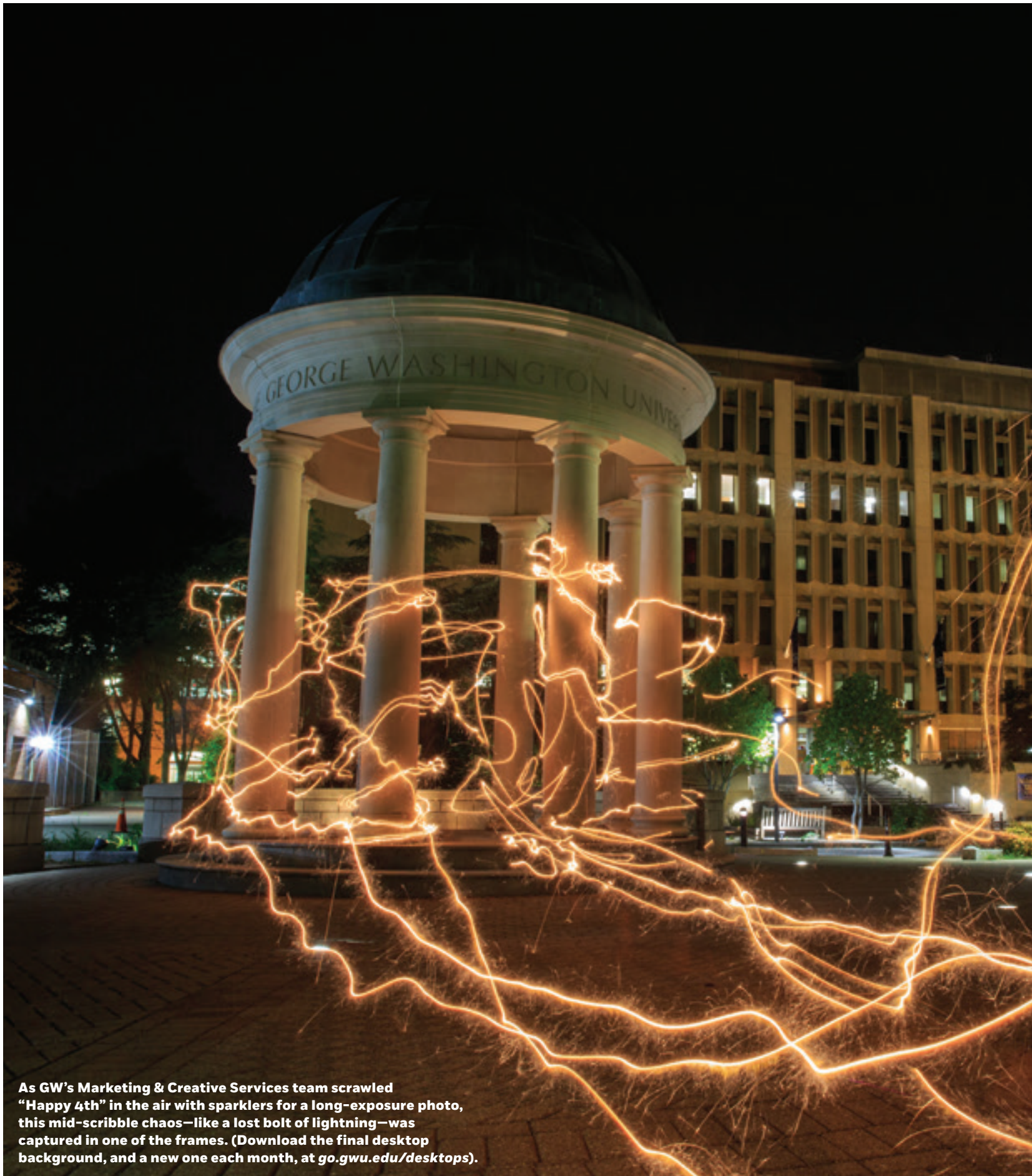


WONDER WOMAN'S SECRET WEAPON // HUNTING GIANTS // DISPATCHES FROM THE FRONT // 15 NAMES TO KNOW

GW

THE GEORGE
WASHINGTON
UNIVERSITY
MAGAZINE
SUMMER 2017





As GW's Marketing & Creative Services team scrawled "Happy 4th" in the air with sparklers for a long-exposure photo, this mid-scribble chaos—like a lost bolt of lightning—was captured in one of the frames. (Download the final desktop background, and a new one each month, at go.gwu.edu/desktops).



GW MAGAZINE

SUMMER 2017

A MAGAZINE FOR ALUMNI AND FRIENDS

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If the GW alumni body has become known for its statesmen, its lawyers, its scientists, storytellers and do-gooders, there's also an influential subset that's perhaps less known. They leave a telltale wake of adrenaline that we pick up on in this special issue.

/ By Danny Freedman, BA '01, and Matthew Stoss /

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Two-time Oscar winner Bill Westenhofer, MS '95, is responsible for the visual effects in some of Hollywood's biggest films of the past 20 years, including this summer's *Wonder Woman*. / By Matthew Stoss /

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In covering conflict abroad, a foreign correspondent finds purpose not on the front lines, but in the silences just beyond, where reverberations of war seldom find daylight. / By Sophia Jones, BA '13 /

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Engineer L. Gately Williams (1951); courtesy of Colin Williams and of the University Archives & Special Collections Department, Joseph P. Healey Library, University of Massachusetts Boston: Mass. Memories Road Show

WILLIAM ATKINS



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GW
TODAY

GW MAGAZINE

Summer 2017
Volume 27, Issue 3

What was your most recent adventure?

“Hauled a Christmas tree a mile home by lashing it to my daughter’s stroller. (She walked. That’s city living, kiddo!)”

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INTERN // Rebecca Manikkam, GWSB '17

“I experienced the joy of pure flight in an open-cockpit plane as I took over the controls of a 1941 Stearman biplane.”

“I went for a haircut and my regular barber wasn’t there. But it’s been too hot to have so much hair, so I risked it with an unknown.”

“I went for an 11-mile hike in the pouring rain in Saxon Switzerland National Park, a ‘rock’ park in Germany known for its giant cliffs made of eroded sandstone.”

“I just got back from a road trip to Acadia National Park where I spent a few days hiking!”

“Last summer my wife and I went to Mexico where we rented a ‘car’ we named Pepe—a 60’s-era VW Beetle with no locks, no side or rearview mirrors, no A/C, no working speedometer or gas gauge. The parking break was for decoration only and the seats weren’t entirely attached to the floor. It was the most fun I’ve ever had driving. And we survived it, so I can’t complain.”

“Hiking in Ireland’s beautiful Connemara National Park.”

Thomas J. LeBlanc
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“I completed a multilevel ropes course and zip line above the 16th floor of a moving cruise ship.”

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GW NEWS

Belva Ann Lockwood, long ago spurned by GW and now celebrated, waged a historic battle for the presidency at a time when she wasn't even allowed to vote.

More than a century before Hillary Clinton voted to make history in November as the first female president of the United States, a woman named Belva Ann Lockwood fought to become the first to appear on a ballot.

'We shall never have equal rights until we take them, nor respect until we command it.'

// By Ruth Steinhardt

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workings of the machinery of government, and to see what the great men and women of the country felt and thought."

She took a job as a teacher and, during her free afternoons, "listened to the debates in Congress and the arguments in the United States Supreme Court, investigated the local government of the District [and] visited her public buildings."

Following a lifelong passion for the law, she eventually applied for admittance to the evening law class at the Columbian College of Arts and Sciences. Then-President George W. Samsom would eventually respond to her request as follows.

Madam,—The Faculty of Columbian College have considered your request to be admitted to the Law Department of this institution, and, after due consideration, have considered that such admission would not be expedient, as it would be likely to discourage the attention of the young men.

Ms. Lockwood was "dismayed," but not deterred. The National University Law School, which would later merge with GW, opened its classes to women the next year, and Ms. Lockwood accepted an invitation to attend.

Of the 15 women who initially matriculated, she would be one of only two to complete the full course of the law degree. But male students still complained, some declaring that they would not graduate with women.

Soon Ms. Lockwood and her only remaining female classmates were barred from attending lectures. As a commencement speaker, she wrote, "It became evident that we were not to receive our diplomas, nor be permitted to appear on the stage with the young men at graduation."

Without that diploma, Ms. Lockwood would be unable to gain admission to the D.C. bar. "For a time I yielded quite ungracefully to the inevitable," she wrote. But by 1873 she was no longer willing to wait. She wrote to U.S. President Ulysses S. Grant, then president ex officio of the National University Law School.

SR.

You are, or you are not, President of the National University Law School. If you are its President, I desire to say to you that I have passed through the curriculum of study in this school, and am entitled to, and demand, my diploma. If you are not its President, then I ask that you take your name from its papers, and not hold me to the world to be what you are not.

*Very respectfully,
Belva A. Lockwood*

She never received a direct reply—but a week later, her diploma arrived in the mail.

Now the second woman attorney admitted to the bar in Washington, she opened her own practice. By 1879, thanks to what one reporter called "an unconscionable deal of lobbying," she was the first woman admitted to practice before the U.S. Supreme Court, and a year later she became the first woman to argue a case there.

In 1884, Ms. Lockwood wrote to progressive newspaper owner Marietta Stone, who was running as an independent for governor of California as a kind of political theater to demonstrate the irony of women's inability to vote. The letter was supportive and passionate.

... If women in the States are not permitted to vote, there is no law against their being voted for, and if allowed, filling the highest office in the gift of the people.

Two of the present political parties which have candidates in the field believe in woman suffrage. It would have been well had some of the candidates been women. There is no use in attempting to avoid the inevitable.

... It is quite time that we had our own party, our own platform, and our own nominees. We shall never have equal rights until we take them, nor respect until we command it.

In response, Ms. Stone wrote to Ms. Lockwood nominating her as the National Equal Rights Party's candidate for president. She accepted.

The campaign might, like Ms. Stone's, have been considered political theater. Newspapers, established politicians and even fellow women's rights activists objected to her "masculine" voice, her clothes, her hairstyle and her habit of riding a tricycle to get from place to place. Groups of dozens of young men in business dresses and parasols showed up at political rallies to mock her and her supporters.

Still, Ms. Lockwood treated her own candidacy as a serious one. Her speeches, according to biographer Jill Norges, tended to focus on major economic issues rather than those specific to women—a practice which led Susan B. Anthony to declare her positions "too much like a rebuke of the men's speeches." But she also advocated for progressive causes like equal pay, citizenship for Native Americans and, of course, universal suffrage.

She was not the first woman to run for president. That record goes to Victoria Woodhull, who sought the office alongside running mate Frederick Douglass in 1872. But historians do not agree as to whether Ms. Woodhull's name actually appeared on any nationwide ballots or whether she received any votes. (She also would have been just 24 on Inauguration Day of 1873—too young to hold presidential office.)

On Election Day, Ms. Lockwood had convinced electors to pledge to her in at least seven states, including New Hampshire, California, Maryland, New York and Oregon. She would end up getting nearly 5,000 votes, while Democrat Grover Cleveland clinched the victory.

Belva Lockwood would continue to crusade for women's rights until her death in 1924, missing by three years the ratification of the 19th Amendment and the legal right of American women to vote. Toward the end of Ms. Lockwood's life, a journalist asked whether she still believed that a woman could be president. She answered: "If a woman demonstrates that she is fitted to be president she will some day occupy the White House. It will be entirely on her own merits, however. No movement can please her there simply because she is a woman. It will come if she proves herself exactly fit for the position." ■

WWW.MAGAZINE.COM



Ahead of Her Time

I was thrilled to see Belva Ann Lockwood ("Archives") highlighted in the most recent issue of *GW Magazine*. Just in case you don't know, she's buried right here in Washington, D.C., at the historic Congressional Cemetery in Southeast. This past election day, people even left their "I Voted" stickers on a sign next to her grave. After the votes were counted, someone wrote a note on the sign that said, "I'm so sorry. We tried but we couldn't do it," and someone else added "Yet!"

Anne Withers, MPP '06



Counter Protest

The current issue features a small article about the anti-Trump women's march ("The Viral Voice of the Women's March"), along with a picture of a so-called "pussy hat." Many of your alumni may well be conservative and find the picture and article offensive. An institution that comes to its alumni, hat in hand, begging for money, as GW is prone to do, should not risk alienating a good portion of its financial supporters by appearing to support political parties of any kind.

Thomas E. Hart, BA '70; MA '73



I have read many issues of alumni magazines from my schools (and my kids') over the years, however I can not ever recall such a fascinating series of articles that held my attention to nearly the last word.

Wonderful variety, excellent interviews and writing. Great job folks.

Dale Oiler, MD '68



Wow, best issue I have read ... diverse, reasonable length, interesting.

Harry Kriemelmeier Jr., BME '53



@yvonneorji

Proud that my first magazine cover went to my Alma Mater. (<http://bit.ly/1dOy2lx>)

@w.atkins

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 #SallieMaeWasCheckinForMe
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Letters may be edited for clarity and space.



Altogether Now, aaand Bow

Our feature on legendary sports and rock 'n' roll photographer Michael Zagaris ("The Fight & Fury of the Z-Man," Summer 2016) won two awards this spring in a national competition among alumni magazines: a silver award for feature-length profile writing and a bronze for editorial design.



➡ If you haven't yet seen the article, check it out at GWMagazine.com.



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GW NEWS

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GRADUATION

Tammy Duckworth: 'Don't Be Afraid of Failure'

The alumna, U.S. senator and Purple Heart recipient addressed Commencement and channeled Theodore Roosevelt and Kendrick Lamar.



Tammy Duckworth stood at the GW Commencement rostrum on a gray May day, the Washington Monument looming just behind her, and talked about what she calls her “Alive Day.” The junior senator from Illinois calls it that because it’s the day she could have died, but didn’t.

“It,” she said, “was a good day for me.” On Nov. 12, 2004, Duckworth, then an Army helicopter pilot in the Iraq War, lost both her legs when a rocket-propelled grenade hit her Black Hawk. She said the explosion vaporized one of her legs and blew off the back of her right arm. The instrument panel took off her other leg. She said she survived because her crew refused to leave her. They helped save her life.

“I knew from that moment on I would spend every single day of the rest of my life trying to honor the courage and sacrifice of my buddies who saved me,” said Duckworth, a Purple Heart recipient who retired from a 23-year military career as lieutenant colonel in 2014.

A Democrat, she was elected to the Senate in 2016 after serving as assistant secretary of Veterans Affairs under President Barack Obama.

The keynote speaker at GW’s Commencement, Duckworth, MA ’92, shared her story to an estimated crowd of 25,000—including about 6,000 graduates, who joined an alumni community of about 280,000—on the National Mall as the university closed its 196th academic year. Duckworth used her experiences as a springboard to discuss the importance of embracing failure, maintaining humility and taking advantage of opportunities.

“Every time I got knocked down, I got back up. I dusted myself off, and I got back in the arena—when my face had literally been marred with dust and sweat and blood. And I am so glad that I did,” said Duckworth, who lost her right leg nearly to her hip and her left leg below the knee in the helicopter attack. She also lost partial use of her right arm.

She also sprinkled her address with pop culture and history, quoting rapper Kendrick Lamar and Theodore Roosevelt. She summoned the 26th president, among our most well-read commanders in chief, and his wisdom—“There is no effort without error

and shortcoming.”—to advise graduates on handling setbacks.

“It’s really just an eloquent way of saying, ‘Don’t be afraid of failure,’” Duckworth said. “Successful people didn’t make it because they never failed. They made it because they never gave up.”

Duckworth—who, along with U.S. Army Surgeon General Nadja West, MD ’88, and *Washington Post* Executive Editor Marty Baron, received honorary doctorates of public service—also urged graduates to remember their “good fortune and luck.” For

that, she leaned on the critically beloved Lamar, a seven-time Grammy winner.

“Some of you have been lucky enough to afford tuition here without help,” Duckworth said. “But even if you worked three jobs ... there are people out there who aren’t as lucky. I guess what I am saying is—to reference Kendrick Lamar—‘be humble.’”

Duckworth urged students not to lose sight of what lies ahead, what remains to be accomplished, again calling upon Roosevelt.

“Don’t be a timid soul that knows neither

For more, visit

<https://commencement.gwu.edu>



victory nor defeat,” she said, quoting one of Roosevelt’s most famous speeches. “It is time to get in the arena.”

Provost Forrest Maltzman welcomed graduates to the ceremony before Duckworth’s Commencement address and recognized the achievements of the graduates and those who supported them. Maltzman also introduced GW President Steven Knapp and thanked him for his service to the university. Knapp stepped down as president in July after 10 years, and has been named a president emeritus and university professor of English. On Aug. 1, he was succeeded by Thomas LeBlanc, the university’s 17th president.

“I know that what he is proudest of is the approximately 50,000 students who have graduated from this university during his tenure and who are each making their own contributions to the world,” Maltzman said of Knapp.

Board of Trustees Chair Nelson Carbonell, BS ’85, also spoke to the graduates.

“Take what you have learned and the pride and respect you have gained for your alma mater into the world as citizen leaders,” he said. “Remember, who you are has been shaped by your experiences here at the George Washington University.”

Carbonell then recognized Knapp, lauding him for the institution’s growth under his leadership and for his direct involvement in student success.

Angela Sako, BA ’15, MPP ’17, was this year’s student speaker and she spoke about life’s “welcomes”—the opportunities that come with or follow uncertainties, challenges, new friends and experiences.

“Our journey ahead might hand us some bricks,” Sako said. “But let us remember that if we welcome these challenges, and we encourage each other to open a window, a wide door will follow.”

Sako was only 14 years old, a recently arrived immigrant from Albania who spoke little English, when her father died. But with support from family and friends, she said she transformed grief into resilience. She eventually went to GW, receiving a Stephen Joel Trachtenberg Scholarship.

Also recognized at Commencement were the recipients of the GW Awards, which are given to students, faculty and staff who make extraordinary contributions to the GW community. This year’s winners are: Richard Livingstone, BA ’12, MPA ’17; C. Thomas Long, PhD ’05, assistant professor of history and coordinator of undergraduate history advising; and Bridget Smith, BA ’17. □



PHILANTHROPY

\$1B Campaign Hits Goal One Year Early

GW’s campaign to raise \$1 billion to support students, bolster academics and enhance facilities has hit its goal—and more than a year early.

“Making History: The Campaign for GW,” which began in 2011 and publicly launched in 2014, crossed the billion-dollar threshold in May, establishing 235 endowments along the way.

The goal had been to raise \$1 billion by June 2018. The final “Making History” total is \$1.02 billion, including \$57 million in unrestricted funds to address the university’s most pressing needs.

“Closing the ‘Making History’ campaign a year ahead of time and surpassing our \$1 billion goal is an extraordinary accomplishment and a testament to the inspiring work of our faculty, researchers and students,” said then-GW President Steven Knapp, who oversaw the launch of “Making History” and, with his wife, Diane Robinson Knapp, created the Steven and Diane Robinson Knapp Fellowship for Entrepreneurial Service-Learning. “The campaign has established a successful foundation for philanthropy and set a new bar for success.”

“MAKING HISTORY” AT A GLANCE

DONORS

Nearly 67,000 people—42,000 alumni among them—gave to “Making History.” This included more than 165,000 individual gifts and 40,000 first-time donors.

SUPPORTING STUDENTS

The campaign raised more than \$177 million to support students, creating 128 endowments for financial aid; more than 18,000 donors gave to Power & Promise, a student-aid program that has provided more than \$145 million in funds for undergraduate scholarships and graduate fellowships

ENHANCING ACADEMICS

More than \$626 million went to enhance academics, including 23 new endowed faculty positions. The funds also advanced research and education, supported the new GW Cancer Center among several new centers and institutes, enhanced career resources and grew arts and cultural programs within the Corcoran School of the Arts and Design and the George Washington University Museum and The Textile Museum.

BREAKING NEW GROUND

Facilities such as Science and Engineering Hall, the George Washington University Museum and The Textile Museum, the Charles E. Smith Athletics Center and Milken Institute School of Public Health building benefited from \$163 million in donations.



ADMINISTRATION

An Era in Sunset

A look at GW President Steven Knapp's decade at the helm

On a Saturday in early May, hundreds of students, faculty, staff, family and friends gathered at the Charles E. Smith Center to say goodbye to Steven Knapp, who stepped down as GW president in July, after 10 years of leadership.

"I just want to say what an honor it has been ... to have served this university and to see it continue on its path to ever greater heights," Knapp said. "[We] will always think of ourselves as part of this university community and in fact will always regard this university ... as our cultural and intellectual home."

President Thomas LeBlanc, the former executive vice president and provost at the University of Miami (Fla.), began his term on Aug. 1.

At the sendoff, Board of Trustees Chair Nelson Carbonell, BS '85, told the assembled that Knapp "unequivocally surpassed our expectations."

This is how. In his decade on the top floor of Rice Hall, President Knapp ...

- ▶ Oversaw the creation of Science and Engineering Hall, which doubles the space available for a variety of science and engineering programs and brings together researchers across disciplines. Between 2007 and 2014, GW moved to No. 83 from No. 108 on the National Science Foundation's list of top research institutions.
- ▶ Shepherded GW's strategic plan, "Vision 2021," creating interdisciplinary initiatives like the GW Cancer Center, the Global Women's Institute, the Computational Biology Initiative, the Autism and Neurodevelopmental Disorders Institute and the Urban Food Task Force.
- ▶ Led GW's collaboration with the Corcoran Gallery of Art and the National Gallery of Art, under which the Corcoran College of Art and Design was transferred to GW, becoming the Corcoran School of the Arts and Design. GW also assumed ownership of the iconic Flag Building.
- ▶ Was instrumental in partnering GW with the world-renowned Textile Museum. That led to the creation of a new D.C. cultural hub—The George Washington University Museum and The Textile Museum—and the building of a conservation and collections center on the Virginia Science and Technology Campus.
- ▶ Oversaw the launch and completion of a \$1 billion fundraising initiative, "Making History: The Campaign for GW."
- ▶ Launched a university-wide Task Force on Access and Success in 2014. Since, GW has become standardized-test optional for undergraduate applicants and has seen a 33 percent increase in enrollment from historically underrepresented groups.
- ▶ Helped found the District Scholars Award, a grant that expands access to lower-income D.C. high school students, and formed partnerships with the Posse Foundation and Say Yes to Education.
- ▶ Formed the President's Council on Diversity and Inclusion in 2010 and created a vice provost position that now encompasses diversity, equity and community engagement. ☑

AWARDS

Edward 'Skip' Gnehm Jr. Awarded GW President's Medal

Alumnus, professor and former diplomat honored for distinguished service

Former Ambassador Edward "Skip" Gnehm Jr., an alumnus and the Elliott School of International Affairs' Kuwait Professor of Gulf and Arabian Peninsula Affairs, was awarded the GW President's Medal at a ceremony in May.

Gnehm, BA '66, MA '68, joined the faculty after 36 years in the U.S. Foreign Service. Before retiring in 2004, he served as U.S. ambassador to Jordan from 2001 to 2004 and ambassador to Kuwait from 1991 to 1994. His service including assignments in Vietnam, Australia, Nepal, Syria, Saudi Arabia, Yemen, Tunisia and Lebanon.

Gnehm said that he knew he eventually wanted to return to the university to help students face an increasingly complex world.

"If I could do even in some small way what my professors had done for me when I was a student, then I knew I would have found that deeply meaningful place that I had been searching for," he said. "I found it."

Over the years, Gnehm has served on the GW board of trustees and the GW Alumni Association. As an undergraduate, he was the Student Association president.

Gnehm, who delivers the annual Kuwait Chair Lecture highlighting an issue in the Middle East, was lauded by GW President Steven Knapp for his ability to engage both the public and scholars on challenging topics.

"I think we all come away really amazed by the depth of his experience, by his wisdom and by his wit, and by his easy manner and very engaging way of addressing an audience," Knapp said.

The GW President's Medal, established in 1988, recognizes individuals who have exhibited courage, character and leadership in their chosen fields. —Kristen Mitchell



Aubrey Villalobos presents alongside the other members of the first-place team, Urgent Wellness

THE 12 FINALISTS

TECHNOLOGY VENTURES

Bernik: A head-up display for motorcycles that projects critical information in the rider's forward vision, including rear-view visibility and blind spots.

Clean Condense: Providing clean water to gardeners and growers to run their operations with an affordable and environmentally friendly option.

Fourth Wave Studios: An app that will bring education material to life with augmented reality visuals and interactivity.

Opal: A comprehensive equipment management system that delivers the power and efficiency of condition-based maintenance to the health care sector.

NEW VENTURES

Agaport: The first online platform to search, compare and book storage space in freeports, located within free-trade zones.

Berg Bites: With heart-healthy oats and Omega-3 powerhouses like chia and hemp seeds, Berg Bites offers a delicious, but guilt-free, snack.

drwr: An e-commerce platform for antiques and collectibles will improve the buyer/seller experience through a user-generated taxonomy system.

The Pocket Palette: A single-serve makeup kit that empowers women to focus on priorities and eliminate the need for big bags.

SOCIAL VENTURES

Givebutter: A social crowdfunding platform designed for student organizations and nonprofits with a mission of inspiring people to give back.

KnoNap: A discreet napkin with detector cells that test for the presence of date-rape drugs in various beverages.

The Forgotten Fruit: Snacks that use misshapen produce discarded by U.S. agricultural systems to increase revenue for farmers and decrease overall waste.

Urgent Wellness: Medical and preventative care clinics managed by community-based workers aiming to reduce costs while improving health for vulnerable populations.

ENTREPRENEURSHIP

'It's Really Just Time'

Plan to bring preventative care to low-income and homeless patients wins top prize at New Venture Competition, where more than \$300,000 in cash and in-kind prizes was up for grabs.

//By Kristen Mitchell

A team of GW entrepreneurs is looking to revolutionize health care by providing more accessible primary care options to a community's most vulnerable population.

Freya Spielberg, an associate professor at the Milken Institute School of Public Health and director of GW's community-oriented primary care, founded the startup Urgent Wellness, which plans to develop telemedicine and medical vending machines staffed by community health workers to lower health care costs nationwide and improve access for homeless and low-income patients.

These resources would be put into homeless shelters and housing projects to provide more convenient preventative care for Medicare and Medicaid patients, Spielberg says. It would also decrease reliance on emergency room services.

Urgent Wellness was awarded more than \$25,000 in April at the annual New Venture Competition, including taking home the

\$15,000 first-place prize.

"When I was working in urgent care, I would see people, and I wanted to take care of the whole person because I'm in family medicine, but I really wasn't allowed to," Spielberg says. "I had to get them in, get them out, take care of the acute care issue."

Thirty-two percent of Medicaid patients use the emergency room once a year at least, she says, and just over one-third of those visits are avoidable. When patients overuse these services, health care costs rise. The only way to improve this problem, she says, is by creating a system that can be paid for by insurance and provides a new kind of routine care.

"I see the need, and I see the solution, and we have the technology now to make this work, so it's really just time," Spielberg says.

The Urgent Wellness team—comprising Spielberg; Aubrey Villalobos, who is the director of comprehensive cancer control at the GW Cancer Center and a graduate student in the Milken Institute School of Public Health; Luigi Leblanc and John Barabino—was among 12 finalist teams that vied for more than \$300,000 in cash and in-kind prizes. Proposals ranged from new ways of thinking about food waste, an on-the-go makeup kit and technology that would allow gardeners to save money on irrigation by taking advantage of natural condensation.

The competition is put on by the Office of Innovation and Entrepreneurship and the Office of the Vice President for Research. In the past nine years, 40 percent of finalists have launched their companies and 26 startups have been formed, says Jim Chung, associate vice president for research, innovation and entrepreneurship. **GW**



A hookworm parasite

MEDICINE

Hookworm Vaccine Enters Phase Two

Vaccine would prevent re-infection by the parasite, which affects some 500 million people

Buoyed by a \$3 million National Institutes of Health grant, GW researchers are starting a second round of clinical trials to test the efficacy of a potential hookworm vaccine.

“This will be the first proof of concept or proof of efficacy study that we have done,” says David Diemert, an associate professor of microbiology, immunology and tropical medicine, who is leading the study with Jeffrey Bethony, a professor in the same department. “Everything before has just been looking at immune responses and safety.”

Hookworm is an intestinal parasite that afflicts more than 500 million people worldwide, overwhelmingly in impoverished areas, and causes anemia while hurting cognitive and physical development, making it especially dangerous for children. Hookworm is typically passed when a person, usually barefoot, steps in soil contaminated by another person’s infected feces.

Hookworm is currently treated with anti-worm drugs, which do little to prevent re-infection. A vaccine would allow the body to block the parasite before it attacks and improve life for people living in endemic areas like South America, sub-Saharan Africa and Southeast Asia. Hookworm is virtually nonexistent in the United States.

“Current treatment provides temporary relief in terms of curing some infections and reducing the burden of others,” Diemert says. “But since the people are living in a contaminated environment, they quickly get reinfected. That’s why we believe that developing a preventative vaccine would be a much better means of controlling and potentially eliminating this infection.”

PSYCHOLOGY

Capturing a Vantage on Discrimination

In testing a new tool for recording and measuring black men’s experiences with law enforcement, researchers found that half of their study participants felt they had been discriminated against in recent encounters.

