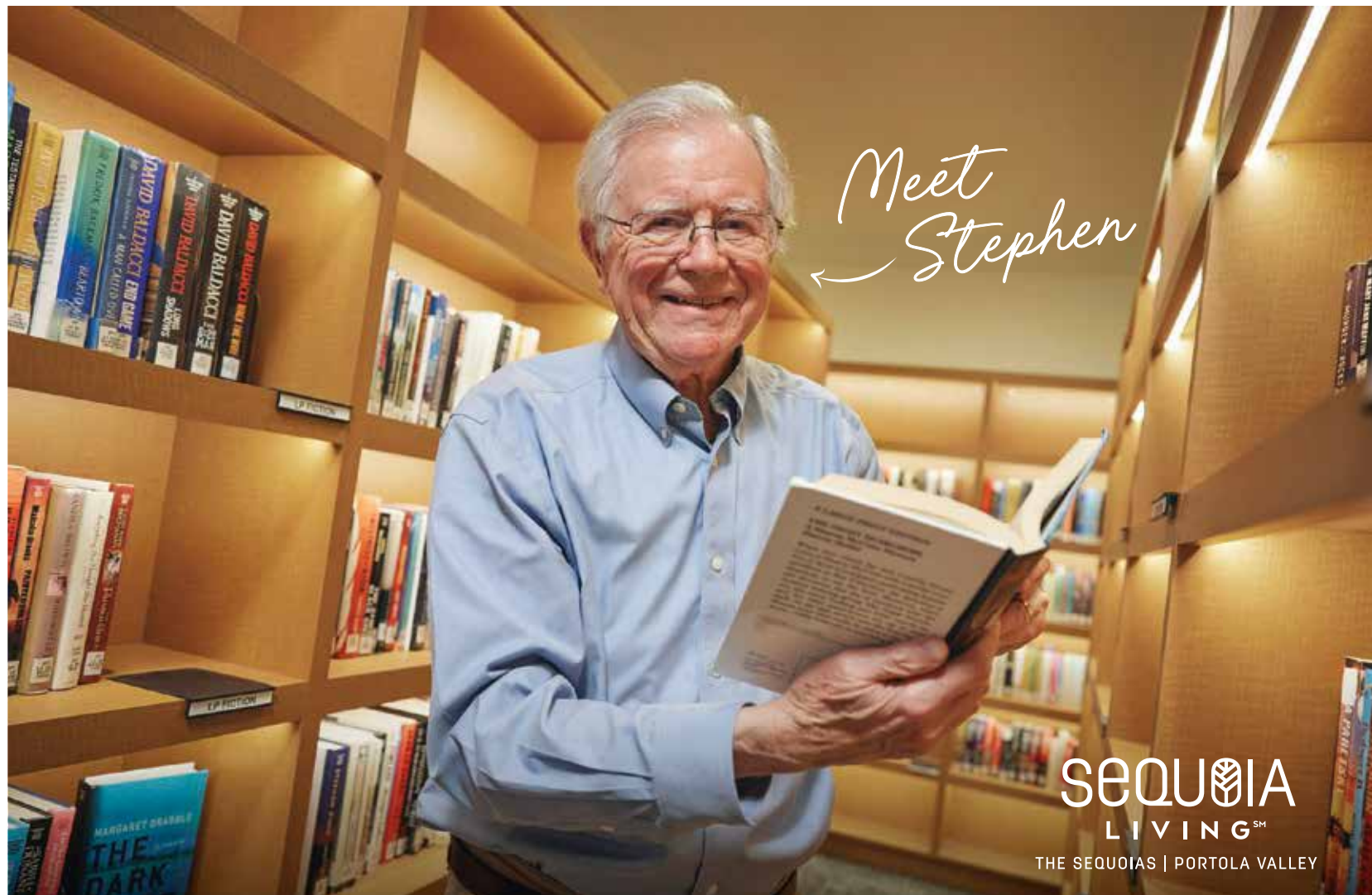
The University of Chicago Leadership & Society Initiative (LSI) supports distinguished individuals in successfully transitioning from their longstanding careers toward fulfilling next chapters. Through UChicago's unparalleled environment of inquiry and impact, LSI Fellows envision and launch ambitious futures—for themselves and for the world around them.

Now accepting candidacies for our next cohort.

Begin your journey:

LeadForSociety.uchicago.edu





NEVER STOP *reading*

Rooted in curiosity. Inspired by purpose. Stephen's journey spans from music to law, from the stage to the judicial bench. Now, at The Sequoias Portola Valley, he continues exploring ideas and stories that challenge, inspire, and connect us all.

Keep Learning. Keep Growing. Find Your Community.

(650) 414-3270 | 501 PORTOLA RD, PORTOLA VALLEY, CA | [SEQUOIALIVING.ORG/STEPHEN](https://sequoialiving.org/stephen)