In the study of 1,264 black men in Georgia, 633 reported that in dealings with law enforcement over the past five years they perceived they had been treated unfairly through accusations related to drugs or driving, through verbal or physical abuse, or on the basis of their clothing.

The researchers found that, as in previous studies, those experiences were associated with symptoms of depression.

The questionnaire that was developed to conduct the study, called the Police and Law Enforcement Scale, is aimed at filling “a fundamental gap in the psychological literature,” the researchers wrote in the article, published in *Cultural Diversity and Ethnic Minority Psychology* in April.

“There is a substantial gap between what you hear from black men regarding their experiences with law enforcement officials during their lives and what is in the scientific literature,” says Devin English, a GW doctoral student and the lead author of the study. “We see our study as helping to document what black men have been experiencing for centuries in the United States.”

The researchers said that future uses of the questionnaire could include broadening the scope—beyond Georgia, and incorporating younger black men and adolescents (the average age among the study group was 44), or black women.

It also could be used to probe more specifically the public health impact of these experiences.

“It’s of the utmost importance for those of us who do research and work on black men’s health to understand black men’s experiences from their vantage point and how factors in the social environment shape mental and physical health,” says Lisa Bowleg, a GW psychology professor and one of the study’s authors.



Star trails swirl around the dome of the Gemini South telescope, in Chile, in this stacked series of long-exposure shots.

ASTRONOMY

A Deeper Perspective on Space

GW researchers are helping to build an instrument that will allow scientists to see farther into space than ever before and to study celestial objects and events with unprecedented precision.

The OCTOCAM will have eight high-speed detectors working simultaneously yet independently, each capable of imaging and analyzing a different band of visible or invisible light. The instrument is designed for the Gemini Observatory's facility in Chile and will be built over the next five years.

OCTOCAM will be used with a new telescope, the Large Synoptic Survey Telescope, which is under construction. The 8.4-meter-wide LSST will be able to map the entire visible sky in just a few nights, documenting billions of new stars and galaxies. OCTOCAM is designed to perform detailed, efficient follow-up observations on LSST findings.

"We want to go after the most interesting objects and exciting events that the LSST finds, and then observe to great depth with OCTOCAM," says GW physics professor Alexander van der Horst, who is the OCTOCAM project scientist.

Van der Horst worked for two years on the proposal for the instrument, and assembled a team of some 50 astronomers from around the world to work on the project. GW will receive a portion of a \$15 million grant to lead the scientific efforts and develop software for astronomers to efficiently use the new instrument.

The project, led by Antonio de Ugarte Postigo, a scientist based in Granada, Spain, is scheduled to be completed by the end of 2021, ahead of the LSST's completion the following year.

Stephen Goodsell, who manages the instrument program for Gemini, says that

OCTOCAM's capacity for fine detail across a wide stretch of spectrum "will undoubtedly lead to transformational scientific discoveries."

Van der Horst, for instance, is interested in studying short-lived events, like the explosions of massive stars at the end of their lives, and collisions between extremely dense objects, the visible and near-infrared light of which OCTOCAM may be able to detect for the first time.

The science team also includes GW physics professors Oleg Kargaltsev, who is interested in studying neutron stars, the densely packed corpses of massive stars that have exploded; and Chryssa Kouveliotou, who is hoping to use OCTOCAM to study magnetars, a rare and extremely magnetic type of neutron star. —**Kristen Mitchell**

“Fertile Ground” by Pat Quinn, BFA ’17—an installation of plaster, soil, mixed media and audio at this year’s NEXT exhibition. “Fertile Ground” encourages viewers to “slow down to find the moments of quiet curiosity” and to “remember why you’ve come and that someone will wonder about the traces you’ve left after you’ve gone.”



ART

Corcoran Exhibits What’s NEXT

NEXT is an annual exhibition for graduating seniors and graduate students of the Corcoran School of the Arts and Design. This year, it featured the work of 50 students who span all disciplines. The event drew an estimated crowd of 900 to the Flagg Building in April.

“It’s an opportunity for us to gain insights into the way students think about materiality and conceptual development,” Corcoran Director Sanjit Sethi says. “What they’ve learned, critically, conceptually, materially through their time here is an opportunity for us to see what the future of culture looks like from the perspective of gifted students.”

Among the works shown: a room taken up by 322 panels of gradated black, a photographic investigation of Christian iconography and an exhibition design inspired by the psychology in the Pixar film *Inside Out*.

EVOLUTION

A Closer Cousin

A new study of the musculature of bonobos suggests that the rare great ape may be more closely related to humans than is the common chimpanzee. Previous research had suggested the theory at the molecular level, but the study is the first to compare the anatomy of the three species.

“Bonobo muscles have changed least, which means they are the closest we can get to having a ‘living’ ancestor,” says Bernard Wood, one of the study’s authors and a professor of human origins at the GW Center for the Advanced Study of Human Paleobiology.

Scientists believe that modern human and common chimpanzee/bonobo lineages split around 8 million years ago, and the two great ape species split from each other 2 million years ago. Over time, they found, the bonobo muscles have changed less than that of the common chimpanzee.

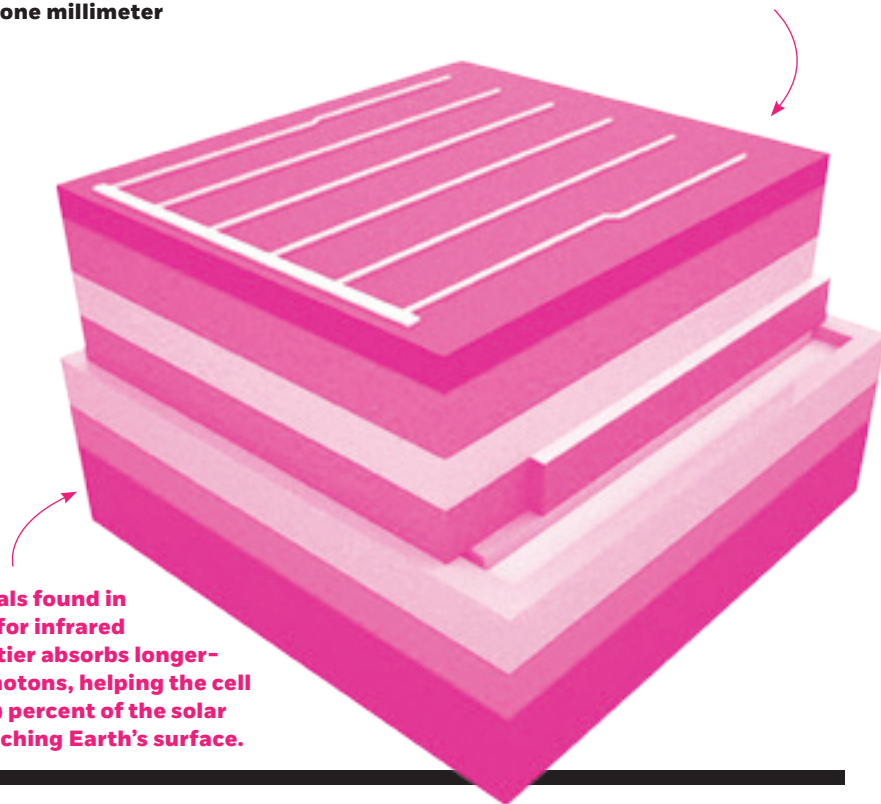
For the study, published in April in *Scientific Reports*, the team examined seven bonobos from the Antwerp Zoo in Belgium that had died and were being preserved—an extremely rare opportunity to study the endangered species. 🐼



BONOBO: ©ISTOCK.COM/ANOLIS01 / SOLAR CELL: COURTESY MATTHEW LUMB

An illustration of the prototype solar cells, which are less than one millimeter square.

This tier is a conventional multi-junction solar cell, absorbing shorter-wave solar photons.



Using materials found in applications for infrared devices, this tier absorbs longer-wave solar photons, helping the cell to capture 99 percent of the solar spectrum reaching Earth’s surface.

ENERGY

Harnessing More of the Sun

A prototype solar cell is capable of capturing almost the whole range of the solar spectrum.

Scientists have designed and constructed a prototype for a new solar cell that integrates multiple cells stacked into a single device capable of capturing nearly all of the energy in the solar spectrum. The new design converts direct sunlight to electricity with 44.5 percent efficiency, giving it the potential to become the most efficient solar cell in the world.

The most common solar cell today

converts only a quarter of the available energy into electricity.

“Around 99 percent of the power contained in direct sunlight reaching the surface of Earth falls between wavelengths of 250 nm and 2,500 nm,” says Matthew Lumb, lead author of the study and a research scientist at the GW School of Engineering and Applied Science, “but conventional materials for high-efficiency multi-junction solar cells cannot capture this entire spectral range. But our new device is able to unlock the energy stored in the long-wavelength photons, which are lost in conventional solar cells, and therefore provides a pathway to realizing the ultimate multi-junction solar cell.”

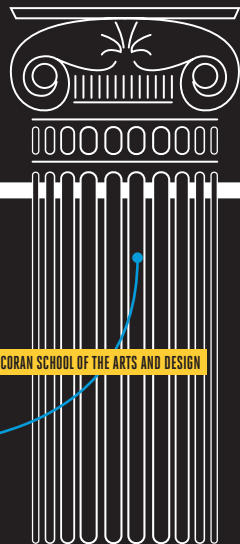
The approach is different from the solar panels commonly seen on rooftops or in fields. The new device uses a kind of panel that employs lenses to concentrate sunlight onto tiny, micro-scale solar cells. Because of their small size—less than one millimeter square—solar cells utilizing more sophisticated materials can be developed cost effectively.

The stacked cell acts almost like a sieve for sunlight, with the specialized materials in each layer absorbing the energy of a specific set of wavelengths. 🐼

IN BRIEF

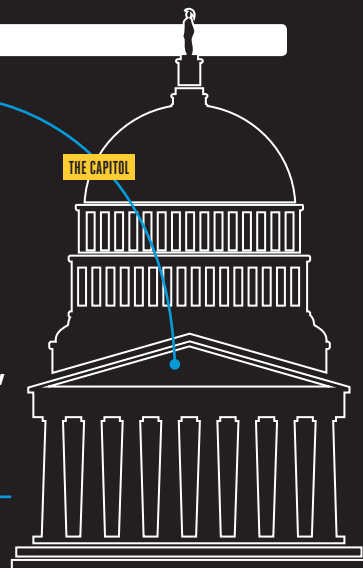
The Corcoran School of the Arts and Design named architect and community designer Joseph Kunkel as its 2017-18 William Wilson Visiting Professor of Community Engagement. Kunkel, a member of the Northern Cheyenne tribe, is the executive director of the Sustainable Native Communities Collaborative.

CORCORAN SCHOOL OF THE ARTS AND DESIGN



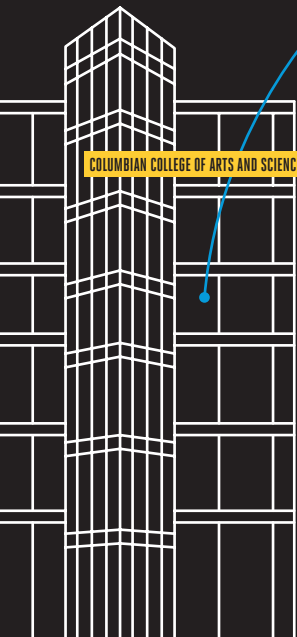
U.S. Sen. Rand Paul (R-Ky.) will teach a course, “Dystopian Visions,” during the fall 2017 semester, exploring the history of dystopian outlooks and how they relate to current political events.

THE CAPITOL



Sarah Wagner, an associate professor of anthropology, and Andrew Zimmerman, a professor of history and international affairs, were awarded Guggenheim Fellowships by the John Simon Guggenheim Memorial Foundation. Both will use the fellowship to support current book projects: Wagner’s a study of war, memory, science and innovation surrounding the accounting for and memorializing of America’s missing-in-action from the Vietnam War; Zimmerman’s book offers a new lens on the U.S. Civil War and a model for rethinking archetypical national events.

COLUMBIAN COLLEGE OF ARTS AND SCIENCES



10,000 ft.

How high the School of Engineering and Applied Science’s rocket team sent its student-designed-and-built sounding rocket—a rocket that carries scientific instruments (its “payload”)—into the sky while placing second out of 40 in the Space Dynamics Laboratory payload challenge in Las Cruces, N.M.

Lara Brown took over as director of the Graduate School of Political Management after spending the past year as the school’s interim director. Brown is a former Department of Education appointee in the Clinton administration.

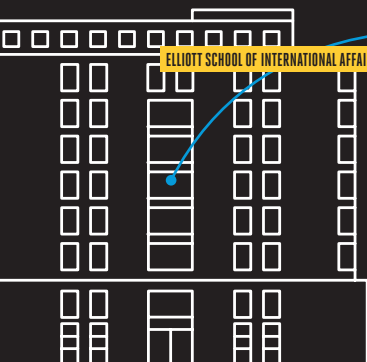
GRADUATE SCHOOL OF POLITICAL MANAGEMENT



The number of student research abstracts presented at the university-wide Research Days in April—the fourth consecutive year of record-high participation. Student work ranged from a study of stress grooves in mountain gorilla teeth to exploring potential bias against overweight people among elementary school teachers.

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ELLIOTT SCHOOL OF INTERNATIONAL AFFAIRS



‘Senator, I am one of them.’

Remembering the Senate confirmation hearing of Patricia Roberts Harris

Forty years ago, Patricia Roberts Harris, JD ’60, became the first black woman to hold a cabinet post—but only after a senator accused her of not being able to connect with common people.

Nominated by President Jimmy Carter, Harris would serve as the secretary of housing and urban development from 1977 to 1979 and later served in Carter’s cabinet as the secretary of health, education and welfare and the secretary of health and human services.

But during her confirmation for the HUD post, Harris faced Sen. William Proxmire. The Wisconsin Democrat—he succeeded Joseph McCarthy to become the longest-serving senator in Wisconsin history—questioned whether her prestigious education and apparently affluent background would preclude her from understanding the needs of low-income Americans.

Harris had graduated first in her class from the GW Law School and went on to become the first black female dean of Howard University’s School of Law. President Lyndon Johnson made her the first black woman to be a U.S. ambassador (Luxembourg). And after her Senate confirmation hearing, she became the first black woman to enter the presidential line of succession. (Currently, the HUD secretary is 13th in line to the Oval Office.)

Echoing press critiques of the time, Proxmire, during the hearing, suggested Roberts was “not an ‘of, by and for the people’ person.”

“[Reports] indicate you’re not one who has gone out to seek the opinion of the average citizen,” the senator said. “Will you really make an effort to get the views of those who are less articulate and less represented and certainly less likely to be knocking on your

door with outstanding credentials?”

Here is an excerpt from Harris’s hearing, taken from the Congressional Record. She died from breast cancer in 1985 at age 60.

PATRICIA ROBERTS HARRIS *Senator, I am one of them. You do not seem to understand who I am. I’m a black woman, the daughter of a dining car waiter. I’m a black woman who even eight years ago could not buy a house in some parts of the District of Columbia. Senator, to say I am not by and of and for the people is to show a lack of understanding of who I am and where I came from.*

SEN. WILLIAM PROXMIRE *Well, Mrs. Harris, I think you would agree that it’s not enough to be black or to be a woman or to be poor ... to understand the problem of so many people who don’t get listened to. ... Your answer is that you have no problem with this because you’re a black woman? Is that your answer?*


HARRIS *No, that is not my answer.*

PROXMIRE *Well then what is your answer?*

HARRIS *You spoke of the unrepresented and the poor and I said: ‘I am one of them.’*

I started, Senator, not as a lawyer in a prestigious law firm, but as a woman who needed a scholarship to go to college. If you think I have forgotten that, you’re wrong.

I started as an advocate for a civil rights agency, the American Council on Human Rights, that had to come before this body to ask for access to housing by members of minority groups. If you think I have forgotten that, Senator, you’re wrong.

I have been a defender of women, of minorities, of those who are the outcasts of this society, throughout my life and if my life has any meaning at all it is that those who start as outcasts may end up being part of the system. And I hope it will mean one other thing, Senator, that by being part of the system one does not forget what it meant to be outside it. Because I assure you that while there may be others who forget what it meant to be excluded from the dining rooms of this very building, I shall never forget it. 

Patricia Roberts Harris



GEORGE WELCOMES

“Stories—human stories—perform important functions in every society, one of which is memory. It is imperative that we remember, actively, always. It is uncomfortable. But are those who died not worthy of our discomfort?”

Novelist and MacArthur Foundation Fellow **Chimamanda Ngozi Adichie** on the role of books in remembrance and relating to the past. She spoke in April at the conference “Remembering Biafra: History, Memory and the Global Impact of the Nigerian Civil War,” organized by the Elliott School of International Affairs, the Institute for African Studies and the Columbian College of Arts and Sciences.

“If Pakistan is on an ascendant course, recognized in the world as a progressive dynamic nation, then we can play a great role in the Muslim world and also in bringing peace.”

Former Pakistani President **Pervez Musharraf** on Pakistan’s role in establishing world peace. A former general, Musharraf served as Pakistan’s president from 2001 until resigning under the threat of impeachment in 2008. He spoke in April at the National Churchill Library and Center at Gelman Library.

“If lawmakers do not like the laws that we enforce, that we are charged to enforce, that we are sworn to enforce, then they should have the courage and the skills to change those laws. Otherwise, they should shut up and support the men and women on the front lines.”

Then-Homeland Security Secretary **John Kelly** speaking in April at the Jack Morton Auditorium on the political and public perception of his department. Kelly was named White House chief of staff by President Trump in July.

“Increasing inequality complicates democracy. When the government doesn’t meet the needs of the population, it becomes irrelevant, and when government becomes irrelevant there is space for ‘saviors’ to manipulate people.”

Impeached Brazilian President **Dilma Vana Rousseff** speaking at the Elliott School of International Affairs in April on the rise of far-right demagoguery. Rousseff, brought to GW by the Brazil Initiative, was impeached in 2016 on charges of manipulating the federal budget.

“He’s always striving for a stronger, better word that he never comes up with. When you do Trump, I remember watching like ‘OK, left eyebrow up, one eyebrow down, push your mouth out as far as you can like you’re trying to bite the face off the person you’re talking to.”

Actor **Alec Baldwin** on impersonating Donald Trump on *Saturday Night Live*. Baldwin, who briefly attended GW, spoke at Lisner Auditorium in April in an event sponsored by the Smithsonian Associates.

“NATO is the most successful alliance in history.”

NATO Secretary General **Jens Stoltenberg** on why NATO works: It prevents conflict and enables deterrence. He spoke at the City View Room in April during an event put on as part of the Elliott School’s “Leadership in International Affairs: Lessons Learned” series.

Chimamanda Ngozi Adichie

**Dilma Vana
Rousseff**

**Jens
Stoltenberg**

John Kelly

**Alec
Baldwin**

**Pervez
Musharraf**

SHOWCASING NEW BOOKS BY GW PROFESSORS AND ALUMNI

BOOKSHELVES

Reluctantly Supportive Actors

In her new novel, *The Hopefuls*, professor Jennifer Close mines personal experience with life, love and politics.

// By Menachem Wecker, MA '09

When Jennifer Close moved to D.C. with her husband for his job in the Obama administration, the adjustment was difficult.

After seven years in New York, she felt like she was leaving the city life behind, and all for someone else's agenda (which can sting, even when that someone is your spouse). In the physical and emotional shift, and in the conversations she had with other political spouses, partners, boyfriends and girlfriends, she found inspiration for a novel.

"We got dragged here, so what do we do now?" she says.

In *The Hopefuls* (Knopf, 2016)—the third novel by Close, an adjunct creative writing professor—it takes just three pages till the first-person narrator, Beth, waxes about "the smell of urine, popcorn, and dirt" that welcomed her on return trips to Penn Station, and the feeling she "was coming home."

(Close admits to sharing some things with Beth, though



Jennifer Close



that smell isn't exactly among them.)

The newlywed Beth finds D.C. alien, but her husband, Matt, who works in the Obama administration, could hardly be happier to be in the political center. Although somewhat unsure of her place in the world, Beth's chances at happiness appear poised to soar when she and Matt befriend kindred spirits Jimmy and Ashleigh. But then Matt is hired

to run Jimmy's campaign for statewide office in Texas, and the setting migrates south. There, the lives of the two couples become intertwined in ways that oscillate between thrilling, comfortable and tense.

All the while, Close draws upon an impressive amount of research. When she decided what kind of office Jimmy would pursue—on the Texas Railroad Commission—she spoke to someone who'd run for that office. And the D.C. restaurants she describes (like The Exchange Saloon near the White House, or the Cork Wine Bar in Logan Circle) are real, even if some (like Adams Morgan mainstay La Fourchette) have closed since the book published.

"The city really did matter," she says. "You don't want to get it wrong."

Part of Close's writing process, however, is sometimes about making mistakes. She doesn't tend to outline, and often doesn't know where her writing will lead. That means sometimes getting stuck and deciding to backtrack. On this book, she threw out about 100 pages of backstory on Beth's childhood, which ended up being unnecessary. She also toyed with, and discarded, several storylines that, for instance, placed Beth in Washington before leaving and returning, and that involved her being friends with Jimmy in college.

Although Close doesn't usually show her drafts to her husband, she did this time.

"For this book, I needed him to read it," she says. Her husband and friends in politics were sources of "funny, weird, insidious things" to include, like the city's ubiquitous acronyms. (The fictional Matt gets his start on the Presidential Inaugural Committee, the PIC, which for Beth is reminiscent of "fingers in noses.")

The fruit of all that research combines with one of the book's strongest elements: an authenticity of voice. Close says that's the first thing she teaches in her writing classes, imploring students to read their writing aloud for plausability.

"Nothing pulls you out of a story faster than when you don't believe the character's voice," she says.

Over the past seven years, Close says, the city has grown on her. She's come to appreciate that the apartments are bigger, that there's a lower concentration of people and the many ways one is able to find out whether the Metro is aflame on any given day. She only recently heard of another, the website *IsMetroOnFire.com*.

"That's the kind of thing I would have put in the book," she says. □

The Ambulance Drivers: Hemingway, Dos Passos, and a Friendship Made and Lost in War (Da Capo Press, 2017)

By James McGrath Morris, MEd '00

Ernest Hemingway and John Dos Passos were unlikely companions in 1924 Paris. The former was “egotistical, certain of himself, willing to get ahead at the expense of others, apolitical, and athletic,” Morris writes, while the latter was “timid, questioning, considerate to a fault, a committed left-wing pacifist, and incapable in all sports aside from hiking.” It’s no wonder the two, who drove ambulances during World War I, would fight as their fortunes changed. “The bull that was friendly and playful as a calf will gore the guts out of you at the drop of a hat when he’s grown,” Dos Passos wrote of Hemingway.

American Daredevil: The Extraordinary Life of Richard Halliburton, the World’s First Celebrity Travel Writer (Chicago Review Press, 2016)

By Cathryn J. Prince, BA '91

Tennessee native Richard Halliburton (1900-39) would have been a good candidate for the most interesting man in the world. He swam the Panama Canal, he ran the original marathon (from Marathon to Athens), he climbed Mt. Olympus and Mt. Fuji. But then, less than two years after Amelia Earhart’s disappearance, he and his ship vanished en route to San Francisco from Japan, a poetic end to a life spent “romancing the road,” Prince writes.

Ballad of the Green Beret: The Life and Wars of Staff Sergeant Barry Sadler from the Vietnam War and Pop Stardom to Murder and an Unsolved, Violent Death (Stackpole Books, 2017)

By Marc Leepson, BA '67, MA '71

Barry Sadler’s 1966 best-selling record, *The Ballad of the Green Berets*, launched him to stardom

and earned him a half-million dollars (nearly \$4 million today) in royalties that year alone. His success was “startling but short-lived,” Leepson writes, and Sadler died 23 years later, after 16 months as a brain-damaged quadriplegic, caused by a bullet to the head in Guatemala. Along the way, this fascinating and controversial figure would write 29 pulp fiction books, get away with murder with a slap on the wrist and have a failed acting career, among other ventures. His song, still played in military contexts today, “all but destroyed the man who created it.”

Love Wins: The Lovers and Lawyers Who Fought the Landmark Case for Marriage Equality (William Morrow, 2016)

By Debbie Cenziper, assistant professor of media and public affairs, and Jim Obergefell

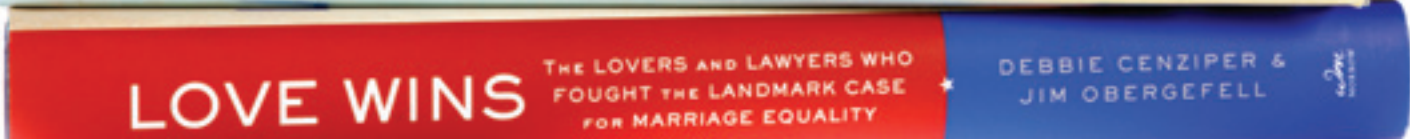
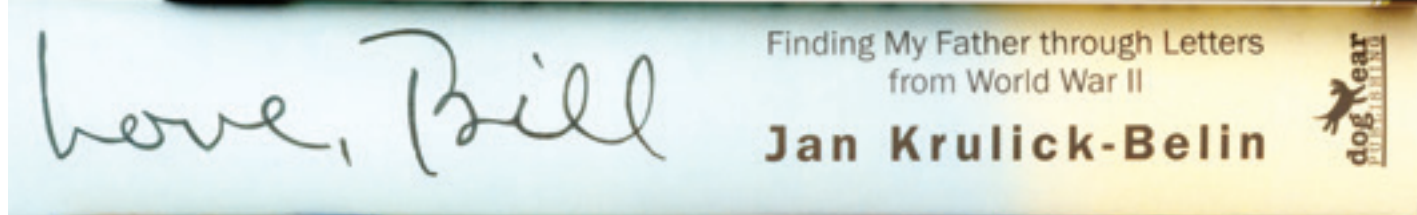
When Jim Obergefell learns, as he cares for his husband who is dying of Lou Gehrig’s disease, that the death certificate will list his late husband as “single,” because Ohio wouldn’t recognize their Maryland wedding, he is shocked. The rest, including

Obergefell teaming up with civil rights lawyer Al Gerhardstein and scoring a victory before the U.S. Supreme Court, is history. This book tells that history with the depth and intrigue of a novel.

Love, Bill: Finding My Father through Letters from World War II (Dog Ear Publishing, 2016)

By Jan Krulick-Belin, MA '78

On Oct. 3, 1960, when the author was 6, her 50-year-old father died of bone marrow cancer. “I remember thinking that if I wished hard enough, I could bring him back,” she writes. More than 40 years later, her husband discovered a box in her mother’s home with 100 love letters her father wrote to her mother during the war. “Darling—am I writing too often?” he wrote. “At times I think I am, so I never write the second letter I want to send. Or the third.” The letters lead the author on a journey to parts of her father’s story she’d never fathomed. ☐



SPORTS

Yuta Watanabe

BASKETBALL

It's Time for Yutamania

Yuta Watanabe has spent three seasons in the shadow of veteran players. This season, the shadow will be his to cast.

// By Matthew Stoss

In Japan, Yuta Watanabe is so famous that a random woman once threw her baby at him while mired in a Yuta fan mob, stuffed between an arena and a bus.

"It was the wildest thing I've ever seen," GW men's basketball coach Maurice Joseph says.

For 12 days last August as part of an NCAA-allowed-once-every-four-years foreign trip, the team toured and barnstormed through Japan, where Watanabe—who was born on one of the archipelago nation's southern islands—is a celebrity. Fans filled 5,000- to 8,000-seat arenas wherever the Colonials played and hundreds waited to meet and glimpse Watanabe after games.

Among one of those crowds was the woman who threw her baby.

"She's trying to get her baby in there to take a picture but there were so many people, she couldn't really make it," says Joseph, who was watching from the team bus. "Finally, she just kind of got fed up and she was close enough to Yuta where she literally just tossed her baby to Yuta."

In addition to having the coordination of a scholarship Division I athlete, Watanabe also happened to be paying attention.

"Yuta got startled and caught the baby," Joseph says. "And as he caught the baby, she snuck in for a picture her husband took and she grabbed the baby and bowed and said thank you."

Watanabe downplayed the severity and distance of the baby tossing. The senior guard/forward described it more as a daring hand-off.

"She, like, passed the baby," Watanabe says.

Legends often grow from quibbled details, and for Watanabe, the debate about baby-thrown versus baby-passed has the feeling of tall tale about a player anointed a national phenom as a high schooler.

Japanese media dubbed the lithe and unassuming Watanabe "The Chosen One" when he was a teenager and he's been a member of the Japanese national team since he was 18. A contingent of Japanese press covers most of his GW games, and when Watanabe returned to Japan in the summer of 2016, it was something like Beatlemania—Yutamania.

"He's really like LeBron James over there," says the graduated Tyler Cavanaugh, the Colonials' leading scorer last season. "There's a lot of pressure. He kind of feels the whole weight of a country on his shoulders."

Not so much at GW—until now.

In his first three seasons, Watanabe

never had to be more than a complement. Veteran teams ensured that, and Watanabe developed into a superlative passer and a defensive specialist. He has typically guarded the opposing team's best player, regardless of their position or size—Watanabe is an elegantly versatile 6-foot-9—and GW hasn't needed him to score. Cavanaugh's graduation changed that.

"His role next year is to be Batman and not Robin," says Joseph, who in the spring was promoted to full-time head coach from interim head coach after the Colonials went 20-15 overall and 10-8 in the Atlantic 10, losing in the quarterfinals of the A-10 tournament and then in the second round of the College Basketball Invitational, a postseason tournament first played in 2008.

Watanabe averaged 12.2 points per game last year, second-most on the team behind Wake Forest-transfer Cavanaugh, who averaged 18.3. Watanabe shot 44.4 percent overall (119 of 268) but made just 31.4 percent of his 3-pointers (27 of 86).

In the past, the Colonials largely ran Watanabe off screens, springing the rangy 196-pound left-hander for quickfire mid-range jumpers and 3s on the wing.

This season, the 22-year-old Watanabe finds himself a chosen one again.

"I feel like I have to do everything because obviously Tyler was a great player," says Watanabe, a first-team All A-10 defender. "He can score inside and outside but he'll be gone. I averaged 12 points last year but I think it's not enough for next season, so I've got to score more points and I've got to keep guarding the best player. ... After the game, I feel tired but I like my role."

Watanabe's duties will include creating his own shot more and asserting himself on offense. He stayed on campus this summer to work on that, specifically beating defenders off the dribble—he's already as smooth and slippery as anyone when he drives to the rim—and on his pretty-but-inconsistent 3-point shot that could be improved by cleaner footwork.

Watanabe says he's fine with the added responsibility, aware that it's necessary on a team featuring few established players. He's handling all this as he's handled his demification by the Japanese media: with an amiable shrug.

"I like it, honestly," Watanabe says of his sobriquet. "... I just thought it was cool."

Watanabe is the only the fourth Japanese D-I men's basketball player in NCAA history and he came to the United States at age 18 after graduating high school in Kagawa to

seek his basketball fortune. Had he remained in Japan, Watanabe likely would be a pro by now, just like his parents who both played professionally there. But he found the prospect of an NBA career too alluring and thus traveled 7,000 miles to assay his basketball worth.

"Obviously, the basketball here is the best basketball in the world and I wanted to come to the U.S. and play basketball since I was a kid," Watanabe says.

In Japan, pro coach Don Beck vouched for Watanabe to longtime friend Jere Quinn, the coach of a successful postgraduate team at a Connecticut prep school. Beck told Quinn about Watanabe and Watanabe's desire to play in America.

Quinn says Beck's word was enough for him to take Watanabe without first seeing the then-teenager play. (A similar situation—Quinn's rapport with the Foggy Bottom coaching staff and the Montreal-born Joseph—helped Watanabe land at GW rather than fellow top suitor Fordham and despite overtures from a few power-conference schools.)


At the prep school, St. Thomas More in Oakdale, Conn., Watanabe joined an ever-formidable postgrad squad that every year boasts big handfuls of D-I talent. The Detroit Pistons' Andre Drummond is an alum, as is Villanova's Eric Paschall, who was a teammate of Watanabe's at St. Thomas More.

"I think when he first came here, he was somewhat in awe of some of the strength and athleticism by some of our kids," says Quinn, who is entering his 40th season at St. Thomas More and from where he's sent about 250 players to D-I colleges. "But as he continued to play and transition, he easily fit right in."

Watanabe says he thought he knew about the American game. It was different in person.

"They were so athletic," he says. "The dunking was crazy. I knew American basketball was like that but I was [still] surprised."

Watanabe says it took him about two months to make the decision to leave Japan. When he arrived at New York's John F. Kennedy International Airport in 2013, he spoke no English and had no friends. He had never been to the United States.

"It takes a strong backbone for a kid to do something like he's done—to uproot yourself from family and friends," Quinn says. "The kid's a risk-taker and he put a lot of faith in Coach Beck and a lot of faith in St. Thomas More and he put a lot of faith in himself to make this happen." 

BASEBALL

Feeling a (MLB) Draft

Bartosic and Muhl are the 37th and 38th players taken in program history, and it is the third straight year GW has had at least one player drafted.



JOEY BARTOSIC
Colorado Rockies
19th round (566th overall)

POSITION Center field / **YEAR** Senior

HEIGHT 6-1 / **WEIGHT** 190

BATS Right / **THROWS** Right

HOMETOWN Oakton, Va.

IN 2017 He batted .333 with 14 doubles, one home run and 26 RBIs. He led GW with 24 stolen bases.

CAREER Bartosic is GW's all-time leader in stolen bases (84) and at-bats (851). He ranks third in program history in both hits (281) and games played (213). He scored 143 runs in his career, which ties him for 16th all time. He was a two-time All-Atlantic 10 selection.



EDDIE MUHL
Pittsburgh Pirates
25th round
(748th overall)

POSITION Relief pitcher / **YEAR** Senior

HEIGHT 6-4 / **WEIGHT** 225

BATS Right / **THROWS** Right

HOMETOWN Sherman Oaks, Calif.

IN 2017 In 47 1/3 innings over 24 appearances, Muhl went 2-3 with a 3.04 earned-run average and struck out 22 while walking 25. Opponents batted .259 against him.

CAREER Muhl is GW's all-time saves leader with 40. He ranks second in program history in appearances with 88, and in 2015 as a sophomore, he saved 17 games—a GW record. He is a two-time All-Atlantic 10 selection.





ADVENTURERS

If the GW alumni body has become known for its statesmen, its lawyers, its scientists, storytellers and do-gooders out in the world making headlines (or writing them), there's also an influential subset that's perhaps less known, that operates differently. They conspire against biology, poke physics in the eye. In harm's way or in the bottomless unknown, they'll be found setting up camp, feeling out the boundaries beyond bounds and stealing imagination. They leave a telltale wake of adrenaline that we pick up on in this special issue.



Lulu Freer stands outside the Everest ER tent at Base Camp in 2012.



THE CLINIC IN THE CLOUDS

BY DANNY FREEDMAN, BA '01

British mountaineer George Mallory, who died somewhere near the top of Mount Everest in 1924, once said that he was pursuing the world's tallest peak "because it's there." Lulu Freer went to the mountain in 2003 because of what *wasn't* there.

At its 29,035-foot peak, Everest scrapes the jetstream. Winds at the top can blow 100 mph, the oxygen is scant, and in the thick of summer, the mercury might not crest zero degrees Fahrenheit. Even for thousands of feet below the zenith, the mountain is so hostile that it's inhabited only by dead bodies (George Mallory's among them), long

considered too dangerous to retrieve.

Lulu Freer, RES '92, thought the climbers and support staff might be able to use a doctor.

She aligned with the nonprofit Himalayan Rescue Association, raised money for supplies, mobilized a few volunteer doctors and in 2003 pitched her white Everest ER tent on the rocky moonscape of the mountain's high-traffic Base Camp at Khumbu Glacier.

At 17,600 feet, Base Camp is still a half-mile higher than any peak in the lower 48 U.S. states; a dangerous place all its own.

The clinic operates on a leave-things-better-than-you-found-them philosophy: By charging \$100 to non-Nepali trekkers and members of climb teams for unlimited medical care (they see 200-300 patients during each April-through-May climbing window), Freer is able to offer free or deeply subsidized treatment to an equal number or more of Sherpas and other local support staff—the people who reach Base Camp early

to clear boulders, set up camp, prep food and risk their lives maintaining the path up the Khumbu Icefall (a treacherous stretch of glacial ice that can move several feet each day). Her team deals in frostbite, fractures and other traumas, but also viruses and diarrhea that rip through the crowded camp. Much of what they see are altitude-related illnesses, like "Khumbu cough," brought on by the cold dry air, which can chap the lining of the lungs and cause a violent cough that sometimes cracks ribs, Freer says.

Everyday health issues at sea level—sore throat, common cold ... positive pregnancy test—can derail an expedition at 17,600 feet.

"It's never boring up there," says Freer, 59, "but the bulk of what we do is fairly predictable."

It was a different story when she first arrived 15 years ago. A seasoned wilderness doctor even then—she's been the medical director at Yellowstone National Park for 25 years—the Bozeman, Mont.-based

Freer was caught off guard by the demands of Everest. It's a place where injectable medicines freeze, as do intravenous fluids—*while in use*—and even machines, like the team's heart monitor and its ink. It's a place where supplies arrive by yak and where the distance between outposts is measured not in miles but by days' journey.

"In the [emergency room], you tend to be able to fly by the seat of your pants and think outside the box, and wilderness medicine takes it to a whole other level," she says. "... The idea that you have to use a safety pin where you would've used a piece of equipment that was autoclaved and specifically designed for that purpose—you've got to figure out other ways to skin the cat."

But more than that rush, more than the utter glee of doctoring without HMOs and electronic medical records—which is considerable—Freer says it's her endearment for the people that brings her back each year.

The year before she opened the Everest ER, Freer went to Nepal for a four-month volunteer stint at the HRA clinic in Pheriche, two days' walk south from Base Camp, and was moved by the people she met.

"They are just, as a culture, a really hardworking, wonderful people to be around," she says. "... I found that some of these people who didn't even own shoes for their children—kind of struggling by any Western definition of making a life—seemed so much happier and at peace with their lives than my wealthy neighbors with closets full of clothes and garages full of Mercedes. And it's true to this day. I learn a lot from this culture. I felt like my gift was medicine, and it's a privilege to them to be able to see a doctor. I felt like, 'Well, if I can do that, that will be the way I give back to them.' That's why I did it. It had nothing to do with climbing."

Recently, though, the job is perhaps tougher than ever. The mountain suffered back-to-back years of record death tolls, with an avalanche killing 16 Sherpas at Khumbu Icefall in 2014, and 18 Sherpas and one climber died when an avalanche rolled through Base Camp in 2015. That disaster, on

April 25, was triggered by an earthquake

west of Everest, in central Nepal, that killed some 9,000 people and leveled surrounding towns.

Freer, it turns out, was not at work that day; a fact that she says "kind of haunts me."

"You see thousands of people every year and nobody gets hurt, or nobody dies for a couple of years," she says, "and I think I was lulled into a false sense that it was a safer place than it actually is. ... I was there this spring and some of the sadness is starting to drift away. But for the last couple years it's been an extraordinarily sad place for me to go because of the losses and the destruction."

Where she'd been that day was not much better: planning a memorial service for one friend, and visiting another, Wongchu Sherpa, who helped her launch Everest ER and now had been diagnosed with terminal cancer. He would die before the year was out. But the sum of those tragedies helped her discern a path ahead.

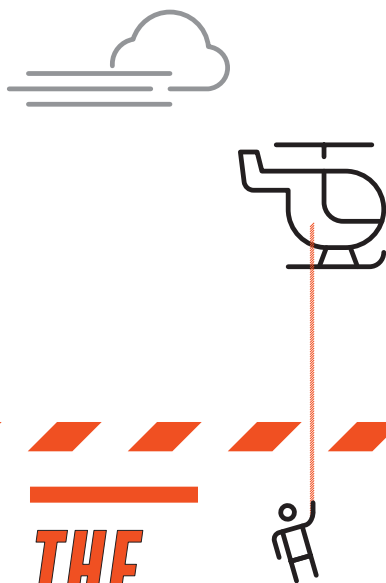
She's building a hospital in Sherpa's hometown, Kamding, a dozen days' walk down the Khumbu Valley from Base Camp. It was his dying wish to bring health care to the people there, she says. "I told him we'd take care of that for him—that he wasn't going to have the time to do it, but we would do it in his memory. I've banded together with several other dear friends of his, and we've done a ton of fundraising and we're building that hospital."

Freer will stay involved with the Everest ER—to raise money, prep the doctors and get them set up—but she may not return there to work. If all goes well, the next climbing season will mark the first that Everest ER will be staffed by more Nepali doctors than Western ones, which was her goal from the beginning.

Instead, she plans to devote her time to the Wongchu Sherpa Memorial Hospital, which could partially open in November 2018. And the long-term plan is to put herself out of a job there, too. ☐

“

[W]ilderness medicine takes it to a whole other level ... You've got to figure out other ways to skin the cat.



THE ADVENTURER'S LIFELINE

"We came under rifle attack by LRA about 22 km north of [camp]," the message read. And the implication was clear: Help.

The traveler and his guide had bumbled onto the turf of the Lord's Resistance Army last summer in the Central African Republic, and the militant religious group was welcoming them with a dose of lead poisoning. When the traveler sent his text from a two-way satellite device (pro tip: When in rebel territory, always carry a two-way), Jack Holt was on the other end.

Holt, BBA '14, heads the African outpost of U.S.-based Redpoint Resolutions, which offers rescue insurance and security services to travelers. While the client fled in his shot-up vehicle and made it to relative safety, Holt, 31, lined up a plane and an ex-French special ops agent to extract him the next day.

A former Marine infantryman himself—he deployed to the contested Iraqi city of Fallujah in 2005 and 2007—Holt has spent the past three years helping to pluck people from the various stratas of hell. Much of that is the legwork: building relationships to ensure that when he needs an aircraft or a hospital bed or an armed security detail, he knows who to call—and that they'll pick up when he does. In this edited transcript, Holt talks about his job full of unknowns, except for the one thing that all his clients are looking for.

—Danny Freedman, BA '01



Q It's interesting that much of Africa is so remote, someone can make that distress call and still be on their own for hours.

That is the reality of it, and that's why we work so hard to do the due diligence. That partner we used [for the client under fire from the LRA], it's not like he was in the Yellow Pages. It took a lot of time and effort to find that one guy who was able to help us out in that situation.

It would've been ideal if we could've gotten a helicopter to this guy, but the reality of this situation was: Where he was located, there was no helicopter that had the range to be able to go get him. We also looked at ground transportation options and, if I remember correctly, the distance actually wasn't that far. I think it's under 1,000 km [621 miles]. But it still takes something like three or four days to make that trip because of the poor condition of the roads.

Q Sounds like there's a fair amount of unknowns from day to day.

Absolutely. When the phone rings, you never know what the call is going to be or where it's going to come from. It could be a kid that's on spring break that has a stomach ache in his hotel room, or it could be like something we're dealing with now, where there's a client on top of a mountain and he can't actually walk at this moment.

Q What's the easiest call you've been on ... like a lost toothbrush?

We do get a lot of lost baggage calls. I don't look down on those calls; they did buy the policy and we're happy to help. Sometimes for them it's a humongous value-added service, and for us it doesn't take very long because we know exactly who to call. Sometimes that's all they need: If you call them back in an hour and say, "Your bag will be at your hotel tomorrow at noon," or even three days from now, it's one piece of information they didn't have before and would've taken them a long time to figure out on their own.

Q What's been the hardest call you've been on?

By far the most difficult situation I've handled was an involuntary detention or kidnapping case. These types of requests can be very difficult because you know somebody's in a really bad situation, and every hour for them

is probably just excruciatingly miserable.

Being kidnapped while traveling is probably the worst possible situation for an individual and the impacted family and employer to overcome. The mental and physical damage is immeasurable, especially considering there is no guarantee the individual will be released. I'd love to say to the client in these cases that we will have a SWAT team at the door momentarily. Unfortunately, SWAT teams rarely, if ever, solve these international crisis management issues.

This particular case was especially challenging because, as we learned more through our sometimes hourly negotiations, we suspected the person was not a victim but instead was attempting to extort his employer, which was our client.

I can't go into the details, but our team was able to remove him without payment and take him to a country in Europe where he was turned over to local authorities. The good news is, we were able to keep the client from having to make a large ransom payment.

Another challenging situation I managed involved a person who was jailed in India because they carried a piece of technology that was not allowed in the country. The person was put in jail for four days with no access to required medication and other needed personal items. Our team was able to wrap up this situation pretty quickly: We got them out of jail on bail and through the legal system, enabling the payment of a fine so the individual could reclaim their passport and travel out of the country. Unfortunately it doesn't always work like that.

Q Is there some intangible that you've found most people are looking for when they call?

I think no matter what the call is for, everybody needs somebody on the other end that's calm, cool, collected and can exude the confidence that everything's going to be OK—without saying "Everything's going to be OK," because honestly we can't say that because we don't know. But you need to give them the confidence that you're working on it.

You also need to be able to bring them down to a point that everything is moving just a little bit slower. The easiest way to bring somebody back down is the sound of your voice: If you sound panicked, it's just going to panic them more. If you're calm, you speak slowly and clearly and you give them exact directions on what needs to be done next, the situation changes really quickly. Somebody that's panicked for the first 10 seconds of a call will become the most helpful person in the world for the last 20 minutes of the call, just by doing that alone. **EW**

THE FIRST 'WINGED ASTRONAUT'

Bob White with the X-15,
which he took to Mach 4, 5
and 6—and then to space



He was the fifth American into space—but then again, the first four were astronauts and riding in a spacecraft. Bob White was neither.

From 1960 through 1962, White, MBA '66, was the U.S. Air Force's primary pilot for the X-15, an experimental rocket-powered plane being tested jointly by NASA and the Air Force.

In the era of early supersonic flight, the dart-shaped X-15 was aiming for *hypersonic*. Its designers wanted to make the sound barrier seem like a screen door yawning at the hinges.

And the X-15 is still the one to chase: It remains the world's fastest and highest-flying manned aircraft, even though the program ended in 1968.

Bob White—who Tom Wolfe describes in *The Right Stuff* as smart, handsome and a church-going, teetotaling anomaly among hot-shot pilots (“he was terribly serious”)—was one of just a dozen X-15 pilots, and he left an outsized footprint: In three flights during 1961, he became the first person to fly at four,

five and six times the speed of sound (Mach 4, 5 and 6—that last one being basically a mile per second). Then in July 1962, at age 38, he took the X-15 to a then-record altitude of 314,750 feet, almost 10 miles beyond what was considered to be the start of space, making him the first person in a plane to qualify as an astronaut.

“Boy, that was a ride,” *LIFE* magazine quoted him as saying on its Aug. 3 cover, showing a jubilant White in his silver pressure suit; a cosmic *aw shucks* that beat to the cover an exclusive sit-down with Marilyn Monroe.

LIFE hailed him as a hero (noting even his “grin like Cary Grant’s”), but by 1962 White already had been a veteran of more than 50 combat missions in World War II, including being shot down and held as a German prisoner of war, and he'd served during the Korean War. Even after his time on the X-15, he returned to service in Germany and went to Vietnam in 1967, flying 70 fighter jet combat missions and receiving the Air Force Cross, one of the highest awards for

valor. He stayed in the service—including as commander of the Flight Test Center at Edwards Air Force Base, where he oversaw development of the F-15—and earned a parachutist's badge at age 47, before retiring 10 years later in 1981 as a major general.

White never again flew an airplane after that, his son Dennis said at a ceremony naming a road for his father at Edwards in 2015, five years after his death. “Some would say it's because Cessnas don't have afterburners,” he said.

The truth, though, probably cut deeper. “There wasn't a mission, there wasn't a squadron,” Dennis White said. “He wouldn't have been a member of the United States Air Force and that to him was everything.”

—Danny Freedman, BA '01


AERIAL DISPLAY

BY MATTHEW STOSS

Late one night, Montana DeBor, BFA '14, was standing barefoot in the mud under an Anacostia bridge, holding a length of heavy chain, when the cops showed up.

"I spent a long time looking over the bridge at maybe like 11 at night," DeBor says, "and apparently someone called the police and told them there was a woman trying to throw herself off the side of the bridge into the river and weight herself with chains—which is really dark."

DeBor wasn't planning a George Bailey. She was just doing some contemporary circus, a nearly 40-year-old movement that dispenses with big tops, three ring-ed-ness and animal acts in favor of art, politics and aesthetic spectacle. Canada-spawned Cirque du Soleil is a high-profile example—contemporary circus, or *nouveau cirque*, started in France—but most contemporary circus is grassroots. It is largely practiced by small, local troupes who hold art exhibitions, juggle publicly and hang elegantly from lampposts or, as DeBor planned to do late one night, bridges in Anacostia.



Montana DeBor hangs on a Spanish web, a special rope that aerialists climb and coil around themselves to perform aerobic moves, such as spins.

"When the police came, they came with dogs and floodlights and they were like, 'Where is this woman? Is she OK? Did she jump into the river?'" DeBor says. "And I was like, 'No.' I was standing barefoot in the mud, holding the chains and just trying to explain to them what contemporary circus was."

The perils of guerrilla circusing.

The 26-year-old DeBor, who went to college for business but veered into watercolor illustration, found contemporary circus about five years ago when, for fun, she got a friend a lesson as a birthday present. Washington, D.C., has multiple circus schools, including an outpost of the Trapeze School of New York. That's where DeBor took her friend and that's where she learned to become an aerialist and dance her 5-foot-6, 120-pound form up and down, among other conveyances, ropes called Spanish webs.

"I really liked the appeal of trying



Dick Thompson sped to eight national racing championships in a series of muscle cars, including this prototype Corvette Sting Ray

something that was not only athletic but also really creative,” says DeBor, who is from Arlington, Va. “So I was able to be active but also be up in the air and be creating art with my body. These are all deep thoughts that happened as I was like, ‘Oh, I just want to try this completely random and new thing.’”

DeBor says that contemporary circus isn't lucrative but she earns a living teaching at TSNY, performing—she and her troupe, Street Light Circus, have had shows at the Kennedy Center—and doing financial and editing/publishing work on the side. She helped found Street Light Circus in late 2015 with three friends from TSNY: an acrobat, a juggler and a photographer.

Oh, and the cops who found her and her compatriots night-circusing in Anacostia? They weren't mad, just confused.

“They were like, ‘Oh, I don't really care. Uh, that's fine.’ And they left. I think we just made them feel uncomfortable. ... So, secret promoters of contemporary circus: the D.C. police department.” **EW**

'THE FLYING DENTIST'

In 1952, Dick Thompson got into his 1950 MG-TD roadster and took off with a friend down to Florida, where he entered himself into the first running of a 12-hour endurance race at Sebring International Raceway.

Thompson, a full-time dentist in D.C. (and an undergraduate alumnus of GW, his family confirms, in the absence of records), had never driven in an official race. His friend worked the pit. And yet Thompson maneuvered into an eighth-place finish in the event that *The New York Times* would a few years later call “an acid test for cars as well as drivers. Only the best in equipment and personnel are around at the finish.”

Two years later, Thompson drove a Porsche to a national Sports Car Club of

America championship—the first of eight that he would pick up over the next 17 years, along with a nom de rue: “The Flying Dentist.”

The early success brought Thompson to the attention of General Motors and behind the wheel for Corvette in 1956, a yet-untested brand on the track. Thompson helped establish Corvette's mettle, becoming a beautiful smudge that won five national titles over the next seven years.

By the time he'd retired from racing in 1969, at age 49—remaining a practicing dentist the whole stretch—he'd also raced Austin-Healeys, Fords, Maseratis and Ferrarris, among others, and drove in some of the world's premiere contests, including the Le Mans 24-hour rally.

Thompson, who died in 2014 at age 94, told *The Washington Post* that he'd retired simply by not renewing his racing license. “That was the best way I knew to stop driving,” he said.

—Danny Freedman, BA '01

ANONYMOUS TIPSTER WHO TOPPLED NIXON

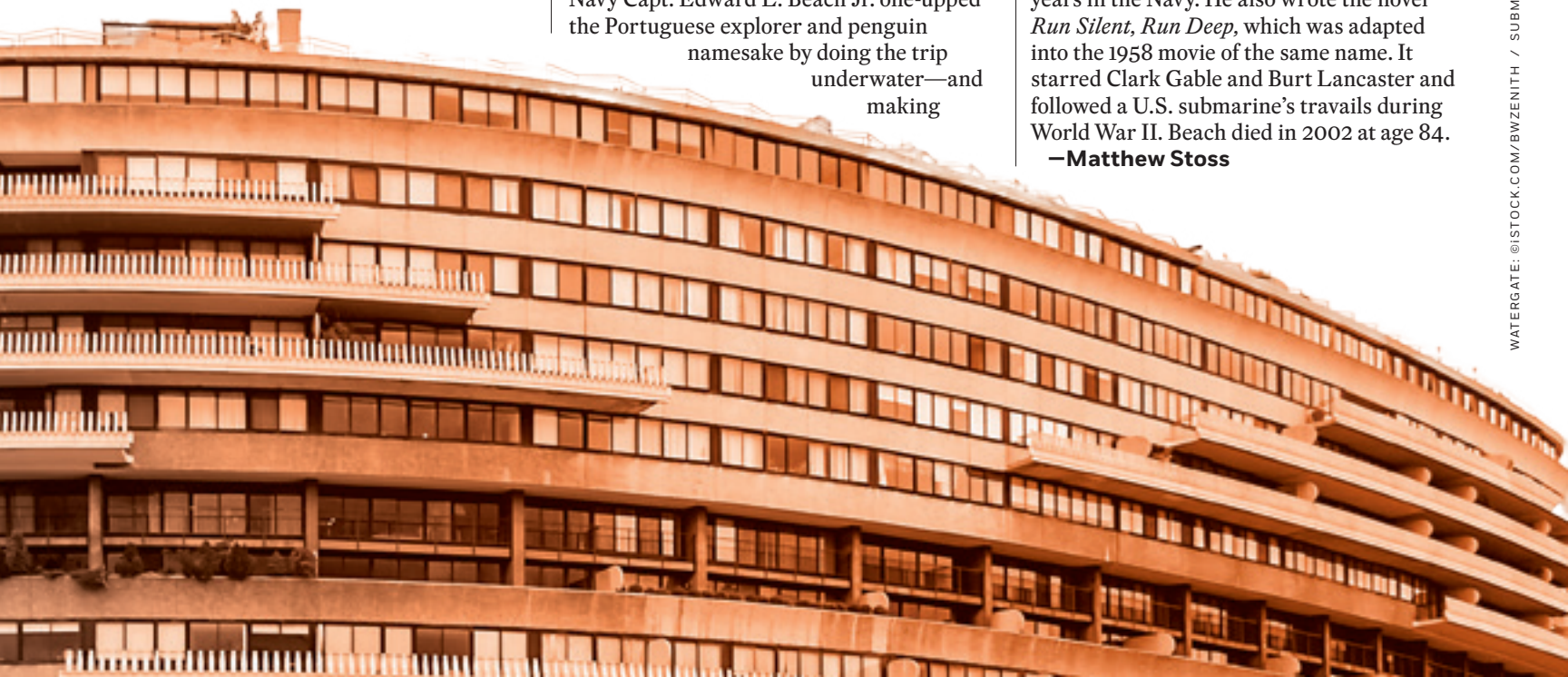
Mark Felt, JD '40—you knew him for 33 years only as “Deep Throat”—took down President Richard Nixon.

In 1972 and 1973, Felt, an avowed and quintessential G-Man, served as the FBI's second-highest-ranking official: associate director. During this time, dismayed by the unethical conduct of the Nixon White House as well as its hostility to the FBI, he fed *Washington Post* reporters Carl Bernstein and Bob Woodward information about the Watergate scandal and Nixon's efforts to obstruct and undermine the ensuing investigation. Nixon resigned as president on Aug. 9, 1974.

For three decades, only Bernstein, Woodward and the late *Post* editor Ben Bradlee knew Deep Throat's identity. Felt feared for the lives of the reporters as well as his own and only admitted to being Deep Throat in May 2005. The reveal came in a *Vanity Fair* article.

Felt joined the FBI in the early 1940s and became a protégé of J. Edgar Hoover, BL '16, LLM '17, HON '35. He died in 2008 at age 95. —Matthew Stoss

The Watergate complex



Capt. Edward L. Beach Jr.'s
447-foot *Triton* submarine

ROUNDING THE GLOBE ... UNDERWATER

In the 16th century, Ferdinand Magellan captained the first ship to circumnavigate the world. More than 400 years later, U.S. Navy Capt. Edward L. Beach Jr. one-upped the Portuguese explorer and penguin namesake by doing the trip underwater—and making

better time.

Beach, MA '64, led the *Triton*, a 447-foot nuclear-powered submarine (the biggest in the world at that time), around the world without surfacing, going 30,708 miles in 61 days while measuring how prolonged undersea trips affected submarines. The *Triton* started off the coast of Connecticut and finished off the coast of Delaware.

The round-the-world voyage took Magellan three years.

A World War II veteran and author, Beach was awarded the Navy Cross and spent 27 years in the Navy. He also wrote the novel *Run Silent, Run Deep*, which was adapted into the 1958 movie of the same name. It starred Clark Gable and Burt Lancaster and followed a U.S. submarine's travails during World War II. Beach died in 2002 at age 84.

—Matthew Stoss



Frederick Gregory (far right) and crewmates in a training lab a month before he would command his first shuttle flight in 1989

ROCKET MAN'S LAMENT

BY DANNY FREEDMAN, BA '01

The way Frederick Gregory tells it, the date April 29, 1985—the day he first saddled half a million gallons of rocket fuel and rode it into space—was roughly the same for him as it was for the rest of humanity: Monday.

It was a hell of a Monday, sure. But after all the years spent skirting harm's way, the feats of April 29 followed naturally, he says, just as surely as Monday follows Sunday.

"Spaceflight for me was just an evolution, it was just the next logical step for me to do," says Gregory, MS '77. "And I did that until I got bored to death doing it."

The night before the launch of shuttle mission STS-51B, the seven-member crew laughed easily.

"We just kinda sat around and maybe had a beer or two, and had chips. Y'know, just like a normal evening," the 76-year-old retired Air Force colonel says by phone from his home in Annapolis, Md. "We may have watched TV."

The next morning the astronauts ate breakfast and a round cake with their mission patch drawn in icing. They suited up, strapped into Challenger's flight deck and watched the time evanesce from the countdown clock.

If Gregory felt a pang, he says, it wasn't fear. He was flush with excitement over that zero second and the chance to tattoo the sky with a contrail that led straight out of sight,

as few had done before.

He says he'd never contemplated fear—not yet, anyway—even eight months later, when Challenger exploded 73 seconds after liftoff, killing everyone on board. Gregory, who would have been one of the main contacts for the crew once they got into orbit, watched from Mission Control as the shuttle broke into a fireball and streaks of white smoke.

Afterward, he went on to command two shuttle flights, in 1989 and 1991. The risks, he says, were "right in front of me. But that didn't deter me at all, because I had seen death before. I had seen this before and this was not a reason to quit and move on."

The prospect of death was plainly a piece of the equation, like any other mechanical system or chemical reaction needed to make the whole thing go.

"I never even considered it," he says when asked whether he'd confronted that possibility of dying as he sat waiting in Challenger that first time. "... And if you don't accept it, then you will never do what it is that you intend to do. If you're going to space, you have to accept the fact that you may not come home."

Gregory had spent his life to that point "kind of dabbling out on the edges, on the fringe of it, looking for something different than what the typical person was doing."

His parents gave him room to wander, even as a kindergartner in their Southeast D.C. neighborhood. "My dad never told me 'no,'" he says. "If I asked him if I could do something, he would always respond 'yes' and he would, I think, wait until I discovered that his answer should have been 'no.'"

Occasionally, though, his mother stepped in before things got that far—like the time his father said "yes" to a friend offering to

take the boy for a ride in a small Luscombe plane, propped up in the front seat on a stack of D.C. phonebooks. "You can't take my boy in this airplane," his mother told the pilot. "I'm sorry, he's 5."

At age 7, Gregory went off to sleep-away camp for nearly two months. By junior high, he'd already trekked by train to Los Angeles for a Boy Scout event and set out alone to New Mexico for a wilderness camp.

During the Vietnam War, he flew 550 helicopter combat missions for the Air Force, then took up supersonic fighter jets and became a rotary- and fixed-wing test pilot. In 1974 Gregory was assigned to NASA, where eventually he became the shuttle program's first African American pilot and, later, commander—distinctions he never sought or embraced. For him there's significance only in his contribution "not to a specific group of people, but to everybody."

That idea of making a contribution, and to do it while having the ride of his life, was an emotional cocktail Gregory had spent his career chasing. "It was not either/or," he says, it had to be both.

When one of those waned, it was time to move on. And commanding a spaceship for a second time, it turns out, can be a relatively ho-hum affair for certain people.

"Eh," he says of the experience. "Y'know, I've done that."

Gregory was primed then for the moment in January 1992 that nudged him to leave.

Just two months after he landed the shuttle Atlantis after 110 orbits around the planet, he was assigned to chaperone the families of the next shuttle crew preparing to launch, escorting them from Johnson Space Center in Houston to Kennedy Space Center in central Florida. The first stop when they got there was a lunch for the astronauts and their spouses.

"It was the most stressed group of people I have ever seen in my entire life; it was so thick you couldn't cut it," he says. "I looked at that and I began to realize that my entire life I had exposed my family to this level of stress and I didn't know it. ... That's when I decided I was going to leave this program."

After more than 455 hours in space, Gregory moved up the ranks at NASA headquarters, overseeing the Office of Safety and Mission Assurance, then the Office of Space Flight and, from 2002 until his retirement in 2005, serving as deputy administrator, the agency's No. 2, including a few months' stint as interim administrator.

The move to management, it's suggested, sounds like one that finally took him out of harm's way.

"Well, yeah," he says. "Except if you think flying in space is risky, try testifying [before Congress]." ☐

S. David Griggs, MS '70

Conducted NASA's first unscheduled space walk in 1985, a three-hour job to prep for a satellite rescue attempt; a test pilot who had flown more than 45 types of aircraft, Griggs died in the 1989 crash of a vintage airplane he was piloting



Anousheh Ansari, MS '92

In 2006, after six months of training, became the first female space "tourist"—just the fourth ever, and the first to visit the International Space Station; the entrepreneur and Iranian immigrant, is the CEO and co-founder of the tech company Prodea Systems



John O. Creighton, MS '78

Went to space three times and, as astronaut representative to the shuttle program manager, helped create a plan for resuming manned missions after the Challenger exploded on liftoff in 1986



Neil W. Woodward III, MS '00

Navy test pilot selected for the astronaut corps in 1998, and served in a variety of roles in NASA's Exploration Systems Mission Directorate before retiring from NASA and the Navy in 2008



Michael L. Coats, MS '77

Flew his first mission on the maiden voyage of the shuttle Discovery in 1984; after two more shuttle flights, in '89 and '91, Coats went to the private sector and returned to NASA in 2005 to serve as director of Johnson Space Center in Houston until his retirement in 2012



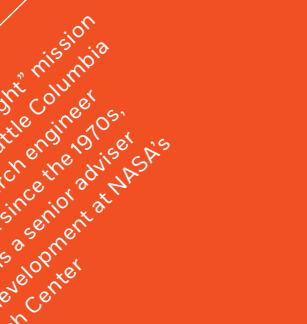
Serena Auñón-Chancellor, BS '97

A NASA flight surgeon who has served as deputy lead for medical operations for the Orion spacecraft, among other things; selected for astronaut corps in 2009 and training now for her first launch, in 2018



Charles Camarda, MS '80

Flew on the 2005 "return to flight" mission after the breakup of the shuttle Columbia and manager of the shuttle Columbia two years earlier; a research engineer and manager at NASA since the 1970s, Camarda currently is a senior adviser for engineering development at NASA's Langley Research Center



The shuttle Challenger lifts off on April 29, 1985, piloted by then first-time astronaut Frederick Gregory, MS '77



“WOOHOOHOO”

WHAT LIFTOFF FEELS LIKE (WITH FREDERICK GREGORY, MS '77):

The liftoff occurs when the clock hits zero—zero time. There were three rocket engines on the back of the orbiter, called the main engines. Those main engines ignited six seconds or so before liftoff. I think you're aware by a little vibration in the crew module that something has occurred, but it just is preparing you for what happens at zero.


It takes that six seconds to get the whole stack—the orbiter, the external tank and the solid rocket boosters, the two big white rockets on either side—stabilized and pointing straight up. At zero those two big white rockets ignite and, I mean, this thing shakes, rattles and rolls, and you know good and well you're gonna go some place really fast.

By this time everybody on board, they're just screaming in delight. It's so fun. You go straight up for 10 seconds. And then the

orbiter rolls over, so it's now upside down; if you looked straight down you'd be looking at the Earth.

So we proceed for about two minutes with those two solid rocket boosters burning, those then run out of propellant and they are actually blown away from the big brown tank. But the main engines, the three on the back, still accelerate you to something called orbital velocity, which is the speed the vehicle has to achieve to enter and stay in a circular orbit around the Earth. That speed is 17,500 mph. And so the main engines continue to accelerate you to that speed, and it takes only eight-and-a-half minutes—that's how long it takes you to get to space.

When you get to your speed of 17,500 mph, the main engines shut down—*bam!*—and you go from 3 gravity, 3Gs, to zero. And for some reason, everybody on board goes “woohoo,” like that. It's a weird sensation. Everything is floating. And in fact, you will always get a question from one of the rookie crew members: “Are we in space yet?” **EW**

A dynamic action shot of Wonder Woman in her iconic red, blue, and gold armor, running through a field of debris. She is holding her glowing lasso in her right hand and her circular shield in her left. The background is a bright, hazy sky with falling debris.

SCIENCE. ART.

COURTESY OF BILL WESTENHOFER



GW ADVENTURE





MAGIC.

TWO-TIME OSCAR WINNER BILL WESTENHOFER, MS '95, IS RESPONSIBLE FOR THE VISUAL EFFECTS IN SOME OF HOLLYWOOD'S BIGGEST FILMS OF THE PAST 20 YEARS, INCLUDING *ELF*, *LIFE OF PI* AND THIS SUMMER'S *WONDER WOMAN*. A FORMER ENGINEER, HE QUIT GE AEROSPACE FOR L.A., DRIVING CROSS-COUNTRY TO ANIMATE DREAMS AND MANUFACTURE WONDER.

// BY MATTHEW STOSS



At the 2013 Academy Awards, Bill Westenhofer, coveted visual effects supervisor (most recently of *Wonder Woman*) and former Boy Scout, had an unlikely brush with iconoclasm.

Westenhofer, MS '95, had just won his second Oscar, this one for making a computer-generated tiger look like a real tiger in director Ang Lee's *Life of Pi*. He got to the Dolby Theatre stage, fist pumped the heavy golden statue a few times, briefly reveled in the applause of 3,400 peers and their plus-ones and started his 65-second acceptance speech. He knew it was 65 seconds because he timed it.

Westenhofer made his thank yous and demurred to the enablers of his success. He smiled and looked dashing in his tuxedo, goatee groomed and hair combed. Everything was cool for about 45 seconds, which is roughly the max thank-you time allotted to Oscar winners who aren't actors or directors—he knew that because he timed those speeches, too—so he wasn't surprised when the red light that means “wrap it up, not-famous guy” started flashing. When he didn't finish, he got hit with the *Jaws* theme, played louder and louder, in lieu of the soft orchestral music typically used to hustle away the technical achievers.

Nineteen seconds of *Jaws* later, after Westenhofer brazenly persisted beyond the requisite thank yous to what he really wanted to say—what he felt he needed to say—his mic got cut.

“I saw him in the dark, screaming and waving,” says Lee, who was seated about seven rows back to the right and would go on

to win best director that night. “He refused to come down.”

Thirteen days before Westenhofer accepted his Oscar on Feb. 24, 2013, the visual effects company he worked for, the U.S.-based Rhythm and Hues, filed for bankruptcy after years of slimming profit margins. Many foreign governments give effects companies subsidies that allow VFX studios abroad to underbid their unsubsidized American rivals, who have either shuttered, or opened outposts in places like Canada or the United Kingdom. Rhythm and Hues hazarded a Vancouver studio but couldn't make it work. The subsidies, which can be as much as 30 percent, have set off a VFX diaspora, making itinerants of effects workers and turning Los Angeles from hub to husk.

“I know people who have quit the film industry entirely,” says Joe Fordham, an editor at *Cinefex* magazine, which has covered the visual effects industry since 1980. “They've gone to work in games or related technologies. They just don't want to take part in what can be a young man's or a young woman's game or, most pointedly, a single person's game because it's not conducive to a stable living environment.”

What's left of the L.A. effects industry, including a diminished and now foreign-owned Rhythm and Hues, handles mostly television shows and commercials. Founded in 1987, Rhythm and Hues did the effects for *The Lord of the Rings* and *The Hunger Games* franchises as well as *The Golden Compass* (2007), for which Westenhofer won his first Academy Award.

It's all so confusing. Visual effects-centric movies were (and remain) Hollywood's mint. According to Box Office Mojo, 30 films have made a billion dollars or more worldwide, and all of them rely CGI to some extent. But here was one of the industry's most established effects companies dying as it for a third time claimed cinema's greatest honor. Westenhofer thought it might be worth a mention.

“It wasn't going to be controversial,” says the 49-year-old Westenhofer three years later. He's relaxed on a wraparound couch in his glassy Pasadena, Calif., home. “My point was that we were honoring visual effects and the fact that there are so many visual effects in films today. But it's ironic that at the same time, the visual effects companies responsible are going out of business, and we need to be careful. Don't think of visual effects as a commodity, because we are artists, and with the practices going on, we're risking losing the artistry that was being recognized that night. That was really it.”

Westenhofer doesn't believe any dark cabal of Hollywood suits muzzled him. He's

too rational for that. He also says a high-ranking Academy official and friend assured him that was not the case. Lee dismisses the conspiracy theory explanation, too, saying that Westenhofer's speech just “got long.” Still, the whole affair was odd. The presenters of “Best Achievement in Visual Effects” even muffed the award's introduction.

The cast of *The Avengers*—a superhero team-up movie, the existence of which is predicated on visual effects—handed out the best effects Oscar. When Samuel L. Jackson appeared to ignore the teleprompter and the VFX praise typed within, Robert Downey Jr. corrected him. A great awkwardness ensued and Jackson announced the winner.

Westenhofer says Downey apologized as they walked off stage but the whole proceeding—the presentation flub, the cut sound, Westenhofer raving into a dead mic—smelled, albeit faintly, of conspiratorial suppression. And it all looked worse because of the hundreds of irate and union-less VFXers outside the Dolby Theatre that night protesting industry working conditions—18-hour days, constant relocation, no job stability.

“I think the interesting result is that by being cut off and played off,” Westenhofer says, “it got more resonance than it would have if I actually said it.”

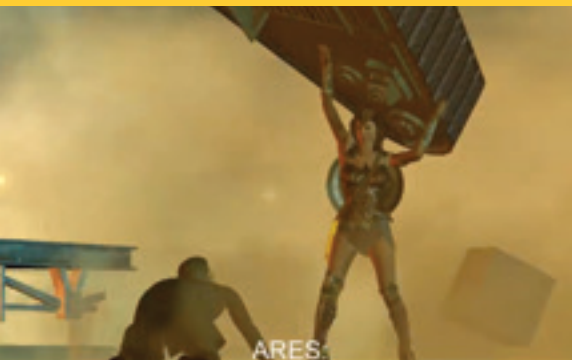
The man on the grassy knoll. The moon landing. William Charles Westenhofer at the 2013 Oscars.

Westenhofer did not become the face of aggrieved VFXers—that's blogger Daniel Lay, known better as @VFXSoldier—and it's unlikely that in coming years he'll supplant Che Guevara on the black t-shirts of revolution-enamored youths. But friends say it did not surprise them that Westenhofer spoke up.

“I know he'd been thinking about it,” says Derek Spears, a former Rhythm and Hues colleague who served as the visual effects supervisor for *X-Men: Days of Future Past* (2014) and currently works on *Game of Thrones*. “I think we even talked about it beforehand if he was going to say anything. He prepared.”

As an effects supervisor, Westenhofer has considerable influence on a film set. His job coils through every department and he spends most of a shoot seated at the right hand of the director. He doesn't have explicit veto power but people always listen when he explains the consequences of odd decisions. (Ares, Greek god of war and the bad guy in *Wonder Woman*, was nearly a literal big cloud.) Basically, Westenhofer knew what he was talking about and he had the credibility to say it.

“You're never going to slip anything by



Bill Westenhofer,” says Bill Kroyer, another former Rhythm and Hues colleague, who now is the director of Chapman University’s digital arts program. “It’s never gonna happen. You just know that this is a guy who absolutely knows what’s going on.”

Westenhofer is a strange confluence of art and science. He drew flipbooks as a kid, aspired to be a Disney animator and learned storytelling from playing Dungeons and Dragons. He discovered computer programming as a teen, then computer graphics in high school, and at that moment, his art and science proclivities coalesced. He earned an engineering degree at Bucknell, studied computer science at GW and then coded satellite programs and other more top-secret things at GE Aerospace before decamping to Hollywood, inspired by the CGI dinosaurs in *Jurassic Park*.

He is logical and methodical, respected and occasionally wooed, having been the visual effects supervisor on, notably,

Warcraft (2016), *The Chronicles of Narnia: The Lion, the Witch and the Wardrobe* (2005), *Elf* (2003) and *Men in Black II* (2002). A studio executive, according to Kroyer, once offered to delay production on a movie costing hundreds of millions of dollars just so Westenhofer could oversee the visual effects. At this point in his career, he doesn’t apply for jobs. Warner Bros. called him to work on this summer’s \$149 million *Wonder Woman*.

In a way, moviemaking is defined and perpetuated by its romance, and the visual effects field doesn’t have much. Unlike directors, cinematographers, production designers, etc.—essential to filmmaking since its nascence—visual effects artists came to prominence only in 1993 after 50 or so VFX shots helped make *Jurassic Park* not just a

TOP The backlot of Warner Bros.’ Leavesden Studios in London, which served as the set for a World War I battlefield scene in *Wonder Woman*
BOTTOM A step-by-step look at the digital rendering of a shot during the climactic fight scene in *Wonder Woman*

seminal film but an unkillable franchise. Today, those making the visual effects tend to be seen more as machines than artisans, assumed to lurk in cubicles and button-clicking while everyone else *makes art*.

“I think it’s wrong,” Lee says. “That’s something I noticed right away. Most of them are artists but they never see directors, nobody talks to them, nobody treats them like artists. It’s so unfair. ... They’re not visual effects; they’re visual art.”

Three years later, Westenhofer’s 2013 Oscar speech-interruptus is a blip remembered by those affected—the artists underrepresented and the companies bankrupted or sent overseas—but deep down everyone knows that green screens don’t self-composite and magic doesn’t make itself.

High-Art CGI

How the Renaissance went digital for *Wonder Woman*

Led by artist Houston Sharp, Aaron Sims, a U.S. VFX company, digitally painted a Renaissance-inspired mural.



In *Wonder Woman*, this animated painting is used to tell a young *Wonder Woman* the history of her people (the Amazons) and the Olympian gods.

WHEN I PAINT MY MASTERPIECE

To tell an essential part of *Wonder Woman*'s backstory, *Wonder Woman* director Patty Jenkins envisioned something like the ceiling of the Sistine Chapel—but alive.

“Now,” Jenkins says, “you think about the steps that need to happen to do that because that painting doesn’t exist. So you have to get the painting. You have to hire the artists who can do the painting and then you have to get the painting in 3-D. Then you have to separate all the layers, then you have to animate them. It’s incredibly complicated.”

If pulled off, this living CGI fresco would be an agile way of unloading otherwise dense

exposition while having the feel of a mural a boy wizard might pass on his way to make love potion No. 9.

“Getting a real painting to come to life and move the way it did,” Jenkins says, “that was something that nobody had done, to that extent.”

The sequence—used to teach a young *Wonder Woman* (and us) about the history of her Amazon people and the movie’s deicidal villain—took a year and a half to produce. The process, involving about 40 U.S. and Polish artists creating a CGI painting, started before principal filming and ended a few weeks before *Wonder Woman*'s June 2 opening. The inspiration for it, in part, came from the Polish effects company Platige,

which in 2012 animated a 19th-century oil painting—Jan Matejko’s “The Battle of Grunwald.” Platige helped create the CGI painting in *Wonder Woman*.

The result is a high-art motion comic, and Jenkins, inexperienced in expensive visual effects-driven movies, leaned hard on VFX supervisor Bill Westenhofer to make it happen.

“Bill was a massive part of that—and also doing something that had never been done before,” Jenkins says. “And he succeeded at it.”

Before *Wonder Woman*, Jenkins, who spent the last decade working primarily in television, had directed only one other movie: 2003’s *Monster*, which starred an Oscar-

COURTESY WARNER BROS.



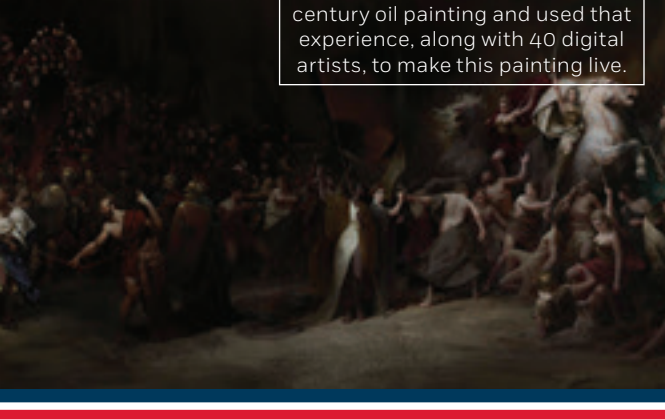
II

The painting had to be rendered digitally. This ensured it would have the layers—figures, background, foreground, etc.—necessary to make it 3-D.



III

Polish VFX company Platige had previously animated a 19th-century oil painting and used that experience, along with 40 digital artists, to make this painting live.



winning Charlize Theron. The film, about a prostitute-turned-serial killer, had a budget of about \$8 million and little need of digital effects.

Wonder Woman, however, cost nearly 19 times that and eventually included more than 1,700 effects shots. Some were as big as the almost-entirely-CGI last-act super fight between Wonder Woman and Ares. Others were as small as removing a modern street sign in the background of what was supposed to be 1918 London or getting rid of a belly button indentation on Wonder Woman's training cuirass that studio types, upon later review, decided wasn't a good look. Westenhofer says it cost about \$1,000 per navel erasure, each installment part of a

roughly \$30 million effects budget.

There also was a lot of pressure on this movie to not stink.

It is the first woman-led superhero movie during the current superhero-movie boom and it is the rare big-budget film directed by a woman. It also had been charged with redeeming and righting Warner Bros.' critically despised efforts to mimic Marvel's lauded interconnected superhero cinematic universe.

The first entries in a new series of movies featuring the Warner Bros.-owned DC Comics characters, *Man of Steel* (2013), *Batman v Superman: Dawn of Justice* (2016) and *Suicide Squad* (2016), averaged a "rotten" 36 percent rating on Rotten Tomatoes, a

website that aggregates movie reviews. A rating of 60 percent or better is considered "fresh." *Wonder Woman* has a 92 percent rating and as of late July had made more than \$786 million worldwide, making it the highest-grossing installment in the DC Extended Universe as well as the highest-grossing film directed by a woman.

Jenkins says Westenhofer, who prepared for *Wonder Woman* in part by reading comics and looking for classic/iconic poses, counseled her on directing a visual effects-heavy movie, helping her use a tool that is easy to abuse and spectators are quick to excoriate.

Wonder Woman is Westenhofer's 18th film as a visual effects supervisor. His next is



1995 **BATMAN FOREVER**

First movie Bill Westenhofer worked on



1995 **WATERWORLD**

First movie he was credited for working on

1998 **BABE: PIG IN THE CITY**

First time he served as visual effects supervisor



2002 **MEN IN BLACK II**

First time as VFX supervisor on a summer blockbuster



2003 **ELF**

Helped create what has become a holiday classic



ENGINEERING WONDER

Bill Westenhofer, MA '95, has served as the visual effects supervisor on 18 films, starting with *Babe: Pig in the City* in 1998. Since then, the Connecticut native has won two Academy Awards and two BAFTAs, becoming one of a handful of elite VFX chiefs in Hollywood, after leaving at age 26 an engineering career at GE Aerospace.



to be determined but his options include *Wonder Woman 2* (which recently got a December 2019 release date) and a yet-to-be-greenlit Ang Lee project that would involve making a run at conquering the uncanny valley—the theory that human replicas are never human enough and thus really creepy to actual humans. His first outing as a VFX supervisor was *Babe: Pig in the City* in 1998.

When Rhythm and Hues—which hired Westenhofer at an industry conference in Orlando, Fla., when he was 26 and still working at GE—was approached about doing the visual effects on the *Babe* sequel, Westenhofer says, the other supervisors were occupied on other projects. So, after some on-set serendipity, Westenhofer ended up as the VFX supervisor. By then, he had worked in varying capacities on five movies, starting with *Batman Forever* in 1995.

“It turned out the supervisor that they had [on *Babe*] was kind of overwhelmed and I really took over and got this job by filling the vacuum,” Westenhofer says. “So I really completely lucked out. The opportunity presented itself and I didn’t [mess] it up.”

The break that led to Westenhofer’s highest-profile achievement came seven years later on 2005’s *The Lion, the Witch and the Wardrobe*. Buoyed by his work on *Cats and Dogs* (2001), he got picked to create Aslan, the god lion in C.S. Lewis’s seven-book Narnia series. Aslan begot *Life of Pi* and a Bengal tiger named Richard Parker.

KYLE GRILLOT

2005

THE CHRONICLES OF NARNIA: THE LION, THE WITCH AND THE WARDROBE

Animating a realistic CGI lion got him the VFX supervisor job on the groundbreaking *Life of Pi*



2007

THE GOLDEN COMPASS



First time he won an Academy Award

2012

LIFE OF PI



Made a CGI tiger the star of a movie; won second Academy Award



2017

WONDER WOMAN

The highest-grossing movie of this summer



NEVER TOO OLD TO BEGIN THE TRAINING

Over two May days in lush Pasadena with Bill Westenhofer, plus a few phone calls, *Star Wars* came up a lot. First, in his apartment, where his two Academy Awards keep a golden vigil beneath a wall-bound flatscreen, there was discussion of *The Force Awakens*. As any critically thinking *Star Wars* buff might, Westenhofer has questions about *Episode VII*:

★ The part where ersatz Darth Vader Kylo Ren can't muster enough Force to figure out that he's close enough to Han Solo to smell the wookiee dander on his pants.

"So this guy can sense Han from a billion miles away but he can't tell when he's 20 feet away?"

★ The lightsaber fight in which recent Force-initiate Rey mops the planet-turned-death ray with the professionally Force-trained (or so we're told) Kylo Ren.

"You have a girl who can hold her own against a Sith lord, when it took Luke three movies to get there."

Maybe Kylo Ren's not very good? And he'd also just been shot by Chewie.

"That's true. Could be. Maybe he sucks. Maybe the reason he doesn't want anymore Jedis to exist is because he realized he's terrible and he's embarrassed."

Next, at an outdoor lunch on a gray day at an Old Town Pasadena restaurant, Westenhofer talked about the early days of visual effects, specifically those of the

original *Star Wars*. When it hit theaters in the summer of 1977, Westenhofer, then 9 years old, already had a thing for outer space. He drew Saturn V rockets and contemplated a not-so-sci-fi future in which mankind subdues the galaxy. His mother tells him he watched the Apollo 11 moon landing in 1969 (he was 1 1/2 at the time), and in April 1981, he skipped school to see the first Space Shuttle launch.

His love of space persists today—he can't wait for commercial spaceflight—and his mind remains thoroughly blown by *Star Wars*. He saw it in suburban Cleveland after taking a solo plane ride (his first) to visit a friend who moved there after first grade from their native Brookfield, Conn.

"I went out there and was just flabbergasted," he says.

Westenhofer promptly got all the toys and made primitive stop-motion films with them, recreating sequences from the movie and devising his own. He has been less successful recreating what he felt the first time he saw *Star Wars*, now known as *Star Wars: Episode IV—A New Hope*.

To this day, all he remembers about 1977 is Elvis died and *Star Wars* debuted.

"Every time I go back to see a new *Star Wars*... I keep going in with this secret desire that there may be something that feels anything like that experience of seeing the first *Star Wars*," Westenhofer says. "And nothing has happened yet."

Star Wars lit off modern geek culture and today stands forebear to the visual

effects-dependent movies that dominate American summers and the space beneath our Christmas trees. It also calcified Westenhofer's interest in movie-made illusion. After seeing *Star Wars*, he, too, wanted to purvey wonder.

TIGER, TIGER BURNING BRIGHT

When Ang Lee decided to adapt into a movie *Life of Pi*, Yann Martel's 2001 novel about a boy shipwrecked with a Bengal tiger, he knew he needed visual effects to make it happen. He also knew he wanted those visual effects to be 3-D. What Lee didn't want was the standard effects fare: destroying by alien invasion/natural calamity a major U.S. city; shooting a laser beam into a sky hole; superheroes engaging in escalating feats of collateral damage.

One of the most versatile and liberating moviemaking tools to evolve since George Méliès eye-poked the moon with a rocketship, visual effects, according to Lee, have not been used to their maximum artistic potential.

"Visual effects has been very expensive and is being mostly used in blowing cars up and to make monsters," Lee says.

Lee sought elegance and he sought art. He found Bill Westenhofer.

"With any head of a department, the quality I value the most is they talk to me about filmmaking and drama, not their specialty, not the job requirement," Lee



TOP LEFT The crew shoots the Wonder Woman costume reveal **TOP RIGHT** Wonder Woman star Gal Gadot pretends to be pinned by a tank tread **BOTTOM LEFT** Bill Westenhofer at Upper Heyford airfield in London **BOTTOM RIGHT** Westenhofer with a prop German tank on set

says. “That’s the kind of filmmaker I like. Bill is that type. We talked about movies, philosophies. He’s a filmmaker, not just a technical adviser. So that’s the quality I really cherish.”

Lee says he selected Westenhofer and his then-studio Rhythm & Hues (Westenhofer turned freelancer after the 2013 bankruptcy) out of a pool of four or five competitors. He picked Westenhofer for his aforementioned cineaste sensibilities, his experience creating CGI animals and his eagerness to render a real-to-life tiger in three dimensions.

“Everyone was very intimidated by 3-D,” Lee says. “That was pretty new at the time for live pictures, to do a believable tiger—a realistic tiger, to the degree I’m describing. And I [wasn’t] even sure it was feasible in 2-D—and I wanted 3-D. That scared most of

them.”

As a test, Lee asked Westenhofer to take footage of Aslan from *The Lion, the Witch and the Wardrobe* and “dimensionalize” it—make it 3-D, essentially. Lee had strict rules, though. Westenhofer was not to enhance or improve the lion. Lee wanted it converted, as is, to get a baseline. Westenhofer, brave soul, obliged.

“We put them side by side and screened it and the 3-D was actually more believable,” Lee says.

Life of Pi gave Westenhofer a chance to do something new and blow minds as *Star Wars* once blew his. Everyone’s seen talking animal movies. Westenhofer’s made four of them. The appeal of *Pi* was that this tiger had no anthropomorphic tendencies. Richard Parker was just supposed to be a regular,

non-talking Bengal tiger. By 2012, the year *Life of Pi* came out, that had not been done to the extent Lee wanted to do it. Realistic CGI animals had supplementary parts. They were background, not talent.

Less than 30 shots in *Life of Pi* feature a real tiger, and good luck to you and your sanity picking them out. Westenhofer says the key that allowed for the creation of a believable digital tiger was, first, computing power. It took 15,000 processors and more than four terabytes of storage, or about 4.1 million megabytes. Our typical civilian laptops have just one processor and 64 gigabytes of storage (64,000 megabytes).

The second part was a more eloquent understanding of how light interacts with a surface. Objects are not opaque. Light penetrates, bounces around inside and then

COURTESY OF BILL WESTENHOFER

comes out, giving things, tigers and us a dim, dim glow. There also is ambient light to consider and how, for example, the color of a watery sunset will tint a tiger's pelage.

To conquer the animal uncanny valley, Westenhofer says he and his artists studied tigers for eight months. There were four of them, all Bengal, brought from northern France to the set in Taiwan by a breeder.

"We'd done a lot of animal work," Westenhofer says, "but Aslan talks, so obviously someone is going to watch this and know ... there's some sort of trickery involved. But we were going to have to make a real tiger that was just going to be a tiger, so if there's ever a chance to fool somebody, this was it."

DIRECT MAGIC?

Bill Westenhofer's home office is too clean to be that interesting. It's a big white square with multiple fancy computer monitors, a flatscreen and plenteous California sunshine through one giant window. Hanging in a corner are prop swords from movies he's worked on and there's a V-shaped shelf that wraps around not quite half of the room. It holds textbooks and comics, and toys branded off his movies.

He's showing the 10-minute visual effects *Wonder Woman* highlight video that he will obligatorily submit to the Academy for Oscar consideration. It's early May and the movie is about a month from being released, so he's ruining the ending. But that's fine. He doesn't think *Wonder Woman* will win—superhero movies are not Academy darlings, he says—but, you know, what the hell.

"*Gemini Man*, if we were to pull it off, that might be something that had a chance," says Westenhofer, referring to the in-the-works Ang Lee project. The film is about a struggle between a man and his clone, which means the visual effects would have to traverse the uncanny valley. This was most recently attempted in *Rogue One* (2016), which digitally restored Peter Cushing from the dark beyond.

"You can't think about it," Westenhofer continues about winning an Oscar, "because it's such a luck-of-the-moment thing."

After 18 turns as a visual effects supervisor and two Academy Awards, Westenhofer is asked if he ever wants to do anything other than visual effects.

He mentions, at various points during several conversations, that he's always been intrigued by video game design. He is a gamer and a virtual reality enthusiast and believes the next big thing in movies will be real-time compositing,

meaning that backgrounds and sets will be filled in as the movie's filmed. He helped innovate something similar on *Warcraft*, which, for the first time, let a person see, in camera, the motion-capture actor as a lower version of the digital character he or she is playing.

Westenhofer estimates that real-time compositing technology sophisticated enough to carry a big movie is still five or so years away.

Westenhofer is then asked if he would ever direct. Considering that visual effects are so essential to a certain kind of filmmaking today, it's logical that more directors would come from that realm. A few have made the switch. Among the most successful is Andrew Adamson who directed *Shrek* and *The Lion, the Witch and the Wardrobe*. Gareth Edwards, who directed *Rogue One* and 2014's *Godzilla*, is another VFX alum.

Westenhofer finds the prospect of directing intriguing but he admits that, without some very strenuous lobbying on his part, it would be difficult to get a shot at the kind of movie he's accustomed to doing. It's more likely, he says, that he'd start on something cheaper, like a TV show, where he could experiment with the real-time rendering.

He's also not sure if he's temperamentally equipped to deal with actors. Helping them visualize what, eventually, is going to be on the big, blank, green wall behind them is one thing. But cossetting their often multimillion-dollar self-esteem, that's, well, dispiriting.

"As the [visual effects] supervisor," Westenhofer says, "you're sitting in the chair by the director the entire time and you suggest camera moves and I know from watching that I'd be able to put together a visual sequence, but dealing with actors' personalities, I don't know that I have the patience for that, especially those with the more idiotic egos. I've watched some directors do the dance to appease them and it's like, 'Oh, god, really?'"

Also potentially impeding the move is brain-wiring.

Bill Kroyer, one of Westenhofer's former fellow visual effects supervisors at Rhythm and Hues, says effects people can have trouble grasping story and character well enough to direct, getting stuck on technicalities while lapsing on mood and feeling. (For example, Edwards's films are not often praised for their dynamic characters.)

Kroyer says Westenhofer on occasion has been guilty of this. When the pair worked on *Cats and Dogs*, a movie about talking cats and dogs, Kroyer says, Westenhofer got hung up on perfectly syncing syllables with a talking animal's mouth. People, Kroyer contends, do not speak that way and he fought for some elision.


"[Westenhofer] was so technically precise that he wanted you to hit every last thing," says Kroyer, a former Disney animator who worked on *Tron* (1982) before becoming a director. He's now a professor at Chapman University in Orange, Calif. "He felt that that made the character more believable if they were really articulate in their dialogue. ... I'd say, 'Well, the feeling is there and you don't want to get that precise,' and he'd go, 'No, I want to get that precise.'"

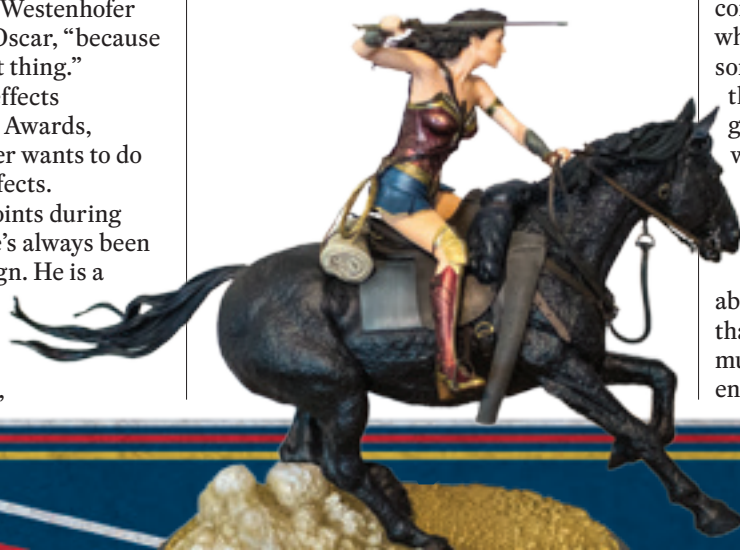
"To this day, I still enjoy seeing live-action characters say things without moving their lips."

It's a small criticism—it's a his-biggest-weakness-is-he-cares-too-much-type thing—and despite it, Kroyer says that Westenhofer has earned his directorial shot, one justified by his technical acumen, his organization and the fact that people just seem to like working with him, a man all-enamored by his craft.

"The best moment," Westenhofer says, "is when you've thought about something in your head and spent weeks and weeks—months—shooting something and the effects team goes off and works on it and finally you see it for the first time. All by myself, I'll just sit and play it."

"There's a scene in *Warcraft* where they come to this town, to this cornfield area, which is completely synthetic and we spent some time designing it, but when I first had the sequence put together, I think I didn't go to sleep until 3 in the morning because I was just watching it."

Westenhofer is lukewarm on the prospect of directing. He gives himself a one-in-three chance at making the switch—but everyone, of course, thinks about what could be. Right now, it's clear that he likes where he is and what he does too much. He likes pulling art from science to engineer wonder. He likes making magic. 



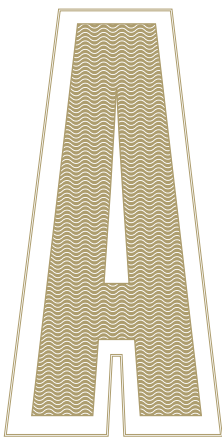
At the Graves of

MONSTERS &
GIANTS

Five years ago, paleontologist **Jonah Choiniere, PhD '10**, took a job as a researcher at a South African university and inherited not only some very large dinosaur bones, but also the 20-year mystery of the “Highland Giant.”

BY BRIAN SWITEK

Jonah Choiniere looks out from a sandstone ledge in the Eastern Cape, a South African province.



round 200 million years ago, in what is now South Africa, a reptilian giant trod across the Jurassic landscape. Up until this point in the history of life, there had hardly been anything bigger on land. The dinosaur's long neck, thick limbs and swaying tail gave it an imposing profile as it moved its multi-ton weight in search of the ferns and other plants the massive

herbivore needed to fuel its quick-running metabolism. We know this from fossils, and it's been the task of Jonah Choiniere, PhD '10, to bring those old bones back to life through scientific study and imagination.

The 38-year-old Choiniere, pronounced "Schwah-knee-air," is a senior researcher at the University of the Witwatersrand (Wits) Evolutionary Studies Institute in Johannesburg and has spent a decade studying dinosaurs and hunting their remains across the world, including in the colorful northwestern deserts of China and

among the arid, rolling countryside South Africa.

Part of a new generation of paleontologists, Choiniere has been blazing a paleontological trail to uncover new secrets about the "terrible lizards." A former postdoctoral fellow at the American Museum of Natural History in New York, Choiniere specializes in a group called theropods—from the family relationships of *Tyrannosaurus* to how dinosaur arms became bird wings. He's discovered handfuls of new species, and in September 2012, after arriving at Wits, Choiniere started to dig into one of the biggest finds he's been involved with yet: that titan from the dawn of the Jurassic.

The story behind this dinosaur, nicknamed the "Highland Giant," starts two decades before Choiniere's arrival at Wits. In the early 1990s, the South African government undertook a major engineering project to move snowmelt from Lesotho, a country landlocked by South Africa in the east, up to Johannesburg. The survey for that project included investigations near Clarens, a South African town north of the Lesotho border, by paleontologist James Kitching—no one wants to accidentally destroy a

dinosaur by building a hydroelectric turbine. Searching near one of the survey holes, Kitching, who died at age 81 in 2003 and whose discoveries form the core of the Bernard Price Institute for Paleontological Research in Johannesburg, found the bones of an early Jurassic dinosaur.

The remains Kitching collected wound up at Wits, where they sat on the shelf for years. Then paleontologist Adam Yates—Choiniere's predecessor—had another look. It looked to be the biggest dinosaur yet found for its time period, and Yates's initial reaction led it to its first nickname: the "Holy S*** Dinosaur."

Inspired, Yates went back to the Clarens site and collected more bones, but an appointment to the Museum and Art Gallery of the Northern Territory in Australia interrupted his work. The Highland Giant again found itself shelved, until Choiniere moved into Yates's old job in September 2012. A savvy graduate student inherited from Yates showed Choiniere the huge bones. This was enough to merit another look at what was by now given the slightly more respectable title of the "Highland Giant."

There was definitely more at the site.

"WE'RE ROTTEN WITH THEM."

JONAH CHOINIÈRE ESTIMATES THAT TWO-THIRDS OF SOUTH AFRICA'S LAND CONTAINS FOSSILS

"We saw more fossils still coming out," Choiniere says.

The team eventually took out another plaster-wrapped load, also known as a "jacket," of fossils weighing 150 pounds. Later, this turned out to be the sacrum—or part of the hips—of the huge animal. But on the day the crew was supposed to close the site, they found even more bones beneath what they just removed. That part ended up being a femur, or thigh bone.

Getting bones out of the rock is only the start, of course. What's removed from the field goes back to the preparation lab for the stone—sediment that buried the bones and kept them safe for millions and millions of years—to be carefully removed with finer tools. It's a painstaking task.

"It's in the hardest possible matrix and extremely difficult to prepare," Choiniere says.

What's been cleaned up since Choiniere's arrival already has started to fill out the outline of this exceptional animal. These bones, including parts of the hip and limbs, comprise about 20 percent of the skeleton. That might not sound like much, but it's enough to know the dinosaur is something new, and complete dinosaur skeletons are



➤ exceptionally rare due to phenomena like scavenging, disarticulation, abrasion, and other common happenstances before burial. To have even a fraction of a new dinosaur's skeleton is a minor miracle.

Given that paleontologists can use the dimensions of thigh bones to estimate body mass, Choiniere says that this dinosaur probably weighed 12 to 14 tons—twice as much as the largest bull bush elephant. That might not sound like much compared to the largest dinosaurs of all time—like *Supersaurus*, stretching 110 feet long and weighing over 45 tons—but, for the early days of the Jurassic, the Highland Giant was true to its name.

In the grand scheme of the dinosaur family tree, this new, yet-unnamed animal was a sauropodomorph. This is the group that contains the long-necked, pillar-legged dinosaurs like *Apatosaurus* and *Brachiosaurus* as well as their ancestors.

“Specific features of the vertebrae and the ulna [an arm bone] match closely with other sauropodomorph dinosaurs, but other things like the bones of the hand look quite different,” Choiniere says.

These features indicated to him that the

Highland Giant was something new.

At the time the Highland Giant lived, these dinosaurs were just starting to get big. The very earliest sauropodomorphs ran around on two legs, even as they started to get long necks. But by the early days of the Jurassic, around 200 million years ago, and for reasons still being investigated by Choiniere and his colleagues, some of these dinosaurs were growing much larger and starting to trundle around on all fours more often, their clawed hands becoming weight-bearing feet that would support their immense body weight.

The Highland Giant—still awaiting its scientific name, which will be given by Choiniere when he formally publishes his research—appears at a turning point in dinosaur evolution.

“These animals were experimenting with large body size very early in their evolutionary history,” Choiniere says. Multiple forms of sauropodomorphs were pushing the previous limits of how huge it was possible for dinosaurs to be. Most eventually went extinct, but one lineage managed to survive and give rise to the group that encompasses prehistoric titans

like *Brontosaurus*, an evolutionary cousin of the Highland Giant.

Study of the dinosaur continues, something that Yates is glad to see.

“I am happy for Jonah to have picked this up,” Yates says. “It is far better studied and published on than languishing in obscurity.”

But Choiniere's path to the Highland Giant wasn't typical for fossil-focused researchers. Many paleontologists can track their professional love of ancient bones to a childhood affection for dinosaurs. The towering skeletons in museums, and even *Jurassic Park*, have made many a bone hunter. Choiniere's story is different.

Choiniere's early years on a central Massachusetts wildlife sanctuary set the stage for his career chasing down dinosaurs.

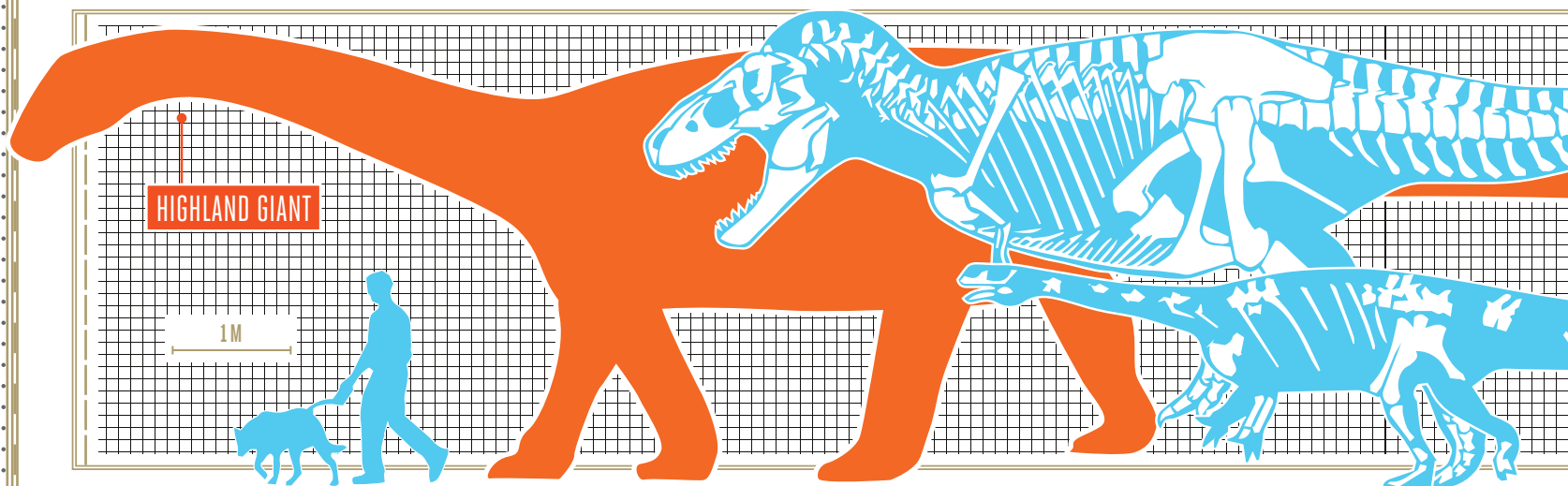
“I lived on this former dairy farm that had been reverted to nature,” Choiniere says, “so I always loved being outdoors as a kid.”

This formative phase—spent among the 1,200 acres of woodlands, wetlands and meadows at the Wachusett Meadow Wildlife Sanctuary in Princeton, Mass.—set Choiniere up for what was to come.

THE HIGHLAND GIANT

WEIGHT APPROX. 12–14 TONS—TWICE AS HEAVY AS A *TYRANNOSAURUS REX*
LENGTH APPROX. 49 FEET

THE HIGHLAND GIANT IS AN EVOLUTIONARY COUSIN TO THE *BRONTOSAURUS*.



That draw to wide-open spaces stayed with him through his undergraduate studies at the University of Massachusetts in Amherst, where he double-majored in anthropology and geology, and that led him to archaeology—the study of past peoples and their culture. Only, it wasn't quite what Choiniere was expecting.

"I enrolled in this archaeology program and realized it's a terrible way to be out in the sun," Choiniere chuckles.

Carefully sifting dirt for human history didn't scratch the right scientific itch, but the draw to the outdoors was still there.

When Choiniere set about going back to school at age 25, after two years as property manager for the Boston Nature Center, he wanted something that would combine his interest in biology with plenty of time outside. He ended up at GW, under the guidance of noted paleontologist James Clark, who was engaged in fieldwork in China at the time.

"It didn't take long before I knew I could depend on him as a graduate student to do just about anything he set his mind to, either in the field, on computers, in the lab or teaching," says Clark, an expert on the

evolutionary relationships of crocodiles as well as the transformation of feathery dinosaurs into birds. In short, Choiniere "reeks of competence."

The new track ended up being a perfect fit. Dinosaurs are awesome in their own right, Choiniere says, but "love of the outdoors dictated where I ended up."

That sense of adventure soon took Choiniere on an expedition to the fossil-rich deserts of northwestern China. This was jumping in with both feet into some of the most fertile dinosaur-hunting sites in the world, although the journey just to get there was grueling. "The first time you do a long flight, it's just crushing," Choiniere says, followed by 12 hours in Beijing organizing and gathering equipment and then driving another four across country to the nearest town to the promising fossil sites that dot the brightly colored desert of China's remote regions.

The setting for Choiniere's first dinosaur-hunting trip couldn't have been more epic. In fact, you may have seen it. The desert lair of the bandits in 2000's *Crouching Tiger, Hidden Dragon* was filmed in the same area, and Choiniere arrived just in time for a

spectacular show. It had rained just before the trucks arrived, covering the hard desert pan with about an inch of water.

"We pull into this field site and it's this beautiful sunset scene with big clouds and a red sky glowing," Choiniere says. He recalls a vision of "Land Cruisers through this desert sea."

That was just the start of what would be five weeks of fossil collecting.

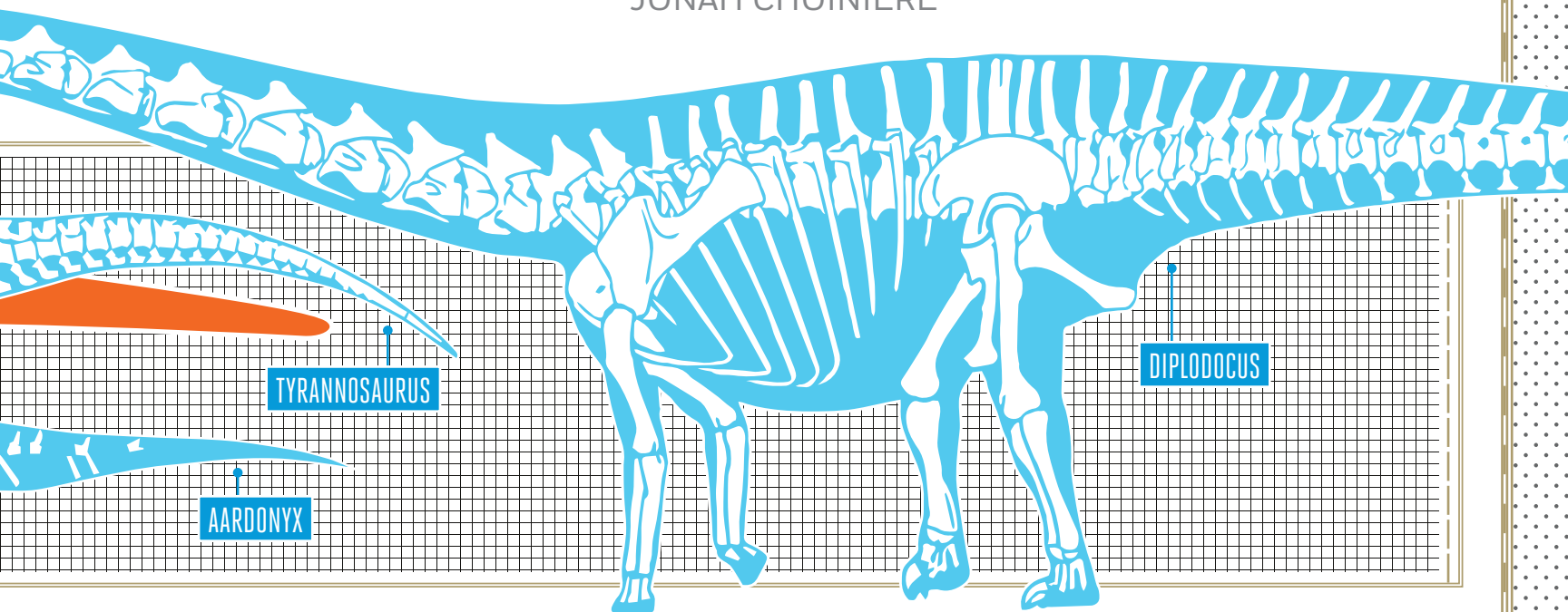
Choiniere didn't get much training for what he was going to be looking for. He recalls Clark and Chinese colleague Xu Xing saying, "Fossils are out there. Go find them." So Choiniere looked, and on the first two days he thought he had found a large cache of bones among the hills.

"I bring back this huge collection," Choiniere says, that must have weighed about 10 pounds. "Jim, Jim, I found all these bones and there's more out there if you want to get them!" Choiniere recalls with a laugh. The fossils turned out to be fossil root casts, or impressions of roots that can be deceptively bone-shaped. Not exactly a dinosaur bonanza.

But there's a phenomena in field paleontology called a "search

FOR ANY GOOD FOSSIL, YOU KNOW YOU'VE WALKED A HUNDRED MILES LOOKING FOR THEM.

JONAH CHOINIÈRE





TOP Jonah Choiniere at Lake Kariba in Zimbabwe
MIDDLE LEFT Choiniere and paleontologists David Groenewald, Simon Wills, Matt Barron and Paul Barrett examine a bed of ornithiscian dinosaur bones in the Free State province of South Africa
MIDDLE RIGHT Choiniere brandishes a rock saw in the Free State
BOTTOM Looking for bones at Lake Kariba in Zimbabwe

TOP AND BOTTOM PHOTOS: PIA VIGLIETTI / MIDDLE PHOTOS: KIMI CHAPELLE

➤ image.” Sometimes bone is initially hard to spot, but once you spend enough time out in the field, your eye becomes trained to the subtle clues that give away interesting fossils in the ancient rock. Fossil bone might be a different color, for example, and fossil hunters can pick out the honeycombed microstructure of broken bone ends that distinguish fossils from rock. Before the end of that first trip, Choiniere found a 160 million-year-old spike from the shoulder of an armored stegosaur. That was just the first find of many to come for Choiniere. As of late, much of Choiniere’s work has focused on what’s in his own backyard.

About two-thirds of South Africa’s land has fossils on it, Choiniere estimates. “We’re rotten with them,” he says, and that’s thanks to the unique history of the area.

The mountain uplift and other geological transformations in South Africa have exposed a strata going back over 250 million years, creating a kind of “layer-cake stratigraphy” that exposes an almost unparalleled record of life on Earth. Some of the older rocks, from a time called the Permian, contain the bones of proto-mammals that ruled before the time of the dinosaurs. The rocks above those tell the story of how dinosaurs and other forms of life bounced back from the worst mass extinction of all time, at the close of the Permian. Together they are before and after snapshots of “The Great Dying,” a mass extinction that killed off about 75 percent of known fossil species over the course of anywhere from 200,000 to 15 million years. Despite the severity of the catastrophe, however, life came roaring back in the Age of Dinosaurs and was followed by the Age of Mammals, both chapters of Earth history documented in the rocks of South Africa. In fact, near the top of the geologic series, South African sites have yielded some of the most important human fossils in the world, filling in our own evolutionary backstory.

“We have the Cradle of Humankind,” Choiniere says, “but I often tell people we’re the cradle of just about anything.”

Naturally, one of the main tasks of a paleontologist is to go out and find those fossils that will tell us more about the history of life on Earth. It’s not as easy as *Jurassic Park* made it look. “The main difference,” Choiniere says, “is that I don’t have any time.” Between academic and family responsibilities, finding two weeks in which to dig is difficult. Camping out at a spot for a whole summer like the fictional Alan Grant just isn’t possible.

And even when Choiniere and his team can get out into the field, it’s not as easy as

simply brushing sand off a fully articulated skeleton. Good fossils take a great deal of time to locate, and often they are isolated bones or partial skeletons encased in exceptionally hard stone. You’d sooner be able to dig out of a prison cell with a spoon than remove these fossils with dental tools and a brush. That careful work is left for the lab.

“If we find something,” Choiniere says, “I go in with power tools right away,” jackhammer and rocksaw being the appropriate tools of the trade. “The rock is so hard you can dink around for three years of your life or you can grab a rock saw and get it out that week.”

But the struggle has its rewards.

“For any good fossil,” Choiniere says, “you know you’ve walked a hundred miles looking for them.”

The search for a promising site often means that Choiniere and his crew are walking a minimum of eight to 10 miles a day, with even one recognizable bone making it worth it. This is the part that still speaks to why Choiniere got into the field in the first place. Digging is just not as exciting as walking around and wondering what you might find, he says.

“It’s anticipation and discovery that gets you going.”

The land is incredibly rich with fossils thanks to its geologic history, the uplift and erosion of ancient rock layers bringing the remains of long-dead animals to the surface where paleontologists can find them. The fossil hunting in the nation is so rich as to have attracted the attention of paleontologists since the mid-19th century, including Sir Richard Owen, the anatomist who coined the term “dinosaur.” That fascination continues to this day. South Africa is in the midst of a paleontological renaissance made possible by the country’s increasing political and social stability. Paleontology also is, in part, sponsored by the country’s government, which views its stash of dinosaur bones as a scientific asset and a source of national pride.

Researchers also get a hand from the locals. South Africa is divided into various holdings with different property rights. Because of that, Choiniere says, “A lot of the job here for prospecting is driving up and down farm roads and going ‘Aha, there’s some nice outcrop, now let’s go find the farmhouse.’”

That necessity has led to collaboration that increases the rate of discovery. The more eyes there are on the ground, the faster fossils eroding from the hills will be found. Out in South Africa, meeting with farm owners and having a beer is just as important as slicing a rock saw into stubborn stone.

That’s fueled community pride as well as scientific discovery.

“Fifty percent of the material we excavate is directly attributable to a farmer or non-scientist finding it, and often a farmer will say, ‘I have fossils on my property,’ and we go in and find all kinds of stuff,” Choiniere says.

Even though South Africa boasts a variety of fossil treasures, dinosaurs stand out for Choiniere. “Dinosaurs are a great study system,” he says, primarily because of the sheer weight of scientific study that has already been dedicated to them and the fact that we have living dinosaurs—birds—to compare the fossil ones to.

“These things make it easier to understand broader aspects of their evolutionary history.”

Choiniere is adding his own contributions to the mountain of research. So far, he says, his proudest scientific achievement involved a weird dinosaur called *Haplocheirus sollers*. This dinosaur, from the Jurassic of China, is a member of a small, strange group of dinosaurs called alvarezsaur—the most famous members of the group were like dinosaurian anteaters, with toothless jaws and stubby arms tipped with large claws presumably used to open termite nests. But *Haplocheirus* was nearly 100 million years older than any of its relatives previously known, filling in what the ancestors of these odd dinosaurs looked like.

“It’s amazing to find a member of a family that’s so much older and still be able to figure out it belongs after lots and lots of detective work,” Choiniere says.


Now Choiniere is applying that same knack for interrogating fossils to the Highland Giant, piecing together what this dinosaur was and what it means for the big picture of evolution in the Jurassic. The dinosaur isn’t just big for its day; it has the potential to tell us something new about the makings of the largest creatures to walk the Earth.

Solving the 20-year-old mystery of a once-ignored Jurassic wonder is just another part of Choiniere’s effort to investigate life’s deep and bizarre history. Each new spark of discovery sheds light on the whole—science and imagination pulling back the curtain on lost worlds. ☐

Brian Switek is a freelance science writer and amateur paleontologist based in Salt Lake City. In addition to writing the Laelaps blog for Scientific American, his work has appeared in a variety of publications from Nature and Smithsonian to Slate. He’s also the author of several books about paleontology, including the critically acclaimed My Beloved Brontosaurus.



Jones, beneath a headscarf, pauses to photograph oil wells in northern Iraq that had been set ablaze by ISIS.



In covering
conflict abroad,
a foreign
correspondent
finds **purpose**
not on the front
lines, but in **the**
silences just
beyond, where
reverberations
of war seldom
find daylight.

// **BY SOPHIA JONES, BA '13**

INTO THE

FRAY

It was mid-afternoon, but I was still in my pajamas. The apartment was still and quiet and I had a steaming cup of coffee in hand: the perfect antidote to writer's block.

I was halfway through writing a story when my phone buzzed. It was my roommate, an Australian photojournalist. He had just been stopped at the airport, his passport confiscated. He was under investigation.

My heart sank. It was February 2014 and Egypt was in turmoil. Journalists were seen as the enemy, the “foreign hands” sent by governments to report falsehoods and destabilize Egypt. Or at least that’s how the headlines read in the state-controlled media.

And there I was, at 23, pajama-clad with no phone credit (I hadn’t yet willed myself to go downstairs and buy credit that day), no cash on hand (rookie mistake—*always* carry cash) and no clue what to do.

Is this how they’re going to detain me? I wondered.

Immediately, I jumped to the conclusion that security forces would bust through our door to search for “terrorist” evidence or “propaganda.” Security forces had a reputation for showing up at the doors of journalists, activists and human rights workers at odd hours, sometimes even dragging them off to jail.

I looked at the map of Egypt taped above my desk and almost laughed out loud. That would be Exhibit A in the mind-bogglingly flawed court case against us.

And then the doorbell rang.

I’m a goner, I thought.

Even three-and-a-half years later, I can almost feel my heart pounding as I opened the door to see who it was. It was a friend, sent by another friend to bring me to their apartment for safekeeping. I was lucky, and so was my roommate. Egypt is one of the world’s leading jailers of journalists.

After leaving Egypt for a while—just in

case the investigation against my roommate escalated—I returned with no issues, only to soon leave again, permanently, for what seemed like relative stability and comfort in Istanbul, a beautiful place I had always wanted to live. My roommate got his passport back after a few days of nerve-wracking back and forth with officials, and he too left, for Australia.

We never knew if security forces showed up at our apartment. If they did, they wouldn’t have found much. Within hours of receiving my roommate’s frantic message, I had cleared out everything of importance—maps, flak jackets, phones, notebooks, computers—with the help of colleagues.

That moment is one that comes up often at dinner parties. It’s when I fell for my now fiancé, a casual acquaintance who also happened to be flying out of Cairo that first time I’d left and had helped me “flee.” But more importantly, it’s the moment I realized I might be in over my head; that being a foreign correspondent wasn’t as glamorous as I had imagined, or perhaps that it simply wasn’t always worth the risk.

After the Cairo incident, I went on to report from over a dozen countries, from Iraq to Afghanistan to South Africa, and every reporting trip has been a test of balance: How far can I go before I feel unsafe, before it’s not worth it anymore? How do I balance my own safety and the safety of local fixers and the people I interview—who often have survived hell—and also get the story?

I’d set out to be a foreign correspondent in the wake of the 2011 Egyptian revolution. That year I took an internship at *Foreign Policy*, in D.C., and arrived in Cairo in 2012 for the spring semester of my junior year, hoping to leverage my media contacts to start freelancing.

I was 21. I imagined the job would be one of adventure—a wild, rewarding, jet-setting ride interviewing interesting people who were making history. I found adventure, along with people making history. But what I didn’t expect was the fear that would follow.

Trauma builds up over time without you even realizing, and it can devour you whole if you’re not careful. I wasn’t the same when I returned home after covering the 2014 Israel-Gaza war, after seeing blown-up Palestinian children, falling asleep to thuds of nearby Israeli airstrikes in Gaza City and running to shelters when sirens blared in Tel Aviv. I remember meeting for lunch with a friend in Istanbul soon after returning home. A garbage truck rolled past the cafe, thundering down the uneven brick road. My heart raced and my palms sweated. All I could think about was lunging far from the windows, crawling under the wooden table, getting away.

It took at least six months for me to feel like myself again. Self-care is crucial, I’ve learned. It’s essential to take breaks, to step back and process, to grieve and move on.

On top of the newfound fear, there was a coming to terms with the unknowns of foreign reporting; that is, working in and writing about countries and cultures that are not your own. I am constantly reading, listening, learning and soaking up information and context so that my articles are wholly accurate. I’m forever grateful for my local colleagues who are often the unseen support behind international journalism, who more often than I’d like to admit have to whisper in my ear something along the lines of “He said ‘heart,’ not ‘dog,’” as I try to make sense of Arabic.

I’ve learned to poke fun at myself. After all, if they’re already laughing at you, you might as well laugh along with them.

I’ll never forget when a Syrian rebel commander, mocking how innocent I looked, dared me to smoke a cigarette as we sat on the floor of his bare apartment alongside half a dozen of his men. It was a test, to be sure. After five tries, I finally got the cigarette lit, took a puff and nearly coughed my lungs out. I remember my face burning crimson as the room full of men erupted into laughter. I joined in—and after the laughter died down, he answered all my questions that he’d previously dodged.

Stories of mild humiliation have become some of my most prized memories; those times when I am catapulted out of my comfort zone and connect with other humans in a deep way, often through laughter.

At 26, I have a lot to learn, and I’m constantly made aware of that in this job. But I now have a better understanding of what’s worth it for me, what’s not, and how to prepare for the worst.

I now keep an emergency grab bag—two, actually—in my Istanbul apartment. It even includes food for my rescue cat, Yola, in case we have to flee on foot. I’ve learned how to talk my way through impossible checkpoints, what medication to carry on assignment (there’s nothing worse than covering conflict with food poisoning), and how to stay hydrated in 110-degree desert heat. I never—well, almost never—run out of phone credit. I do, however, still write in my pajamas.

I have a worst-case-scenario plan for just about any situation: attempted coup, suicide

**IT'S THE MOMENT I REALIZED I MIGHT BE IN
OVER MY HEAD, THAT BEING A FOREIGN
CORRESPONDENT WASN'T AS GLAMOROUS
AS I HAD IMAGINED, OR PERHAPS THAT IT
SIMPLY WASN'T ALWAYS WORTH THE RISK.**



Jones snapped this view from an armored vehicle as she accompanied an Iraqi-Kurdish bomb squad clearing makeshift ISIS explosives along the roads to Mosul. The team diffuses bombs by hand, which proved deadly that day for one of the men she interviewed.

EVEN THOUGH MANY OF MY COLLEAGUES IN THE MIDDLE EAST AND BEYOND ARE WOMEN, JOURNALISM—PARTICULARLY FOREIGN REPORTING—IS STILL A LARGELY WHITE MALE-DOMINATED PROFESSION.

bombing, detainment or earthquake be damned. Included in those plans are the grim but necessary concerns that come along with being a female foreign correspondent.

People constantly underestimate me, wonder aloud if I should be there at all. Being a woman seems more obvious when you're the only woman spending the night at a Kurdish Peshmerga base in northern Iraq.

As a feminist, it pains me to say that I've resented being a woman in certain circumstances, like when I covered protests in Cairo's Tahrir Square, protests that often turned sexually violent; the kind of demonstrations where CBS

correspondent Lara Logan, and many other Egyptian and foreign women, were groped and even de-clothed, dragged and raped. I started wearing baggy clothing. Some female friends would hide their hair in hats. I remember thinking that a friend, a female photographer, had the most ingenious idea: Wear a tight one-piece swimming suit under your clothing. Then, even if they rip off your shirt or pants, you have another layer of protection.

And yet, I maintain that I have better—or at least different—access in most interview settings than male colleagues, because men, women and children alike often lower their guard around me. I am usually not seen as a threat. And unlike male colleagues, I can

walk into a family home or a business and interview people of all genders, whereas in places like Iraq or Afghanistan, some women might not feel comfortable or be allowed to speak freely with a male journalist. An interview usually ends in someone insisting on feeding me at least one meal, maybe even two. Grandmas pinch my cheeks and share memories of their good old days. Soldiers show me pictures of their kids back home, speaking of their sorrow, fear and unabashed dreams, revealing a slice of life they might normally keep hidden.

Even though many of my colleagues in the Middle East and beyond are women, journalism—particularly foreign reporting—is still a largely white male-dominated profession. And the reporting that comes out of conflict zones and countries in transition is often dominated by and about men: men making decisions that mainly take into account the needs and wants of men.

Telling the stories of women has become my drumbeat in recent years. Often that's pulled me further from the front lines toward stories that might not get told in the midst of war and national turmoil, where some of the gravest human rights abuses occur. Some of my colleagues are drawn to the front, immersed in the action and a sniper's shot away from death, and I respect that career path. I've lived it, and I've realized that's not the part of war reporting my heart is in.

After leaving *The Huffington Post* at the end of 2016, I joined The Fuller Project for International Reporting. The mission: to empower journalists who report on issues that impact women around the world. Now I devote my time to the stories I used to find myself begging to write, the stories that are often overlooked or ignored.

It's women like Reza Gul in Afghanistan whose stories I want to bring to light. Seven years ago, at age 14, she had been married off

The author (left)
with Reza Gul
at Istanbul
Ataturk
Airport.



to a stranger in exchange for about \$7,000. I interviewed her last year, after her abusive husband cut off her nose when she demanded a divorce. She survived, and sought help.


My intrepid Afghan colleague had tracked her down in a hospital in Mazar-e-Sharif, and we arranged to fly with her to Kabul, where she would receive the first of many reconstructive surgeries. Our story on Reza Gul—on her determination and quest for happiness—went viral.

The stars aligned several days later, and she and I happened to be on the same Kabul-Istanbul flight.

Walking through the Istanbul airport with her was a moment when I was sure—completely sure—that I was in the right job. My entire trip to Afghanistan, with all its risks and unknowns, was worth that one moment. It didn't seem like a sacrifice if it meant someone like Reza Gul would let me tell her story to the world.

She grabbed my hand and held it tightly. And there we were, two almost strangers, gliding through the airport hand in hand, smiling.

"I am not afraid," she had told me through a translator the week prior, before boarding the flight to Kabul, her first time on a plane.

But without a Pashto translator at Istanbul Ataturk Airport, I had no idea what she was softly whispering to me now as we walked to her next gate. I sensed that she was reassuring me she'd be OK. Or, perhaps, she was simply telling me to stop crying. 



Sophia Jones, BA '13, is an Istanbul-based journalist and senior editor at the nonprofit Fuller Project for International Reporting. She was The Huffington Post's Middle East correspondent

from 2013 to 2016, and also has written for Foreign Affairs, Foreign Policy, Elle, The Atlantic, NPR, Public Radio International and elsewhere.

A member of the Iraqi security forces heads down a tunnel that had been used by ISIS in northern Iraq

p. 64

'Beautiful Writing'

Malcolm O'Hagan, DSc '66, founds a Chicago museum dedicated to the written word.

p. 68

The Path to 'Making History'

Stroll through some of the milestones en route to GW's successful \$1 billion campaign.

p. 70

The Voice of the NFLPA

George Atallah, MBA '09, is the spokesman for one of the most high-profile unions in the U.S.

p. 73

A Role For A Reporter

Diana Henriques, BA '69, stars opposite Robert De Niro in a film adaptation—of her book.

ALUMNI NEWS

SPACE

Refusing to Remain a 'Hidden Figure'

As one of NASA's trailblazing "human computers" in the 1960s and '70s, Christine Darden, DSc '83, broke through barriers of color, gender and engineering.
// By Ruth Steinhardt

Christine Darden



WILLIAM ATKINS

// 60s & EARLIER

George L. Lucas, MD '61, authored *Appalachia Boy: A Memoir* (George Lucas, April 2017). In the book, Lucas, a hand surgeon in Wichita, Kan., shares the memories and tales from his Depression-era childhood in southeast Ohio.

Jeff Hoffman, BA '64, joined Windels Marx LLP in New York as counsel in the firm's litigation and white-collar defense and corporate investigations practice.

Louis T. Pirkey, JD '64, a founding partner of Pirkey Barber PLLC, was awarded gold status in the "Enforcement and Litigation" and "Prosecution and Strategy" categories in *World Trademark Review's* 1000, a list of top trademark attorneys.

Mark Plotkin, BA '69, was honored with the designation of April 10, 2017 as "Mark Plotkin Day" in D.C. for his service to the city and advocacy of D.C. self-governance and representation in Congress. Plotkin is a political analyst and contributor to the BBC, *TheHill.com* and *The Georgetown*, and spent three decades on the air with WTOP, WAMU and News Channel 8.

William R. Evinger, BA '65, MA '73, was inducted into the Wakefield High School Hall of Fame. He taught at the Arlington, Va., school for 20 years. He was the social studies chair and wrote and edited nine books. He also consulted with the National Geographic Society on several film series, the GED

Testing Service and textbook publisher Houghton Mifflin.

William Gralnick, BA '65, MA '68, authored *Mirth, Wind, and Ire: Essays on contemporary political and social issues—with a bit of humor thrown in* (SmashWords, December 2016).

Marc Leepson, BA '67, MA '71, authored *Ballad of the Green Beret: The Life and Wars of Staff Sergeant Barry Sadler from the Vietnam War and Pop Stardom to Murder and an Unsolved, Violent Death* (Rowman & Littlefield, May 2017).

Michael Locke, BS '67, co-authored *Silver Lake Bohemia: A History* (History Press, November 2016). The book highlights the Silver Lake neighborhood's role in the bohemian life of Los Angeles.

Charles R. McAndrew, BBA '69, was appointed by the Virginia Federation of Chapters of the National Active and Retired Federal Employees Association as the congressional liaison officer for Virginia's 10th District.

Paul Sochaczewski, BA '69, authored *An Inordinate Fondness for Beetles: Campfire Conversations with Alfred Russel Wallace on People and Nature Based on Common Travel in the Malay Archipelago, in the Land of the Orangutans, and the Birds of Paradise* (Explorer's Eye Press, April 2017). The book follows the Victorian-era exploits of British explorer Alfred Russel Wallace.

// 70s

William Hamilton, MS '71, was inducted into the Nebraska Aviation Hall of Fame

Christine Darden in the control room of NASA Langley's Unitary Plan Wind Tunnel in 1975.

When Christine Darden was a little girl, the would-be pioneering sonic-boom researcher at NASA remembers her mother giving her a talking doll—and also remembers the surgery she performed on it.

"I ended up cutting her open to figure out why she talked," says Darden, DSc '83.

It was a prelude to a career in search of solutions.

The youngest of five in Monroe, N.C., Darden, now 74, says she was "kind of a hot rod" who knew how to prime the carburetor in her father's car and repair her bicycle brakes with a twisted coat hanger. She graduated high school as valedictorian at 16 and came of age at a historically black university during the civil rights movement. As an undergraduate, in Hampton, Va., she marched and went door-to-door to register voters. Active, determined and curious, she was a born problem-solver—an engineer before she even knew what engineers did.

"In Monroe," she says, "engineers drove trains."

By the time she was one herself, Darden would be designing supersonic planes.

Darden's story features in Margot Lee Shetterly's 2016 bestseller, *Hidden Figures: The American Dream and the Untold Story of the Black Women Mathematicians Who Helped Win the Space Race*. She is not a character in the Oscar-nominated movie adaptation of the book, which focused on three "human computers" integral to the Mercury astronauts' successful 1962 space flight five years before Darden's arrival at Langley.

One of the women, Katherine Johnson—the trailblazing mathematician played by Taraji P. Henson—tells Shetterly in the book that she thought of Darden's story often when visiting schools.

"When Katherine went to talk to kids, she held [Christine] out as an example of how the sky's the limit when you have that kind of talent and support," Shetterly explains in a phone interview.

For Johnson, she says, Darden might also have been emblematic of a generation for whom more was possible than her own. Though the challenges Darden faced were informal, they still were ubiquitous. ▶

▶ “When the first black women came to Langley, there were a lot of legal and economic restrictions on women, besides legalized segregation,” Shetterly says. “Those things did change over time, and regulations and laws were put in place or overturned to make sure women had resources. But it’s one thing to overturn laws; it’s another to overturn hearts and minds. [Some people] thought women just weren’t as ambitious or passionate as men. Getting those people to see you, to take you and your ambition into account, was very hard and is still very hard,” she says. “That’s something women today are still fighting—an elusive fight, like shadowboxing.”

After graduating with a bachelor’s in mathematics and a teaching certificate from Hampton Institute (now Hampton University), Darden married and got a job as a research assistant in aerosol physics at what is now Virginia State University, where she also got a master’s degree. She applied to work at NASA in 1967 after missing a recruitment event by one day. Three weeks later, they offered her a job as a computer.

“I didn’t particularly like that job,” she says now, diplomatically.

Computers were limited to tedious data compilation, crunching numbers and writing programs for the agency’s engineers. Though she did it for several years, the work increasingly frustrated her. It seemed unrelated to what she loved about math.

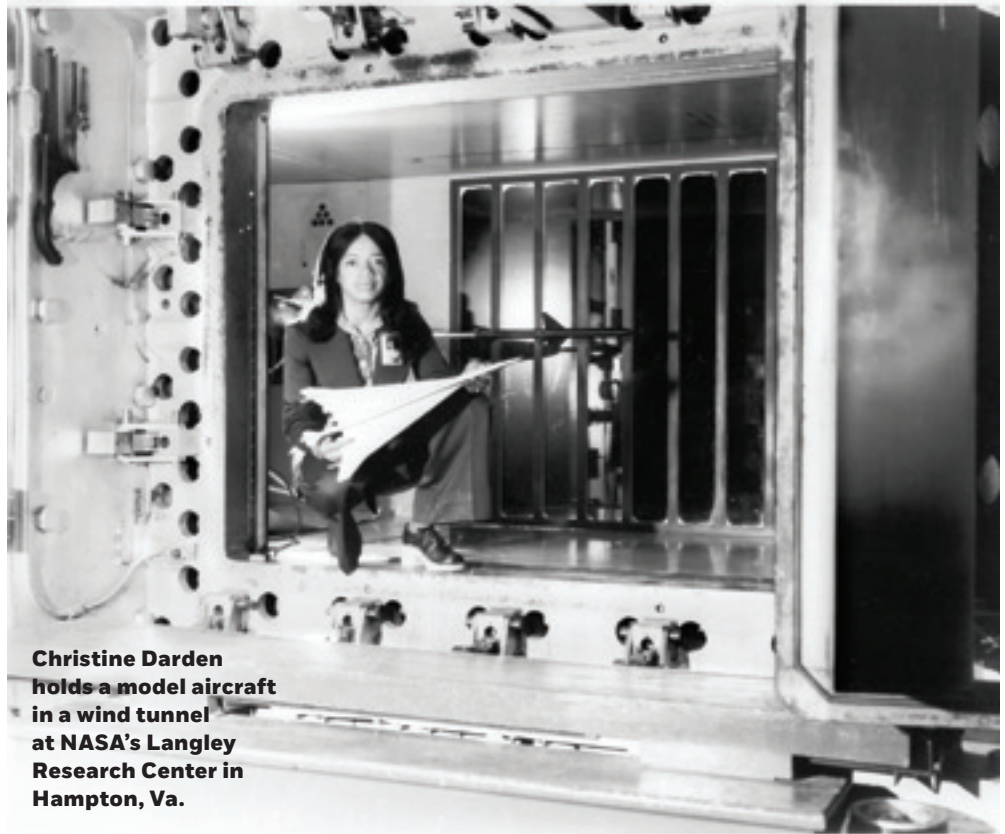
“I liked the applied mathematics—the things in the back of the book that the teacher never got to, that related math to the physical world,” Darden says.

It’s work that seemed closer to what NASA’s theoretical engineers were doing: developing creative solutions to practical questions. The differences between the two jobs particularly irked Darden, because her master’s degree in applied mathematics gave her the same education as many of the engineers. The only difference was her gender.

“I realized that men there with math degrees were working as engineers,” she says.

But when she asked her immediate supervisor about transferring to the engineering department, the answer was an uncompromising no. She was even denied permission to enroll in the graduate classes GW offered at Langley; these, she was told, were only for engineers.

So Darden went over the supervisor’s head—by several levels—and approached her boss’s boss’s boss, NASA division chief



Christine Darden holds a model aircraft in a wind tunnel at NASA’s Langley Research Center in Hampton, Va.

John Becker.

“I said, ‘I’d like to know why men and women with the same background are treated so differently as far as their job assignments,’” Darden remembers. “Women kind of get in a dead-end job. They’re supporting engineers. They don’t write papers, they don’t get promotions. Men are working on their own projects, writing papers, getting promotions. He said, ‘Nobody’s ever asked me that question before.’”

“Well,” Darden told him, “I’m asking it now.”

Willing to be convinced, Becker transferred her to an engineering section. A few weeks after walking into his office, she began working on minimizing sonic booms, the research that would define the first part of her career.

The transfer also made Darden eligible for educational leave hours, and in 1973 she signed up for classes.

“The frightening thing about doing that was all of my previous schooling had been segregated,” she says. “I knew if I went to this GW class, it would be all white men.”

Darden was right. In her first fluid dynamics class of eight students, she was the only woman and the only African-American. But intimidation didn’t stop her, and when

she excelled in the class, her peers took notice.

“After the first test, a couple of guys came over and asked if I wanted to join their study group,” she says.

It took Darden 10 years to earn a doctorate in mechanical engineering, taking two classes a year. She was also working full time in NASA’s engineering department, translating industry-standard algorithms into computer programs that would generate airplane shapes producing a quieter version of the characteristic supersonic thunderclap. According to *Hidden Figures*, the code she wrote “is still the core of sonic boom minimization programs that aerodynamicists use today.” And she was shuttling her two daughters, born in 1964 and 1970, to school, Girl Scouts and music lessons.

“Even though I had difficulties in juggling everything—I remember telling people how to cook certain things over the phone in the afternoon—I enjoyed my work, and the work varied,” Darden says. “I wrote papers, I gave talks. No day was the same. It was actually pretty exciting to go to work every day.”

During periods of defunding for supersonic research, Darden adapted, turning her focus to other projects and to training for research management. In 1999

“
**Even though I had
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 telling people how to cook
 certain things over the phone
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 to go to work every day.**”

she was the first black woman at Langley appointed to the senior executive service, the highest rank available to federal civil servants.

“That promotion really meant breaking another glass ceiling, not just cracking into this group of highly proficient researchers at Langley but also becoming management,” Shetterly says. “It’s an example of someone who had both research and management talent given a chance to do what she was really good at.”

By the time Darden retired in 2007 as the director of NASA’s Office of Strategic Communication and Education, she was an internationally recognized expert who had authored more than 50 technical publications and presentations and who had directed three offices within the agency.

After a career spanning almost four decades, it’s unsurprising that Darden still takes an interest in the work she fought so hard to do. She keeps a sharp eye on the “X-plane” experimental aircraft project, resurrected at NASA in 2016 by former President Barack Obama. If supersonic aircraft that didn’t produce a disruptive boom could be developed, she says, regulations forbidding commercial supersonic travel over land could be changed, and “You could fly to

California in an hour and a half.”

She continues to travel the country, though perhaps not as fast as she would like. She’s often asked to speak at schools, universities, churches and conferences, including the 2017 Apple Worldwide Developers Conference. And Darden says she’s seen the movie *Hidden Figures* “at least 11 times,” sometimes with groups of schoolchildren whom she addresses afterward. (“They took a few liberties, but it made for a good story,” she says. “And in all those times I’ve seen it, I never get bored.”)

“There’s no way I could have imagined any of this,” Darden says of the whirlwind of attention the book and movie’s successes have brought.

And the spotlight has been particularly surprising because it revealed something Darden didn’t know: that her story had been “hidden” at all.

“I don’t think any of us ever realized that the general public didn’t know what we were doing,” she says. “Folks around here knew where I worked. But I remember talking to a church friend who asked, ‘What do you do?’ I said, ‘I’m an aerospace engineer,’ and she said, ‘Oh.’ That was the end of the conversation. So maybe people just couldn’t understand without more explanation.”

in January at the 25th Nebraska Aviation Symposium, which he helped found 25 years ago. An Army veteran, Hamilton, among other commendations, received the Silver Star, the Distinguished Flying Cross, the Legion of Merit, four Bronze Stars and the Purple Heart.

J. Phillip London, DBA ’71, received the Distinguished Service Award from the Naval Historical Foundation. London is the executive chairman of CACI International, based in Arlington, Va.

Alan Nadel, BS ’71, JD ’76, a partner at Panitch Schwarze Belisario & Nadel LLP, was ranked by *Chambers USA* for prowess in intellectual property law and was named a 2017 Pennsylvania *Super Lawyer*. In April, he presented at the 33rd annual Joint Patent Practice Seminar in New York.

Barry Nussbaum MS ’71, DSc ’78, was elected the 112th president of the American Statistical Association, following his retirement as the chief statistician of the U.S. Environmental Protection Agency.

Neil Portnow, BA ’71, was awarded an honorary doctor of music degree from Berklee College of Music in Boston. Portnow is the president and CEO of The Recording Academy, which is responsible for the Grammy Awards.

Gary S. Horan, MS ’73, and his wife, Arlene, received the 2016 Caritas Award from the Sisters of Charity of St. Elizabeth in Elizabeth, N.J. Horan is the president and chief executive officer at Trinitas Regional Medical Center.

Michael A. Zerivitz, BA ’73, practices dentistry in Florida and teaches classes in street and travel photography, drawing upon his experiences traveling to 60 countries. He has the following certifications from the Professional Photographers of America: certified professional photographer and master of photography.

Michael Reimann, MA ’74, was a winner in the stage-play category of the 85th Annual Writer’s Digest Competition for his play *Nut House*, which centers on one man’s lifelong search to discover why a once-loving father chose to abandon him. This follows the production of Reimann’s award-winning play *American Farce* (2014).

Hilarie Bass, BA ’75, was honored with the Advancement of Justice Award, which is presented by the National Judicial College. Bass is co-president of the law firm Greenberg Traurig and the president-elect of the American Bar Association. Her pro bono work led to Florida’s ban on gay adoption being declared unconstitutional.

David Eisenhower, JD ’76, is the host of the PBS series *The Whole Truth with David Eisenhower*. The grandson of President Dwight Eisenhower, David Eisenhower is the director of the Institute for Public Service at the Annenberg School for Communication at the University of Pennsylvania.

Farin Powell, LLM ’76, authored *The Judge* (iUniverse, August 2016). In *The Judge*, Powell’s third novel, a judge is kidnapped and thrust into the midst of a twisted web that intertwines him with the





MUSEUMS

A Reader's Playhouse

The first-of-its-kind American Writers Museum, conceived by alumnus Malcolm O'Hagan, strives to celebrate not just literary accomplishments, but the joy of reading itself.

// By Ruth Steinhardt

There's no sign of William Faulkner's fountain pen or Gwendolyn Brooks' Pulitzer Prize medal at the American Writers Museum. There aren't even many books in the space, which opened in Chicago this May, unless you count the playful arch of them that welcomes visitors as they enter.

Instead, the building is a journey through immersive, imaginative spaces, paying tribute as much to the spirit as to the letter of 500 years' worth of American writing.

To celebrate the nature poems of W. S. Merwin, museum designers created a leafy, immersive green space that evokes the poet's Hawaiian garden. On the sensory-exploration "Surprise Bookshelf," a savory smell drifts up when visitors touch a plaque

honoring Julia Child's *Mastering the Art of French Cooking*. In the "Word Waterfall" room, illuminated words and imagery cascade down a dark wall.

Only one gallery houses traditional literary memorabilia—a rotating exhibit that currently features the sprawling 120-foot typewriter scroll on which Jack Kerouac typed his seminal *On the Road*.

"We didn't want to duplicate what other people were effectively doing already," says museum founder Malcolm O'Hagan of the absence of relics. "We're not really about collections, archives or research. We wanted to be a presentation arm for the literary community."

O'Hagan, DSc '66, is not a professional member of the literati, though he made a point of consulting writers like George Saunders and Joyce Carol Oates in designing the AWM. Instead, he is a lifelong engineer and manufacturing executive, a former CEO of the National Electrical Manufacturers Association who holds a bachelor's and a master's in engineering from the National University of Ireland, and a doctorate from GW's School of Engineering and Applied Science.

Growing up in Ireland, the eldest of seven children, "I was not a reader," O'Hagan says. "I never saw my mother or father read a book."

Not until college, when professors

introduced him to F. Scott Fitzgerald, Ernest Hemingway and John Steinbeck, did O'Hagan fall in love with the written word. "Steinbeck was my favorite," he says. "And then of course the Irish writers: [James] Joyce is just amazing. It's challenging, but the writing I like best tends to be classical or difficult. I love poets: [Seamus] Heaney, [William Butler] Yeats."

It would become a lasting passion. When O'Hagan retired in 2005, still in the D.C. area, he began auditing poetry and literature classes at GW. "Auditing those classes was tremendously exciting to me," he says. "I learned a lot, and I finally had time to pursue something I really loved—even if I was looking around at other students thinking, 'My God, they could be my grandchildren.'"

That was where Jeffrey Cohen, then chair of the English Department, got to know him. And for Cohen, O'Hagan's journey from "not a reader" to the founder of a museum that honors the importance of reading and writing is deeply inspiring—but not unusual.

"I teach a lot of general education classes, and I have a lot of students who think they're not readers, but that's often because they haven't found the book that's extending the invitation to them," Cohen says. "When they find that, it's catalytic. Malcolm's story is very reassuring to students who came to that passion late. That's just how literature works."

When, on a return trip to Ireland,

O'Hagan visited the Dublin Writers Museum—which houses memorabilia, manuscripts and first editions by Irish literary lights—he began to wonder if Americans had a similar interest in valorizing their own literary tradition, though perhaps in a less traditional way.

“The idea of celebrating great writers and learning from their work, I felt, was very important,” O'Hagan says.

Back in D.C., he approached the concept with an engineer's pragmatism: First test the viability and appeal of the idea, then develop a plan for realizing it.

“I spoke to a few people I knew interested in literature, and they all were surprised as I was that such a museum didn't exist in the U.S.,” he says. Writers, readers and heads of arts foundations all expressed interest. One head of a prestigious arts endowment, O'Hagan remembers, said, “Hell, I'm more excited about this than you are.”

“It became evident quickly on that this was something that could be valuable,” he says.

His suspicions confirmed, O'Hagan then turned to the practical problem of creating a museum from scratch. He assembled a nationwide “content leadership team” of several dozen educators, writers and scholars. Together, they established that

the museum would not be targeted to academics or researchers. Nor would it be susceptible to literary trends: Its permanent exhibitions would feature only deceased authors, with the goal of choosing artists who have stood the test of time. Still, it would not be a traditional archival museum, with permanent collections of photographs and artifacts.

“We said at the outset, it's got to be contemporary, interactive and engaging,” O'Hagan says. “We didn't want to go highbrow or lowbrow—more like midbrow, for general readers.”

He began looking into fundraising possibilities (the AWM would eventually be founded with almost \$10 million in privately raised funds). Simultaneously, he began to informally consult experts in GW's Museum Studies Program and at the Smithsonian Institution about the realities of museum design. All advised him not to hire a curator too early, since that person's biases would inevitably shape the character of the museum. Instead, senior strategy staff at the Smithsonian urged O'Hagan to start working with a designer who could bring his dynamic, interactive vision to life.

“They immediately recommended an exhibit designer called Amaze ▶



Malcolm O'Hagan

lives of three ex-convicts and the mystery surrounding his missing daughter.

Jeffrey Libman, BBA '77, was designated as a premier advisor for Wells Fargo Advisors in Short Hills, N.J., for the seventh consecutive year.

J. Stuart Showalter, MFS '77, published the eighth edition of his textbook, *The Law of Healthcare Administration* (Health Administration Press). The book is used, notably, in master's of hospital administration and master's of public health programs across the country.

Patrick Winburn, BA '77, was recognized in the 2017 edition of *The Best Lawyers in America* in the areas of medical malpractice and personal injury law. He also was re-elected moderator of the Village of Old Bennington, Vt.

Joel S. Arogeti, BA '78, was appointed to the boards of National Commerce Corporation and National Bank of Commerce. The president and CEO of the Atlanta law firm Kitchens Kelley Gaynes, Arogeti also serves as the chair of the board of the Marcus Jewish Community Center in Atlanta and is a board member of the Jewish Federation of Greater Atlanta.

Elliott Wiser, BA '78, is the CEO and president of Here's an Idea, a marketing and communications company in Tampa Bay, Fla. He retired from the television industry after 38 years.

// 80s

Neal Barnard, MD '80, RES '84, and the band CarbonWorks released an album that features musicians from around the world, including Chris Thomas King, the blues guitarist featured in the films *O Brother, Where Art Thou?* and *Ray*. The album also features Italian singer Naif Hérin as well as jazz musicians and rock and traditional Vietnamese music.

Susan L. Heller, JD '82, was included in *World Intellectual Property Review's* 2017 directory of “World IP Leaders” as one of the leading practitioners in the area of trademarks. Heller is the chair of Greenberg Traurig's global trademarks and brand management group.

Frank McDonough, MS/MA '82, authored *Spring Training for the Major Leagues of Government* (Koehler Books, February 2016), which provides case studies, insights and advice to help high-level officials succeed in government positions.

Roy Wilensky, BA '82, is a clinical psychologist and training director at Sterling Behavioral Health Services in Ashburn, Va., where he conducts psychological testing and psychotherapy for adolescents and adults and co-leads training programs for graduate practicum students, doctoral interns and postdoctoral residents in clinical and counseling psychology. He also is a forensic psychologist, devoting time to conducting pro bono evaluations for Healthright International's Human Rights Clinic.

Elliott Kugel, MS '83, was recognized in the March 6, 2017, issue of *Barron's* as one of the “Top 1,200 Advisors in America” for the eighth year in a row and he ranked 13th in New Jersey. He also was recognized in

▶ Design in Boston,” O’Hagan says. In particular, they urged him to hire Andy Anyway, Amaze’s owner and president.

That was a reversal of normal museum procedure: Typically, an exhibit has already been curated before designers come on board. But without a traditional curator, the nascent AWM needed a more collaborative approach.

“Andy’s response was, ‘You tell me what you’d like the museum to accomplish and I’ll figure out how to do it,’” O’Hagan says. “He ended up having to do something he’d never done before, which was to coordinate curation.”

And finally, in the spring of 2017, after seven years of development, O’Hagan stepped into the physical embodiment of his idea.

“It was nerve-wracking,” he admits.

But the finished product exceeded his expectations.

“When you walk in, it’s a ‘wow’ moment,” O’Hagan says. “It’s hard to describe, because a museum is first of all a three-dimensional space. You can’t describe it in words or

pictures. Every direction you look, every gallery you go into is visually stunning. Every gallery had a surprise or a feature I’d never expected.”

The reception from visitors has been gratifying. The museum has received accolades from authors, publishers and activists as well former presidents George W. Bush and Barack Obama and first ladies Laura Bush and Michelle Obama, journalist Jim Lehrer and Pulitzer Prize-winning author and publisher Dave Eggers. *The New York Times* praised the museum’s “populist, D.I.Y. spirit,” and the *Chicago Tribune* said it “feels ambitious, far-reaching and wise in its appreciation of writers and writing.”

O’Hagan is most excited by the contributions to the “Mind of a Writer” gallery, a room full of digital writing tools, vintage typewriters, pencils and paper where visitors can add their own creations to the museum’s “story wall” or contribute to an ongoing “story of the day.”

“The quality of some of the writing is just phenomenal,” O’Hagan says. “It’s thrilling for me that people want to participate in this

and are doing it so well.”

“I give a lot of credit to GW,” he says. “The courses I took there were so important in fueling my interest and my energy. And we had all these wonderful interns from GW—some former interns even came to the opening.”

Cohen hasn’t had a chance to visit the museum yet, but says his brother visited when it opened, texting him excitedly from each gallery.

“He thought it was incredibly well done—something that could’ve been gimmicky turns out to be an invitation to think about books more deeply,” Cohen says.

“I hope that people walk away with a better sense of the importance of written words and how writers have shaped our history and our culture—all kinds of writers,” O’Hagan says. “Our last Nobel Prize winner [Bob Dylan] was a lyricist. Beautiful writing matters, whether it’s lyrics, culinary writing, sports writing. My hope is that the museum inspires more Hemingways and Fitzgeralds, more Willa Cathers and Gwendolyn Brooks.” ☐



“Establishing a charitable gift annuity at GW was a great option for me. It provides income I can count on, and I’m able to support GW and its programs at the same time!” - Mildred Reynolds, EdD '78

Mildred’s gift will support the GW Institute for Spirituality and Health (GWish) and the Graduate School of Education and Human Development (GSEHD).

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DAR3099

Meet the New GW Alumni Association President

Venessa Marie Perry, the first African American president of the GW Alumni Association, began her tenure at the annual GWAA meeting in June, taking over from Jeremy Gosbee, BA '98, MBA '02.

Perry, MPH '99, is the CEO of Health Resource Solutions, a health care consulting firm specializing in developing solutions to public health issues in underserved communities. She founded the first master's of public health alumni association at the Milken Institute School of Public Health and was actively engaged as a founding member of GW's Black Alumni Philanthropic Society.

She also is a military veteran, an author and a private relationship coach with a doctorate in psychology.

"I'm a serial entrepreneur," Perry says, and she says she hopes to bring a "visionary" spirit to the GWAA.

"We want to heighten the profile of the alumni association," she says. "And we want to work alongside the board of trustees and new president to implement the university's strategic plan. That means looking at how we do our work—are we reaching the alumni we should be? Are we reflecting the entire community?"

"I want to put structures and systems in place that will strengthen that."

Growing up in Amherst, Mass., Perry originally intended to be a medical doctor. But by the time she finished her undergraduate career at the University of Michigan and Trinity College and did a 10-year stint as an Army nurse, she had decided to change course. She wanted to think and work systemically—on broad health care strategy and public policy, rather than individual

patients.

"I wanted to be able to educate governments and organizations about prevention and care," Perry says.

During her years as a GW student, the School of Public Health was under the umbrella of the School of Medicine and Health Sciences. Most of her classmates, she says, already had careers. They worked all day, attended class at night and saw little of each other outside the classroom.

"We didn't really have a community," she says, which led her to found the school's first alumni association. "I wanted us to have a home."

After receiving a master's degree, Perry founded HRS. There, she has worked with clients like the federal Health Resources and Services Administration and the D.C. Department of Health on programs to prevent HIV/AIDS and chronic diseases like diabetes.

Perry also founded Love(w)rite, a relationship coaching practice for professionals that she describes as being "for people who have everything in their life together, except their relationships."

"I firmly believe that in touching one person, you can touch a community," she says. "That's part of what I learned in my public policy work."

Outside of her professional and philanthropic pursuits, the New York City-based Perry is a self-described "hip-hop junkie" who lists Jay-Z, Eric B. and Rakim and the Notorious B.I.G. among her top five artists. She's an avid reader—consuming five books a week—as well as an enthusiastic traveler, with recent trips to Dubai, Spain, South Africa and Morocco.

"I hope even more people will want to be engaged with the alumni association as a result of my presidency," Perry says.

—Ruth Steinhardt



Forbes magazine's inaugural list of the top 200 advisers in the country. Kugel is a managing director of investments at Merrill Lynch in Bridgewater, N.J.

Steven Kupka, BA '83, is a partner in King & Spalding's government advocacy and public policy group. He joined the firm in Washington, D.C., after 16 years with Husch Blackwell.

Lawrence Hill, JD '84, LLM '89, joined the New York offices of Winston & Strawn LLP as partner.

Kathleen McFall, BS '84, co-authored *Bonnie and Clyde: Resurrection Road* (Pumpjack Press, May 2017). The first in a series of alternative-history novels, it imagines a world in which the outlaws never died but instead become covert agents and save President Franklin Roosevelt from an assassination plot.

Christopher Myers, BA '84, authored the novel, *In Just Ten Days* (Amazon, February 2017), a political thriller about Dr. Joshua Petersen, a GW international studies professor and former CIA operative who is caught in a web of conspiracies, assassinations and deceptions that shake the foundation of the industrialized world.

Luis J. Fujimoto, BS '85, was elected as the chairman of the board of trustees of the American Association of Dental Boards Foundation in Chicago. Fujimoto is the vice president for the American Association of Dental Boards and secretary for the New York County Dental Society.

Andrew Kaye, BA '85, was elected president of the Pennsylvania Builders Association. Kaye, an attorney, is the president and CEO of Stevenson Home Builders, LLC.

Valerie Lester, BA '85, discussed her book, *Giambattista Bodoni: His Life and His World* (David R. Godine, August 2015), during a speaking event at the Library of Congress in September.

Daphne Palmer Geanacopoulos, MBA '85, authored *The Pirate Next Door: The Untold Story of Eighteenth Century Pirates Wives, Families and Communities* (Carolina Academic Press, January 2017), which explores the human side of pirates from the 17th and 18th centuries and delves into their inner lives by focusing on their faiths, communal ties and great loves.

George F. Indest III, LLM '86, president and managing partner of The Health Law Firm in Altamonte, Fla., was re-certified in health law on behalf of the Florida Bar's Board of Legal Specialization and Education in Orlando, Fla.

Rick Richmond, JD '86, was named a "Technology MVP" by *Law360*. Richmond, co-founder and managing partner of Jenner & Block LLP's Los Angeles office, was recognized for leading a team of attorneys to a record-setting \$940 million jury award on behalf of Epic Systems in its corporate espionage case against Tata Consultancy Services.

Marc Fliedner, JD '87, is running this fall for district attorney in Brooklyn, N.Y. He is a nationally recognized leader on the issues of hate crime prosecution and prosecuting issues of police misconduct.

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SPORTS

George Atallah: 'Language Matters'

Alumnus and NFLPA spokesman talks about being a spokesman in a post-facts world.

// By Matthew Stoss

As a spokesman (and as a human), George Atallah, MBA '09, is dismayed by the state of spokespeople. He is the voice of one of the most high-profile unions in the United States—the NFL Players Association—and he says that when spokespeople fabulate, it cuts at the credibility of all spokespeople.

“Language matters. Language matters a lot,” says Atallah, whose official title at the NFLPA is assistant executive director of external affairs. “The words that come out of an official institution, like the government, like Congress, like the White House, like any institution that has a public interest—language matters. And so it is very troubling to me that we’re entering a phase where the literal meaning of words is diminished, and that doesn’t only hurt our profession, it hurts everyone, right?”

The 39-year-old Atallah is sitting casually in his glass office a few floors above 20th Street NW between L and M streets. It’s late January and there has been some debate about a certain crowd size. There are philosophy books on his shelves. He spent last summer rereading *Fear and Trembling*.

Atallah is tall-ish, has worn a rubber band on his wrist since high school—a tan-line-making reminder to always “snap back”—and is an immigrant. He came over from

Lebanon and settled in Queens, N.Y., with his parents as a baby, swaddled by Marlboro cigarette boxes in a bassinet. The cigarettes, cheaper in Lebanon than the United States, were for relatives already here.

A self-described people person, Atallah double-majored in English and philosophy at Boston College and is a candid tweeter



“It is very troubling to me that we’re entering a phase where the literal meaning of words is diminished, and that doesn’t only hurt our profession, it hurts everyone, right?”

with nearly 34,000 followers. He has been the NFLPA’s spokesman since 2009 when NFLPA Executive Director DeMaurice Smith hired him from Qorvis, a Washington, D.C.-based PR firm where Smith and Atallah met.

Atallah’s tenure has been largely free of credibility-quashing blunders and he is generally well-regarded by the media that covers him. He says there are only two things he’s said in eight years at the NFLPA that he really regrets. The first involved him intentionally cursing because he thought (at the time) he had a great one-liner. He didn’t.

“When you see it pop up in print and you sort of go, ‘Probably shouldn’t have done that,’ you know?” Atallah says. “Especially when your dad calls.”

The second gaffe came when a *New York Daily News* reporter called him late one night—Atallah has two cellphones that’ll probably still be beeping long after we’re engulfed by the sun—and asked about the NFLPA’s stance on an HGH-related issue. Atallah, a new parent at the time, had been up for days. He was tired and cranky and probably just should have let voicemail take it.


“I deviated from the institutional position that we had taken for 30 years,” Atallah says. “I didn’t think about it at the time, and the next day in the *Daily News*, there is this angry picture of [Smith]. I can’t even remember what—opposed or for HGH—whatever it was that I said, it just blew up in my face.”

Being a spokesman is a lot like being a stand-up comic. The job demands that you always be on and intellectually and verbally spry. An off day can leave you and your organization banjaxed into oblivion. There are hecklers.

Atallah says he likes his job because he likes people and especially the people he works with and for: the NFL players. He says those relationships have excised from him his once-fervent New York Giants fanhood. Now, he just roots for everyone to not get hurt.

Since joining the NFLPA, Atallah, by trying to influence public opinion, has helped fight for players’ rights, notably attempting to ensure that Patriots quarterback Tom Brady got a fair shake from the NFL during “Deflategate.” During the 2011 lockout, Atallah was a part of shooting down an owner-led push for an 18-game regular season. He’s given a voice to initiatives to improve player health and safety, working on concussion prevention and reducing tackling and hitting in practice. During Atallah’s tenure, the NFLPA also has fought for the more responsible dispensing of prescription drugs to injured players.

Atallah describes himself as the players’ “public advocate” and not an apparatchik. But he knows people are prone to think him the latter and he does what he can to counter that perception.

“When you ask the question, ‘Is everything I say true?’ in my role, equally as important as truth is trust,” Atallah says. “And if I ever stepped out to a media person and provided misinformation, that erodes that person’s trust in me, and that’s the sort of thing I can’t give up. It’s something that I hold onto very dearly. And look, sometimes, we’re not always going to be winning an issue publicly. The goal is not: ‘Yeah, sure, you want every fan to be on our side.’ No, the goal is: ‘Is this organization advocating for the rights and best possible position for its members?’” 

Elissa Biegen, BBA ’88, was promoted to vice president of human resources consulting at Operations Inc., which provides human resources, payroll, training and development, and talent-acquisition services in the United States and abroad.

David Goldstein, BA ’88, is a managing partner at Goldstein Hall in New York and his firm is serving as general counsel to Joint Ownership Entity NYC, an alliance of nonprofits working to tackle New York’s affordable housing shortage.

Miriam Grogan, BBA ’88, authored her third book: *Switch Off: The Clergy Guide to Preserving Energy and Passion for Ministry* (Abingdon Press, August 2016).

Camille W. Hill, JD ’88, a member of Bond, Schoeneck & King PLLC in Syracuse, N.Y., was named deputy chair of the firm’s business restructuring, creditors’ rights and bankruptcy practice.

Lisa Woll, MA ’88, is the CEO of US SIF, a nonprofit that promotes socially responsible investing. Woll is featured in *Uplifting Leaders* (*Who Happen To Be Women)* (BrownFlynn, December 2016), a collection of stories and advice from 25 influential women in business.

Gary S. Lesser, BA ’89, is the managing partner of Lesser, Lesser, Landy & Smith in West Palm Beach, Fla., and was awarded the sixth annual Judge Edward Rodgers Diversity Award by the Palm Beach County Bar Association. In March, Lesser’s firm, which was founded by his grandfather in 1927, celebrated its 90th anniversary.

// 90s

Vernon Dale Jones, MA ’90, was named chancellor and chief academic officer at Penn State Wilkes-Barre. He previously served as the vice president for strategy, administration and board affairs at Hampden-Sydney College in Virginia.

Jonathan Klee, BA ’90, is the president of the United States Tennis Association Eastern Long Island Board as well as a member of the USTA National Constitution and Rules Committee and the chair of the Nassau County Bar Association Lawyer Referral Service. He is a founder and managing partner of Klee, Woolf, Goldman & Filpi LLP in New York.

Brian Schwartz, BA ’90, received the Tischler Award from the New Jersey State Bar Association for lifetime achievement in family law.

Peter Weitz, BBA ’90, MBA ’97, authored his first book, *The 401(k) Roadmap—A Fiduciary’s Guide to 401(k) Strategy* (Balboa Press, January 2017), which defines the role of a fiduciary and offers a plan, process and a discipline to help navigate government rules and regulations, ensuring compliance with the U.S. Department of Labor and the Internal Revenue Service.

Jill Madenberg, BA ’91, co-authored with her daughter, Amanda, *Love the Journey to College: Guidance from an Admissions Consultant and Her Daughter* (Post Hill Press, August 2017), a guide to the college application process. Madenberg has more than 20 years of counseling experience

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MOVIES

Pulling Back the Curtain on Wall Street's 'Wizard of Lies'

Diana Henriques, BA '69, plays herself opposite Robert De Niro in the HBO adaptation of her book about financier Bernie Madoff.
// By Julyssa Lopez

In August 2010, then-*New York Times* reporter Diana B. Henriques, BA '69, made her way into the stark visitors' room of the Federal Correctional Complex in Butner, N.C., about 45 minutes northwest of Raleigh. She had been waiting for this visit for 18 months, and now, a small figure in a tan uniform emerged from a set of double doors. It was Bernie Madoff, the financier and fraudster who stole nearly \$65 billion in the largest Ponzi scheme in history, and the subject of a book Henriques was finishing: *The Wizard of Lies: Bernie Madoff and the Death of Trust*.

More than five years later, Henriques was back in a dimly lit visitors' room. Clad in a neat black suit, she leaned over her notebook and evenly observed the man in the tan uniform in front of her. She began firing off questions: Did he think of lying and cheating to families who trusted him as stealing? These people lost their homes and

life savings. How could he do it?

The tense exchange continued for several minutes. And then someone yelled, "Cut!"

Henriques wasn't in Butner this time around—she was on a soundstage in Bethpage, N.Y., where her interviews with Madoff were being recreated for HBO's *The Wizard of Lies*, the 2017 film adaptation of her book, directed by Barry Levinson. She was playing herself in the film, and the man sitting across from her portraying the convicted felon was two-time Oscar winner Robert De Niro.

"I was fully prepared to have wound up on the cutting room floor," says Henriques, 68, who also serves on GW's board of trustees. "So, it was thrilling to see the actual shape that the film took. It very much reflects the architecture of my book, which any adapted author has to be gratified about."

Henriques, whose book debuted in April 2011 and reached No. 10 on *The New York*

and her daughter recently started college.

Ross R. Guckert, MEM '92, was installed as the U.S. Army's deputy program executive officer for combat support and combat service support and elevated to the Army's Senior Executive Service on March 24, 2017.

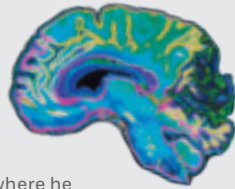
Diane Lebson, BA '92, was named chief development officer of the National Museum of Women's History. She also is senior director at Orr Associates, Inc., a nonprofit consultancy with offices in Washington, D.C., and New York.

Randy T. Sultzer, MEM '92, authored his first ebook, *Generating History: Profiles of an Early American Family* (Smashwords, January 2017).

Brooks R. Amiot, JD '93, was appointed managing principal of Jackson Lewis P.C.'s Baltimore office.

Jonathan Gilbert, BBA '93, is the CEO of Scythian Biosciences Inc., a Canada-based private research and development company committed to preventing and treating concussions and traumatic brain injuries.

Donald R. McMullin, MA '93, a former U.S. Army intelligence officer, is an IBM senior managing consultant and recently completed a one-month pro-bono assignment in Targu Mures, Romania, where he worked with a local nongovernmental organization and assisted in designing a mobile app focused on helping women and girls who are victims or at risk of gender-based violence and domestic violence.



Ivan Wasserman, JD '93, partner at Amin Talati Upadhye, received the 2017 Lexology Client Choice award for exemplary client service in health care and life sciences in Washington, D.C.

Jacob S. Farber, JD '94, joined Perkins Coie, LLP, as senior counsel in its technology transactions and privacy practice in Washington, D.C.

Ramon Rozas III, JD '94, authored *Dispatches from Probability Space* (Oloris Publishing, December 2016), a collection of science-fiction short stories.

Linda Fisher Thornton, MA Ed&HD '94, was named to the "2017 Top Thought Leaders in Trust" by Trust Across America (a communications firm) and received a Top Thought Leaders in Trust 2017 Lifetime Achievement Award. Thornton, the CEO of Leading in Context in Richmond, Va., authored *7 Lenses: Learning the Principles and Practices of Ethical Leadership* (Leading in Context LLC, November 2013).

Kirby Anderson, MA '95, authored *Whispers of Maryam* (Christian Faith Publishing, January 2017).

Erica Collins, BA '96, a women's activist and advocate and a former plus-size model, appeared on *Conversations with Verdel Jones*, a web-based talk show, in January to discuss embracing women who have curves, confidence and color.

Makan Delrahim, JD '96, was nominated by President Trump in March to serve as an assistant attorney general in the U.S.

Times nonfiction bestseller list, was the first person to interview Madoff after a judge sentenced him in June 2009 to 150 years in prison.

Henriques was familiar with Madoff, having covered him as a senior financial reporter at the *Times*. Following his arrest in December 2008, she contacted Madoff through his lawyer, Ira Lee Sorkin, JD '68, and asked for an interview. Sorkin said no, citing the pending litigation. Madoff later would plead guilty to 11 counts of theft, fraud, money laundering and perjury.

Henriques made more interview requests, writing the imprisoned Madoff repeatedly and explaining that, for the past two years, she had been developing a book based on more than a hundred interviews and her *Times* reporting. With his family facing civil litigation in bankruptcy court, Madoff politely declined her requests through letters scribbled in his small, round handwriting on lined paper: "I have followed your distinguished career and reporting for many years," he wrote in September 2009. "I will certainly consider your request at the appropriate time ... You can rest assured you are at the top of my list."

In the summer of 2010, Madoff had a change of heart. Henriques speculates he may have responded to comments she'd made about how her book could provide a more nuanced portrait for his grandchildren. Madoff agreed to a pair of two-hour interviews. There also were countless follow-up questions over email.

The drama of Madoff is, as Henriques puts it, one of "Shakespearean" betrayal: The New York financier lied not only to his investors, but to his entire family. Madoff confessed to his two sons, Mark and Andrew, that his billion-dollar wealth-management company was "one big lie" on Dec. 10, 2008. His sons turned him in to federal authorities on the same day. Neither son visited their father in prison. Mark, the eldest, hanged himself at age 46 on the anniversary of his father's arrest in 2010; four years later, Andrew died of cancer at 48.

Henriques wasn't the only one who saw the intrigue in the story. Shortly after the book came out, she got a call informing her that De Niro's production company, Tribeca, wanted to adapt the book. She had a conference call in which De Niro jumped on the line and announced: "I am Bernie Madoff." In interviews, De Niro has said that he was drawn to the conman's complexities, and that he had dealt with a fraudster himself when several paintings by his late father

became part of an art investment scam in the late 2000s.

After HBO offered a deal to produce the film, De Niro requested to meet Henriques to get notes on playing Madoff. He would lead a cast that also includes Michelle Pfeiffer, Alessandro Nivola and Hank Azaria. The two met in a back corner of The Garden, the lobby restaurant at the Four Seasons Hotel on East 57th Street in Manhattan. Henriques ordered a latte, and De Niro launched a stream of questions over his hot tea and lemon.

"He was just voracious," Henriques says of the three-hour meeting. "He asked all kinds of odd questions—how did Madoff talk about his sons? Did he call them 'my sons' or 'the boys'?... All sorts of insightful questions that got me sharing as much as I could about the body language, the tone, the personality."

A month later, Tribeca called Henriques again with a question: Would Henriques be interested in portraying herself in the film? Henriques immediately assumed the call was a prank. It didn't seem that way when she was invited to a meeting with a casting director, then a screen test and eventually a callback reading with De Niro.

Henriques suspects she got the role in part because she was the only person in the production who had met Madoff. "I was going to be as authentic as it gets because I'd done it," she said. She'd also heard that De Niro had been supportive of her casting after their meeting. In an HBO featurette, the actor said Henriques was "terrific" and that "she was essential to the whole project."

In a *Vanity Fair* interview, Levinson said that casting Henriques "lent a credibility to the film." He also noted that as a reporter, Henriques had to remain composed and unintimidated in front of Madoff, and the dynamic was similar to how she had to stay at ease in front of De Niro on set.

Levinson had told her, "I don't want you to play yourself. I want you to be yourself." It sparked discussions about how the version of Henriques in the film conducted interviews, and Levinson gave Henriques a chance to shape the character.

"I felt the questions were too combative early on," says Henriques, who describes the beginning of her interviews with Madoff as more cordial than they appeared originally in the script. "What I explained to Barry is that when you've worked 18 months to get this going, you're not gonna come out like Mike Wallace, pushing a mic in someone's face in


the parking lot."

Levinson changed the scene. Henriques, who consulted on the script, spent five days on set and wore her own suits at the suggestion of Levinson, who thought it offered verisimilitude.

The Wizard of Lies debuted May 20 and attracted 1.5 million viewers, the largest HBO premiere viewership in the past four years. Henriques said that the film, like her book, reflects the complexity of Madoff and his ability to swindle everyone around him.

"I want people to emerge thinking, 'Oh my God, that could happen to me, that could happen to anybody,'" she says. "You're not going to see the conman coming."

Now, Henriques is an official Screen Actors Guild card-carrying actress. But she says she's not changing careers any time soon. She is still a contributor at *The New York Times*, and will release her latest book, *A First-Class Catastrophe: The Road to Black Monday, the Worst Day in Wall Street History*, about the 1987 stock market crash, in September.

"When you've made your film debut opposite Robert De Niro, directed by Barry Levinson, it's a good time to announce your retirement." 





UPCOMING EVENTS

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23 / AUGUST / ONLINE

Connect with other alumni during an online virtual networking hour. For more, visit go.gwu.edu/augustnetworking.

30 / AUGUST / JACKSONVILLE, FLA.

Reconnect with Colonials from 6pm to 8pm at the Black Sheep Restaurant, with appetizers provided by the university and happy hour specials. (The event is free, but please register in advance.)

6 / SEPTEMBER / WASHINGTON, D.C.

In the lecture “Greek and Roman Echoes in Early American Architecture,” Elise A. Friedland, an associate professor of classics and art history, will cover the classical inspirations behind some of D.C.’s most famous buildings and discuss how it contributed to the goal of creating a “New Rome.”

29 / SEPTEMBER / WASHINGTON, D.C.

“Career Grease: How to Get Unstuck and Pivot Your Career” will feature lunch followed by a workshop with Alison Cardy, a career coach who has guided hundreds of people to innovative and functional career solutions.

2-6 / OCTOBER / LOS ANGELES & SAN FRANCISCO

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For more on these events and others, visit alumni.gwu.edu/events



Department of Justice’s antitrust division.

Matthew Goldberg, BA ’96 and his wife, Lisa, welcomed their daughter, Molly Shoshana, on Feb. 26, 2017.

Stacey Young, MBA ’97, MS ’00, is the founder of Saving Our Communities at Risk Through Educational Services, a nonprofit that helps individuals overcome challenges to achieve personal and educational goals within their communities. Young also is an author, entrepreneur, inspirational speaker, professor and radio host.

Christopher L. Atkinson, BA ’98, MPA ’00, had a chapter titled, “Intents and outcomes for local businesses in post-disaster contracting under the Stafford Act,” included in *The Future of Disaster Management in the U.S.: Rethinking Legislation, Policy, and Finance* (Routledge, December 2016).

The chapter looks at government-purchasing outcomes and preferences for local businesses, in light of 2012’s Hurricane Sandy.

Jennie Josephson, BA ’98, joined the staff of American Public Radio’s news program *Marketplace* as a story producer focusing on developments in the digital universe. The program is broadcast on most NPR stations.

Ali Katz, BA ’98, authored *Hot Mess to Mindful Mom: 40 Ways to Find Balance and Joy in Your Every Day* (Skyhorse, April 2017). Katz is a motivational speaker, parenting coach and meditation expert.

Christopher M. Mills, JD ’99, was named a partner at Wiley Rein in Washington, D.C.

// 00s

Morgan Henrie, MS ’00, co-authored *Pipeline Leak Detection Handbook* (Gulf Professional Publishing, July 2016), a concise, detailed and inclusive leak-detective best practices text and reference book.

Cheryl Lohman, RES ’00, invented and patented PerMD, an in-hospital personalized medication dispenser. The device ensures hospital staff know about all medication intake, reducing the risk of unsafe dosages and dangerous drug interactions.

Jay Mayfield, BA ’00, was hired as the director of communications and marketing at The McCallie School in Chattanooga, Tenn. Previously, he was a senior public affairs specialist at the Federal Trade Commission.

Matthue Roth, BA ’00, authored “One Part Finger,” a short story that appeared in the spring 2017 issue of *Ploughshares*, a literary journal founded in 1971.

James J. Quinlan, BA ’00, was elected partner of Blank Rome LLP in Philadelphia. Quinlan focuses on complex tort litigation, with an emphasis on matters arising from product liability and aviation, maritime and other transportation accidents.

Kevin Rubin, BBA ’00, MS ’01, a partner at Boyd Collar Nolen & Tuggle in Atlanta, was recognized in the 2017 edition of *Super Lawyers* in the area of family law and named a “Rising Star.”

Phil S. Goldberg, JD '01, was named managing partner of Shook Hardy & Bacon's Washington, D.C., office. Goldberg has more than 25 years of experience advocating on liability-related public policy, public affairs and public relations issues.

Babatunde Oloyede, CERT '01, AS '02, BS '04, MS '07, is president of the North Carolina Commissioned Officers Association and also the chair-elect of the Medical Laboratory Scientists Professional Advisory Group.

Jessica Butkera, BA '02, joined Goldberg Segalla as an associate with its general liability and toxic torts practice groups in Baltimore.

Steven Truxal, BA '02, a senior law lecturer at The City School of Law at City, University of London, authored his second book: *Economic and Environmental Regulation of International Aviation: From International to Global Governance* (Routledge, December 2016).

Jameta Barlow, MPH '03, was a faculty leader in the 2016 Faculty Leaders Program in Policy Analysis at the Pardee RAND Graduate School in Santa Monica, Calif. The program seeks to build diversity in public policy. Barlow is an assistant professor at Towson University.

David I. Brody, BA '03, joined Sherin and Lodgen LLP in Boston as an associate in the employment law group and litigation department.

Tod Plotkin, BBA '03, was selected to chair the video category of the American Business Awards. He is the founder of the Green Buzz Agency, a video production company in Alexandria, Va., that creates content for advertising campaigns.

Tangie Thomas, MPH '03, joined St. Jude Children's Research Hospital as its vice president of clinical trials operations.

Ryan Clancy, MS '04, CERT '04, was recognized as a distinguished fellow of the American Academy of Physician Assistants. He is a full-time clinical faculty member at Drexel University's physician assistant program in Philadelphia.

Gerald Croteau III, BA '05, in 2012, founded American Stonecraft, a Massachusetts art studio that uses fresh harvested rock—fieldstone—from working farms to make coasters, food slabs, dinner plates and trivets. For more information, visit AmericanStonecraft.com.

Rachel K. Hunnicutt, JD '05, was named a partner at Wiley Rein in Washington, D.C.

Seth Linnick, BA '05, of counsel at Tucker Ellis LLP in Cleveland, was recognized as a "Rising Star" in the 2017 edition of *Ohio Super Lawyers*. Linnick focuses on commercial contract disputes and product liability lawsuits.

Javier A. Lopez, JD '05, a partner at Kozyak Tropin & Throckmorton in

Miami, received the Hispanic National Bar Association's Top Lawyers Under 40 award.

Yaegel T. Welch, MFA '05, joined Baltimore's Everyman Theatre resident company and was cast as "Marc" in David Henry Hwang's Tony Award-winning drama, *M. Butterfly*, which will run from Sept. 6 to Oct. 8.

Jeremiah J. Baronberg, MPP '06, was named senior director for marketing and communications at Blue Star Strategies LLC.

Sam Farber, BA '06, completed his first year as a football play-by-play announcer for Fox Sports West and his first year as a college basketball play-by-play broadcaster for ESPN.

Adam Perlis, BA '06, is the design director for *TIME.com* and he gave a talk titled "A Design Sprint To The Finish: Solving Design/UX Problems" at Tech Open Air Berlin 2016, an interdisciplinary technology festival.

Adam Berger, BBA '07, an attorney at Duane Morris in Cherry Hill, N.J., was named chair of the Pennsylvania Bar Association's Gaming Law Committee.

Laura C. Henry, BA '07, received the James E. Thompson Award for development professionals from Massachusetts General Hospital.

Jonathan Marshall, MBA '07, launched Rapid Performance Management Billing, a medical billing service for doctors and hospitals. The company is based in Reno, Nev., but serves clients nationwide. For more information, visit RPMBilling.com.

Kyle W. Nageotte, BA '07, an associate in the San Diego office of Littler, was elected chair of the California Young Lawyers Association. The CYLA is an association that advocates for legislative funding, educational programs and pro bono opportunities for young and new lawyers.

Jessica Stolee, BS '07, PhD '12, and John Melander, BA '07, welcomed their daughter, Annabelle Stolee Melander, on Sept. 29, 2016.

Dawn Ursula, MFA '07, a member of Baltimore's Everyman Theatre Resident Company, was cast as "Esther" in the play *Intimate Apparel* (which runs Oct. 18 to Nov. 19) and "Marianne Angelle" in the play *The Revolutionists* (Dec. 6 to Jan. 7).

Brian C. Willis, JD '07, an associate at Shumaker, Loop & Kendrick LLP in Tampa, Fla., spoke at the 2017 American Bar Association Mid-Year Conference on the topic of "Road Rage: The Future of Transportation Management in Big Cities."

Shawn Chang, JD '08, was named a partner at Wiley Rein in Washington, D.C.

Reetuparna Dutta, JD '08, was elected partner at Hodgson Russ and will work out of the firm's Buffalo, N.Y., office. She focuses on white-collar criminal defense and the False Claims Act.

Jenna Elson, BBA '08, and Jonathan

Forman were married on Oct. 29, 2016, in Short Hills, N.J.

Martha Nimmer, BA '08, joined Abrams, Gorelick, Friedman & Jacobson, LLP, in New York, as an associate. She focuses on the defense of complex insurance coverage disputes, including first-party and third-party property defense.

Sarah Reidy, BA '08, married Christopher Jones on Dec. 10, 2016, at the Homestead Resort in Hot Springs, Va. They live in Charlotte, N.C., where Sarah works in nonprofit marketing.

Vanessa Salcedo, MPH '06, MD '08, was selected as a 40 Under 40 Leaders in Health Awards winner for 2017 by the National Minority Quality Forum. Salcedo is the director of community health and a pediatrician at Union Community Health Center in Bronx, N.Y.

Zach Williams, JD '08, was named a shareholder at Bean, Kinney & Korman, P.C. in Arlington, Va. He practices in the areas of land use law and litigation.

Ivive Guobadia, BA '09, joined the New York office of Littler Mendelson. She focuses on representing and counseling employers in employment-discrimination litigation as well as emerging issues in Title IX compliance and litigation.

Hope T. Jackson, MD '09, CERT '14, RES '16, was selected as a 40 Under 40 Leaders in Health Awards winner for 2017 by the National Minority Quality Forum. Jackson is a senior fellow in minimally invasive foregut and bariatric surgery at the University of Washington in Seattle.

Rohit Sharma, MEM '09, is an IT project manager at Computer Aide, Inc. In 2016, Sharma started BOLLTY 102.9 FM, a Northern Virginia radio station that is the first FM station in Northern Virginia, Washington, D.C., and Maryland for South Asians.

// 10s

Isaac Hall, BA '10, rejoined the law firm of Faegre Baker Daniels as an associate, after clerkships in the U.S. District Court for the District of Minnesota. He will practice with the business litigation group in the Minneapolis office.

Francis Murray, BA '10, was sworn in as assistant U.S. attorney at the Department of Justice in the Middle District of Florida.

Ethan Rubin, BA '11, joined Fish & Richardson's intellectual property litigation group as an associate in its Boston office.

Todd Butler, MBA '12, joined Kettler, a Washington, D.C., real estate development and property management company, as its chief technology officer.

Chance Cessna, BA '12, was elected Miss Los Angeles County 2017.

Hardy Farrow, BA '13, was featured in *Forbes*' "30 Under 30" list for starting

Let's Innovate Through Education, a nonprofit that teaches Memphis-area minority low-income students entrepreneurial skills and helps them get scholarships and internships.

Joneigh S. Khaldun, MPH '13, was appointed executive director and health officer of the Detroit Health Department by Mayor Mike Duggan.

Kelly Vaile, BA '13, a third-grade teacher at Success Academy Washington Heights in New York, won Success Academy Charter Schools' Academic Achievement Award. It recognizes teachers who inspired their students to perform at the highest academic levels across all 41 Success Academy schools.

Douglas Arbetter, BA '14, is running this fall for the District 5 city council seat in Worcester, Mass.

William Broman, BS '14, joined Terumo Cardiovascular Group in Ann Arbor, Mich., as a product development engineer working on a heart-lung machine.

Griffin Foster, JD '15, joined the Indianapolis office of Faegre Baker Daniels as an associate in the firm's corporate group.

William Donaldson, PhD '15, authored *Simple Complexity: A Management Book For The Rest of Us: A Guide to Systems Thinking* (Morgan James Publishing, March 2017).

Maya H. Weinstein, BA '16, was recognized by the U.S. Department of Justice with the Tomorrow's Leaders Award during the National Crime Victims' Service Awards ceremony in Washington, D.C. The honor is given to youths (up to age 24), who have dedicated themselves to supporting victims of crime.

Brandon G. Wolfe, EdD '16, was hired as the principal of Potomac Falls High School in Virginia.

Rebecca Dorothy Manikkam, BBA '17, graduated from GW. She spent four years as an editorial assistant at *GW Magazine*.



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IN MEMORIAM

Roy H. Millenson, BA '17, (April 9, 2017, Rockville, Md., 95) served in the Persian Gulf Command of the Army Air Corps during World War II and was a senior Senate staffer on Capitol Hill, where he helped establish the National Foundation of the Arts and the Humanities and the National Science Foundation. He visited all seven continents and pronounced the first Hebrew prayers at the South Pole.

George O. Hook, BA '50, (Feb. 11, 2017, Lancaster, Pa., 91) served in the U.S. Navy during World War II, taking part in the invasion of Normandy. He was awarded a Bronze Star. A lifelong Episcopalian, Hook was a member of St. Thomas Episcopal Church in Lancaster and sang in the choir. He enjoyed photography, reading and music, and he and his wife, Marilyn, belonged to a dance club.

Roy Lamar Holley, MBA '58, (Dec. 19, 2016, Raleigh, N.C., 97) worked at North Carolina State University and spent 30 years in the U.S. Air Force. He was a World War II veteran. He was involved with St. Mark's United Methodist Church in Raleigh, serving as a Sunday school teacher, usher and board member. He also was a member of the Kiwanis Club.

Robert Indelman, BA '64, MPhil '69, (July 20, 2015, New York, 72) worked in government affairs and economic consulting and also taught at higher learning institutions in New York and Washington, D.C. He was an avid runner and completed the New York City Marathon.

Harold Hastings Shively Jr., MD '65, (Jan. 4, 2017, La Jolla, Calif., 79) practiced at Scripps Memorial Hospital and spent 25 years in the U.S. Army Reserve, attaining the rank of brigadier general. He also was a pilot and trumpeter. He especially enjoyed playing Christmas carols.

Arthur S. Mintz, BBA '66, (Jan. 15, 2017, Hewlett Harbor, N.Y., 71), was president of Kingly Manufacturing Corporation for 31 years. Mintz and his wife, Judy, funded dozens of GW School of Business students through the Mintz Scholarship, which goes to a GWSB student every semester.

John W. Vessey, MS '66, (Aug. 18, 2016, North Oaks, Minn., 94) was a four-star general and the former Chairman of the Joint Chiefs of Staff under President Ronald Reagan. A combat veteran of both World War II and Vietnam, Vessey, at the time of his retirement in 1985, was the longest-serving member of the U.S. Army at 46 years.

Sheldon Rubin, BA '76, (April 22, 2017, Eugene Ore., 62) practiced law in Chicago until joining Toby's Family Foods in Eugene. He served on the boards of Hillel at the University of Oregon, Temple Beth Israel and FOOD for Lane County. A great wit, he loved hosting people and plying them with good food and better wines.

Mary Welter Solis, MA '97, MBA '97, (May 17, 2017, Calabasas, Calif., 45) spearheaded, along with her family, an annual community book drive in Calabasas to benefit Children's Hospital Los Angeles' Literally Healing program.

Pramila Rao, PhD '05, (Feb. 24, 2017) was the founder of Ashta Education, a K-12 tutoring company that provides one-on-one coaching in a creative-writing workshop for middle school- and high school-aged children. She authored five books addressing cultural issues in human resource management. Rao was a great cook, smelled of honeydew lavender and had a loud, unapologetic laugh.

Will Jay Leaverton, MPS '09, (May 2, 2017, Henrietta, Texas, 40) served as a national regional field director for President Obama's 2012 reelection campaign. He also worked for Hillary Clinton's 2016 campaign and was an avid sports fan, known for his encyclopedic knowledge of all sports.

Courtney Anne Lee Dunham, MPH '13, (Dec. 27, 2016, Washington, D.C., 31) was on the board of directors of Returned Peace Corps Volunteers of Washington, D.C., from 2011 to 2015. She also was a protected areas management specialist in Honduras and worked for USAID/Honduras in the strategy and program support. Born in South Korea, she enjoyed tennis, running, bicycling, hiking, organizing volunteer events, career-mentoring and travel.


Faculty, Staff, Trustees

Elzberry "Bud" Waters Jr., BA '63, MA '65, (Nov. 18, 2016, Madison, Miss., 83), a lifelong resident of Washington, D.C., was the director of off-campus programs in GW's College of General Studies and a lecturer in business administration from 1964 to 1971. From 1974 to 1978, he was the vice chair of the Department of Medical and Public Affairs. Waters, who got his PhD at American University in 1973, also served in the U.S. Air Force and was a staff assistant to the chairman of the Joint Chiefs of Staff in the Pentagon.

Philip N. Reeves, DBA '70, (Nov. 22, 2016, Springfield, Va., 90) was a professor emeritus of health services management and policy at GW and a U.S. Air Force veteran. A decorated officer, he served in Germany, Japan and Korea and was assigned to the Pentagon prior to retiring as a lieutenant colonel in 1967.

Martin Katz, (Jan. 12, 2017, Bethesda, Md., 80), a former professor in the Department of Psychiatry and Behavioral Sciences, was among the first to study the effects of antidepressant drugs on mentally ill patients. He was the former chief of the National Institute of Mental Health's clinical research branch.

Jeffrey Lenn, (May 4, 2017, Alexandria, Va., 76), a professor emeritus of strategic management and public policy, spent 47 years in higher education. At GW, he also served as associate vice president for academic operations and as senior associate dean of the School of Business. Lenn was an elder at the Old Presbyterian Meeting House in Alexandria, Va., and a member of the National Capital Presbytery's leadership council.

 **If you'd like to see your friend or family member mentioned on this page, please write to us at magazine@gwu.edu and include a link to their obituary, if possible, or call (202) 994-5709.**

UPCOMING SHOWS BY GW PROFESSORS AND ALUMNI

ARTISTS' QUARTER

The Aesthetics of Science

Adam Peiperl, BS '57, uses optics and physics to create soothing, rainbow-like sculptures

//By Menachem Wecker, MA '09

A 1978 *Washington Post* article noted the simultaneously soothing and hypnotic properties of Adam Peiperl's sculptures, in which mysteriously luminous forms rotate within large glass spheres.

"The perfect gift for a friend who can't relax," *The Post* suggested.

Sitting on the couch in his Silver Spring, Md., living room, Peiperl, who was born in Poland in 1935, laughs when told his work settles people down. He jokes that his art puts viewers to sleep, and his wife, Martha, chimes in that babies, too, like the calming sculptures.

Soon, Peiperl, BS '57—who pronounces his name, an Austrian diminutive of pipe or pipe, "PIE-pearl"—leads the way to his basement, where the allegedly soothing sculptures await.

"If you're not stunned," he instructs, still joking, "go to sleep."

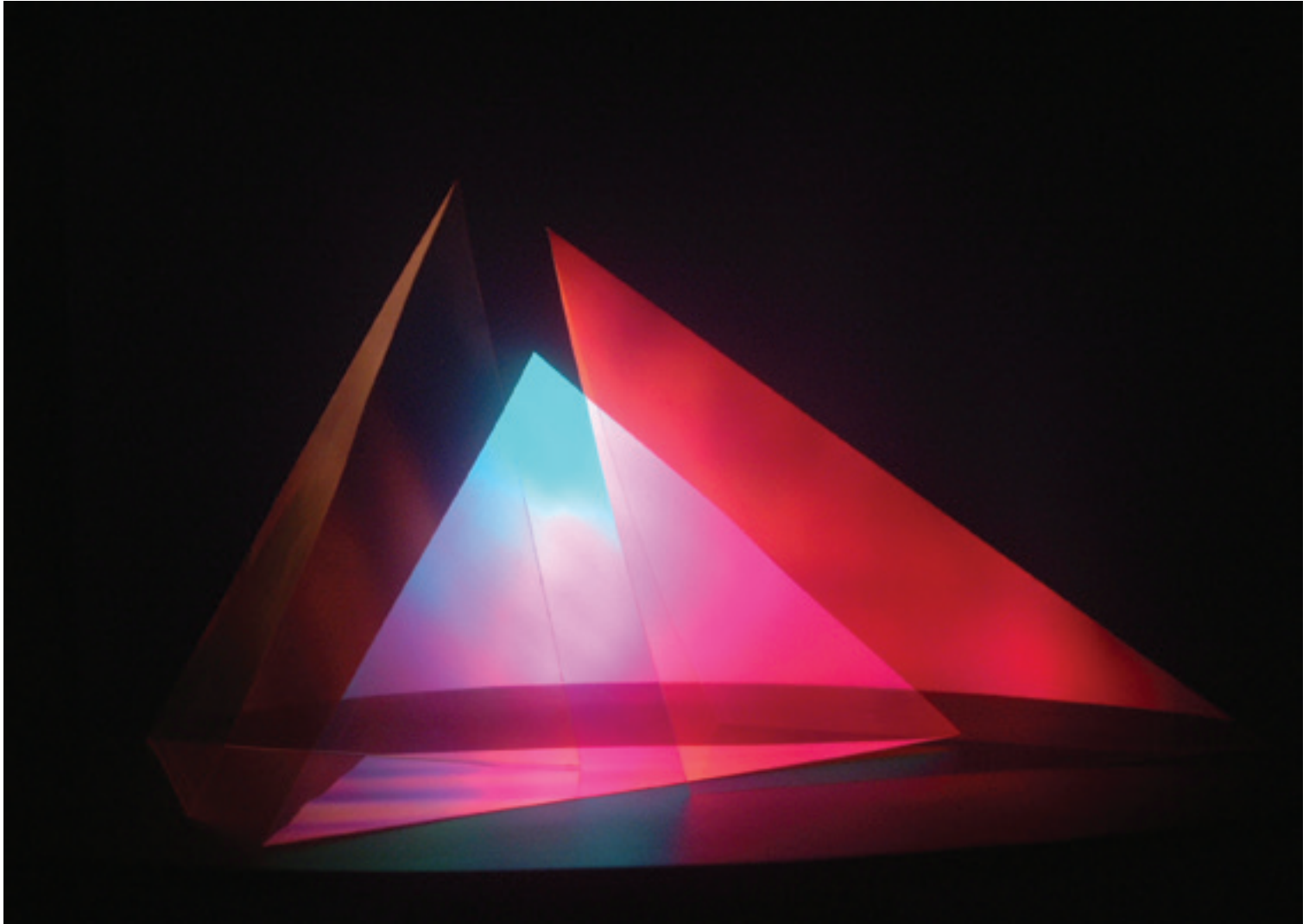
Today, having recently dispensed with the spheres—he's in his 80s and can no longer lift the 60-pound globes—Peiperl creates rainbow-like effects in a box-like enclosure that has a window in the front. To do it, he uses plastic sculptures and polarizers, which are like the lenses in a pair of sunglasses and block certain waves of light while letting others through.

He places the sculptures—symmetric and asymmetric forms that are generally up to about 11 inches tall and five inches wide—on a rotating platform in the enclosure. A lightbulb hidden in the back of the enclosure lights the setup, and as the forms spin, the viewer can see the entire color spectrum because of the polarized light.

After receiving his chemistry degree from GW, Peiperl worked as a chemist while also translating physics and chemistry literature from Russian, Polish and French into English for scientific journals and books, but he maintained an interest in art, inspired by



ABOVE Adam Peiperl's "Origin (1971)," an 18-inch-high plastic sculpture
RIGHT "Pyramids (2001)," an eight-inch-high plastic sculpture



physics and an optics class he took at GW.

In 1969, while in his mid-30s, Peiperl, who holds three patents related to his art, had a breakthrough into the art world proper: a solo exhibition at the Baltimore Museum of Art.

Today, his art appears in major collections, including Rotterdam's Museum Boijmans, Washington, D.C.'s Hirshhorn Museum, the Pennsylvania Academy of the Fine Arts in Philadelphia, the Walker Art Center in Minneapolis and the Whitney Museum of American Art in New York, which accessioned one of Peiperl's pieces—a psychedelic-looking purplish cylindrical sculpture called "Rock (1969)" that rotates inside an enclosure—in May.

In the September 1968 issue of *The Smithsonian Torch*, Walter Cannon, the then-chair of the Smithsonian's science and technology department, described Peiperl's work as "ingenious" and "bright," adding,

"As for its place in the art world, that is up to the viewer."

Several days before Peiperl's Baltimore exhibit, Diana Johnson, the museum's curator of painting and sculpture, told *The Baltimore Sun* that his artworks "help to prove that science and technology can be used effectively in the creation of objects which have among other things great aesthetic quality."

Here's how Peiperl creates his sculptures, the allure of which in his dimly lit basement must approximate a moth's enchantment with flames. He cuts a plastic sheet into a shape and affixes with epoxy glue that plastic shape to a rotating disc. The disc is then attached to a turntable and placed in an enclosure, which is mounted to a wooden base.

In earlier work, Peiperl dropped simple plastic shapes in those 60-pound spheres, which were filled with water. A magnetic

stirrer—a device typically used to mix liquid in laboratories—placed beneath the globe stirs the water inside the globe and makes the shapes move.

In both iterations, globe and enclosure, the effect is similar, producing mesmerizing colors that evoke the gemstone displays you see in natural history museums.

Other times, as when Peiperl has burnt parts of the plastic shapes to distort them, the sculptures recall blocks of ice. Colors appear out of nowhere, as during a sunrise or sunset. That occurs because curved plastic and polarizers break down the light much like a prism does.

"All the colors of the visible spectrum are there," Peiperl says.

Peiperl says his aim isn't to convince viewers of the value of science and art collaborations.

"My goal in my work is to give viewers joy," he says. **EW**

INSTITUTIONAL KNOWLEDGE



In 2015, Wendy Simmons spent 20 consecutive days in the Chadian Sahara Desert. This is her on day 14 or 15.

TRAVEL

Wanna get away? JUST GO

Alumna Wendy Simmons has been to about 92 countries and says anyone can go places—if they want to go bad enough.

People ask and tell Wendy Simmons, BA '89, a lot of uninteresting/infuriating things about her travel habit. The most peevish is: *I wish I could travel like you do.*

"I can't tell you how many people say that to me," says Simmons, the CEO of Vendeloo, a consulting firm, and a *Huffington Post* and *Travel + Leisure* contributor. "And I look at them and say, 'Then go.'"

Simmons, who lives in Brooklyn but is moving to New Orleans, has been to about 92 countries, starting at age 12 when she flew, alone, from her hometown of Bethesda, Md., to visit a friend in Mexico. And just like she did then, Simmons still prefers to travel alone because it means she can do what she wants. (Her mother once joked that the intractably independent Simmons could have had her own apartment at age 3.)

"I've always thought that I'm here to check everything out," Simmons says.

Many of her destinations, like the Democratic Republic of the Congo or North Korea, could be described only charitably as nontraditional vacation spots. She just spent a month in Sierra Leone, a country known more for its diamond mining than tourism and in the news of late thanks to an Ebola outbreak that followed a decade-long civil war. But to those who tell Simmons they want

to travel and then promptly kneecap their dreams with boilerplate excuses—no time, no money, marriage, kids—Simmons says this:

"I'm not a billionaire. I have responsibilities," Simmons says, "but you have to go. You have to take your vacation time or not get paid for two weeks. It's a sacrifice. All your decisions in life are at the expense of a different decision, so if you really want to travel, it's at the expense of something else. You just have to make the decision and go."

Simmons says she does minimal research before visiting a country because she doesn't want the experiences of others influencing her own. In her travels, she has seen the galaxy undimmed by earthly light pollution and watched moonrises as vivid as sunsets. She's camped in the Sahara, wandered Bolivian jungles and climbed mountains in Slovakia, and she has witnessed the best and worst of humanity while traveling through paradise and war.

Simmons is an inveterate adventurer, compelled by a sense of "Why not?" and



HOW TO TRAVEL ALONE (IF YOU'RE SO INCLINED)



Europe is a good place to start because it's, largely, politically stable and...



The language barriers are minimal. But...



If you're shy about eating alone, there's always takeout. Still, you'd be surprised by how many people want to make friends.



My Holiday In North Korea: The Funniest/Worst Place on Earth by Wendy Simmons

a fear of being afraid. She encourages people to, at least once, travel alone for the sake of perspective and in the name of exploration. And it's not like you have to solo your way through Transnistria or live a while with the semi-nomadic Himba people of Namibia, although Simmons has.

To those nervous about it, Simmons suggests going somewhere politically stable (most of Europe) and getting a personal guide or joining a tour group. Pick a place that doesn't require a second language. Or if you're wary about eating in restaurants alone, for example, there's always takeout.

"I think those people, especially, will be surprised that when you travel by yourself, you're accosted by people constantly who want to talk to you and be friends," Simmons says. "It's really about conquering fear more than anything else—being afraid that you shouldn't spend the money, being afraid that you can't take the time, being afraid that you won't have fun by yourself. You just gotta do it." —Matthew Stoss



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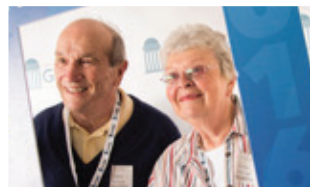
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